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ABSTRACT

Financial development has been correlated with better development outcomes. Even so, the access dimension of financial development has often been overlooked. In this context, the paper throws initial light on the nuances of horizontal inequality in the access to finance from institutional sources and development outcomes such as poverty, educational attainment and standard of living in rural area for Indian states. It is seen that the percentage of rural households getting access to finance from institutional agencies has remained considerably low and there is significant variation across states. More importantly, there is significant amount of horizontal inequality in the access to finance from institutional sources. Interestingly, better access to finance is found to be associated with better development outcomes. The most important finding of the paper is that lower (higher) inequality in the access to finance from institutional sources is associated with better (worse) development outcomes.

JEL Classification: O16, *D63*, O18, R20

Key Words: access to finance, development, *horizontal inequality*, rural household

1. Introduction

Evidence suggests that financial intermediary development is correlated with lower income inequality as the former reduces the latter by disproportionately boosting the income of the poor (Beck et al, 2007) and countries with better financial intermediaries have faster declines in poverty and income inequality. However, the channels in which financial intermediary development help in poverty reduction are not much emphasised. Further, the access dimension of financial development has often been overlooked even though access to finance helps to equalise opportunities and reduce inequalities (World Bank, 2008). The wide range of reform in the financial sector in India since 1991 has had led to deepening of the sector.[1] There is however concern about the access to finance by rural households. Even if financial depth is associated with more economic growth, when very few firms and households benefit, the resulting growth may be of lower quality and when growth fails to renew the set of productive agents, it may be less sustainable and possibly more vulnerable to a backlash (Claessens and Perotti, 2007).

Empirical evidence linking access (to finance) to development outcomes has been quite limited because of lack of data. The linking of access to finance and the development outcomes require detailed data on various dimensions of access to financial services by households which can be obtained from census or sample surveys. Ideally, one would like to have census data on the number and characteristics of households that have a bank account or an account with a bank-like financial institution. In the absence of census data, one would at least like to have survey-based measures that are representative of the whole population and of important subgroups, again collecting information about the types of financial services they are consuming, in what quantities, and at what price, as well as complementary data on other characteristics of the household that might affect or be affected by their financial service use. Indeed, household surveys are often the only way to get detailed information on who uses which financial services from which types of institutions, including informal ones. In India, National Sample Survey Organisation

[1] The commercial banking sector asset to gross domestic product (GDP) ratio has risen from 67.7 percent in 1991 to approximately 75.0 percent in 2003. The deposit and credit GDP ratios have also shown a rise.

(NSSO) in its 'All India Debt and Investment Survey' provides economic (asset-holding) class-wise data on indebtedness from institutional and non-institutional sources. Institutional agencies include co-operative bank/society, commercial bank including regional rural banks, insurance, provident fund, financial corporation/institution, financial company and other institutional agencies. On the other hand, non-institutional agencies include landlord, agricultural moneylender, professional moneylender, traders, relative and friends, doctors, lawyers and other professionals and others. Using such data this paper addresses the following basic questions. Has the financial deepening in India been inclusive, especially for the rural households? Is there significant amount of horizontal inequality in the access to finance? Does it have any association with the developmental outcomes? For that purpose two rounds of NSSO survey data have been used, one for 1991 (48^{th} round) and the other for 2002-03 (59^{th} round). However, the answer to these questions has been suggestive and not conclusive due to various limitations. The 'All India Debt and Investment Survey' is done only once in ten years, and it is difficult to get household level information at the country level from other sources. Therefore, analysis is for the first decade of the reforms period as no other household level data are available for later periods for the country as a whole. In addition, measuring access to finance is seemingly difficult because of very nature of reveal preference choice of an individual towards financial services (Bhandari, 2009). It is typically measured by number of people who have access to bank accounts (Beck and De la Torre, 2006; Littlefield et al, 2006). Bank accounts determine the access to many other financial services (Mohan, 2006). It enables people to perform important financial functions like access to savings schemes, access to credit, taking loan, insurance, money transfer etc. Nevertheless, mere possession of bank account does not satisfy the axioms of access to finance. In this paper access to finance is proxied by the indebtedness to institutional credit agencies. It needs to be kept in mind that finance does not refer to credit only. However, the paper is focused on credit as there is lack of household level data on access to other forms of financial services. Further, there is distinction between access and usage of finance. Access essentially refers to the supply of services, whereas use is determined by demand as well as supply. Use can be observed, but use is not always the same as access. Nevertheless, access and usage are used synonymously in this paper. The paper is

organised in five sections. The second section reviews the literature on access to finance and its nuances with development. The third section depicts the extent of inequality in the access to finance from institutional sources. The fourth section throws light on the association between inequality in the access to finance and development outcomes followed by the concluding section.

2. Access to Finance and Development: A Brief Review

Successful socio-economic development requires access to finance. This has been recognised by the World Saving Bank Institutes (WSBI) in its *Access to Finance Resolution* in 2004. A person or household may be said to have access to financial services if he or she is able to use formal or semi-formal financial services in an appropriate form at reasonable prices when such services are required (Fernando, 2007). Access incorporates the following four things i.e. reliability (available when needed), convenience (ease of access), continuity (can be accessed repeatedly) and flexibility (the product is tailored to the needs) (Claessens, 2004). However, financial markets for the poor and low income households have been absent (Binswanger and McIntire, 1987). The reasons include asymmetric information, absence of credit information, higher transaction cost including the cost of screening and monitoring, lack of collateral, difficulties in contract design and enforcement etc. There is also lack of demand for financial services from the poor. Many households even in developed countries choose not have a bank account as they do not do enough financial transactions. One of the reasons behind the low demand for organised financial services in rural area is the lack of investment opportunity in the rural area (Bhandari, 2009).

Financial development may affect the poor through two channels: aggregate growth and changes in the distribution of income (Beck et al, 2007) and is expected to improve access to the poor. Lack of access to finance has long been recognised as a leading cause of persisting inequality. Nevertheless, some of the theories predict increase in income inequality after expanding access to financial services. Unequal access can arise because of natural economic reasons, such as natural high fixed costs in offering financial services, or because of barriers created by entry regulations that serve a valid public good

(Claessens and Perotti, 2007). At the same time, giving people a wider set of growth opportunities through increased access to finance should eliminate inequities caused by barriers to such access (World Bank, 2008). Further, widening access to various forms of financial services is an important direct or indirect contributor to poverty reduction (Claessens and Feijen, 2006). On the other hand, economic inequality has been found in general to impede growth (Aghion et al, 1999; World Bank, 2006). The latter could affect the pace of development. It has been found that lack of access to credit perpetuates poverty because poor households reduce their kids' education (Jacoby, 1994). It is also shown that households from Indian villages without access to credit markets tend to reduce their children's schooling when they receive transitory shocks more than households with greater access to financial markets (Jacoby and Skoufias, 1997). Therefore, it becomes imperative to emphasis on equality in the access to finance from institutional sources for better growth and development outcomes.

Recent literature suggests that, providing access to finance to the poor or microfinance has been considered as a tool for economic development and poverty reduction (ADB, 2000; Morduch and Haley, 2002; Khandker, 2003). Countries with developed financial markets provide an environment in which micro finance institutions (MFIs) are able to flourish and increase their efficiency (Hermes et al, 2009). The channels could be competitive pressure, spillover of new banking techniques and financial innovations, and improved financial regulation and supervision.

It has been well recognised in the literature that access to finance has never been equal in India. In the early decades, when banks were not in the hands of the public sector, funds were diverted to leading business houses and established parties and there were very less attention to expand credit for the small businesses, agriculture and poor & marginalised sections of our societies. Upon the bank nationalisation the access to finance has improved to a considerable extent at least within the provisions made by the government. The measures that have been undertaken to improve access to finance for the poor include the expansion of co-operative banking, bank nationalisation, creation of Regional Rural Bankss, introduction of priority sector lending, interest and capital subsidy schemes

of the government through development programmes such as IRDP, SGSY and other self employment programmes, introduction of microfinance institutions etc. On the other hand, government has introduced wide range of development programme especially for poverty reduction. These programmes can be catagorised under various heads. (i) self-employment programmes e.g. IRDP, SGSY; (ii) wage employment programmes e.g. NREP, RLEGP, JRY, JGSY, SGRY, NREGP, ; (iii) food security programmes e.g. UPDS, TPDS; (iv) social security programmes e.g. NSAP, NOAPS, NFBS; and (v) urban poverty alleviation programmes e.g. Nehru Rozgar Yojana, UBSP.

Nevertheless, the percentage share of institutional agencies in the cash debt outstanding of rural households has declined from 64 percent in 1991 to 57 percent in 2002-03. Similar trend was observed for the individual states as well except a few exceptions. The economic reforms, which tend to occur when no other options are left and when the costs of not doing so become too high (Ronald, 2000), seemed to have halted the process of inclusion in the transition phase. The transition gave the scope for the non-institutional agencies to flourish. Non-institutional agencies are relatively easily accessible in comparison to the institutional ones. It has also been found that the growth in bank accounts is not significantly associated with the reduction in below poverty line population across states (Bhandari, 2009). Therefore, providing banking services to maximum number of people is unsuccessful as a poverty reduction strategy. As a poverty reduction strategy, developing inclusive financial systems should give priority, which is financially and socially sustainable (Bhandari, 2009). In this scenario, whether inequality in the access to finance from institutional agencies can explain this anomaly is worth investigating. Given the decreased importance of the institutional agencies in extending the reach to lower economic classes in the transition phase and the less costliness of the institutional finance in relation to the non-institutional finance, the paper throws initial light on the underlying relationship between inequality in the access to finance from institutional sources and development outcomes in rural area for Indian states.

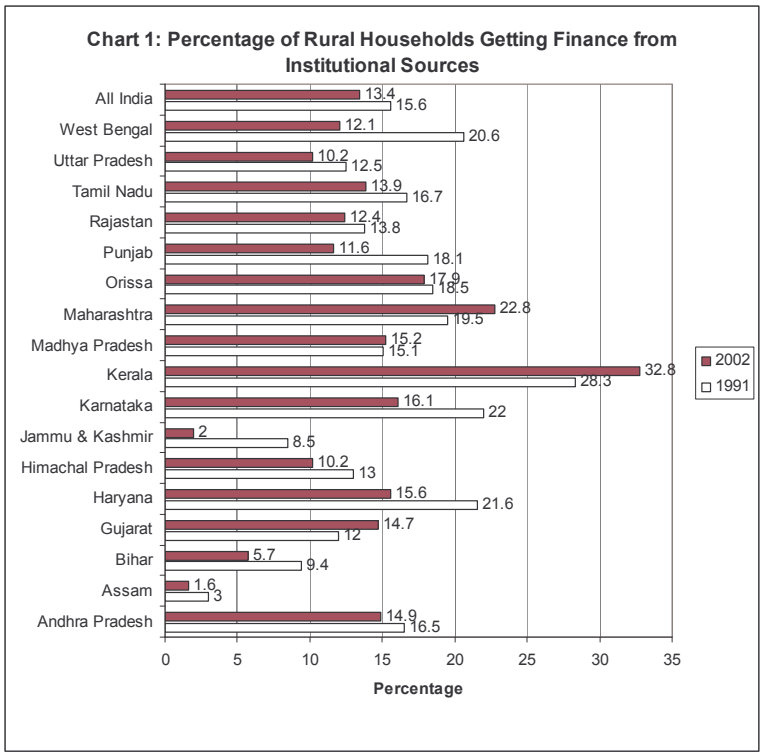
3. Extent of Inequality in the Access to Finance from Institutional Sources

The percentage of rural households getting access to finance from institutional agencies is considerably low and there are significant variations across states (Please see Chart 1). The percentage of rural households getting credit from institutional sources in the 2002-03 survey is much lower than ten percent in Assam, Bihar and Jammu & Kashmir; lower than twenty percent in many states and only in Kerala (32.8 percent) and Maharashtra (22.8) the figure is relatively higher. There is also squeezing of the reach of institutional agencies in comparison to the earlier survey done in the year 1991 in terms of both percentage of household indebted to institutional sources (Please see Chart 1) and percentage of credit accessed from institutional sources (Please see Chart 2). However, the paper is concerned with horizontal inequality in the access to finance from institutional sources across economic (asset-holding) classes and its association with the development outcomes.[2]

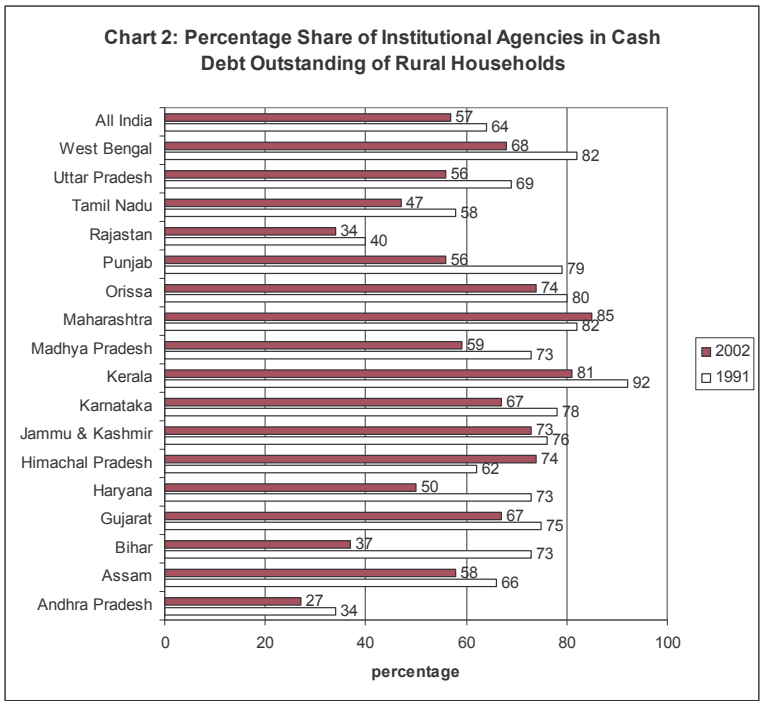
To test whether there is significant amount of horizontal inequality across (asset-holding) economic classes in the access to finance from various sources, the paper uses ANOVA test of difference of proportion. This is done by using incidence of indebtedness data provided by NSSO. Incidence of indebtedness is defines as the percentage of rural households having loans outstanding against credit agencies. These credit agencies include institutional and non-institutional. The ANOVA test uses *F statistic* which is defined as $\frac{BSS/k-1}{WSS/n-k}$, where k is the number of asset-holding classes and n is the total number of observations (See Hamilton, 1990 for details of the test). The analysis has

[2] In NSSO survey, household assets represent all that were owned by the household and had money value. This included physical assets like land, buildings, livestock, agricultural machinery and implements, non-farm business equipment, all transport equipment, durable household goods and financial assets like dues receivable on loans advanced in cash and in kind, shares in companies and cooperative societies, banks, etc., national saving certificates and the like, deposits in companies, banks, post offices and with individuals and currency notes and coins in hand. The estimates of household assets include the amount of cash held by the households as on the date of survey. Physical asset were valued at the current market price of such an asset in its existing condition prevailing in the locality. Total value of assets owned was derived for each of the sample households by adding the values of different items of assets. Based on the value of assets owned ten household asset holding classes were decided by examining the distribution of sample households over the asset holding classes for all India and each of the households were assigned to one of these ten classes depending upon the value of assets possessed.

considered seventeen states and two NSSO surveys. Table 1 shows the all India scenario of access to finance from various sources. It is seen in the table that percentage of rural households accessing loans from institutional agencies is less for lower asset-holding classes compared to higher asset-holding classes in both the surveys. State-wise figures are not shown which are used to perform the statistical test only. The results reveal that the access to finance from institutional sources is highly unequal (Please refer to Table 2) both in 1991 and 2002-03. In other words, lower asset-holding classes have not been able to access finance from institutional sources in an equal manner (in comparison to higher asset-holding classes) which is statistically not the case with non-institutional agencies. As there is significant horizontal inequality in the access to finance from institutional sources, its association with development outcomes is examined in the next section.



Source: NSSO (Various Issues)



Source: NSSO (Various Issues)

Table 1: Percentage of Rural Households Getting Access to Finance from Different Sources across Asset-holding Classes (All India)

	2002-03 Survey				1991 Survey		
Asset Holding Class in (Rs. 000)	Institutional Sources	Non Institutional Sources	All Sources	Asset holding class in (Rs.000)	Institutional Sources	Non Institutional Sources	All Sources
less than 15	3.6	12.0	15.0	less than 5	5.3	7.4	11.8
15-30	6.2	13.9	19.0	5-10	9.8	10.3	19.9
30-60	8.7	17.7	25.2	10-20	10.7	10.8	20.3
60-100	10.9	17.7	26.5	20-30	15.5	9.5	24.1
100-150	13.6	17.9	28.9	30-50	15.3	11.0	24.5
150-200	14.6	17.1	28.7	50-70	15.8	10.1	23.9
200-300	16.2	15.7	28.7	70-100	16.8	9.6	24.0
300-450	18.7	13.2	28.7	100-150	19.4	11.2	26.9
450-800	22.0	13.0	31.0	150-250	20.2	8.8	25.6
800 and above	16.7	10.3	32.9	250 and above	25.5	7.9	29.7
All	13.4	15.5	26.5	All	15.6	9.8	23.4

Source: NSSO, All India Debt and Investment Survey (Various Issues)

Table 2: ANOVA Test of Difference of Proportion

	2002-03 Survey		1991 Survey	
Agency	Institutional	Non-Institutional	Institutional	Non-Institutional
Null Hypothesis	All asset-holding classes have equal access to institutional agencies	All asset-holding classes have equal access to non-institutional agencies	All asset-holding classes have equal access to institutional agencies	All asset-holding classes have equal access to non-institutional agencies
F	5.64**	1.83	7.91**	0.468
Degree of Freedom (k-1, n-k)	(9, 160)	(9, 160)	(9, 156)	(9, 153)

Source: Author's calculation based on (NSSO) All India Debt and Investment Survey.
Notes: 1. ** significant at 1 percent.
2. The degrees of freedom for 1991 data differ for institutional and non-institutional sources because in some states there is no sample observation in the lowest asset-holding class under both categories.

4. Association of Inequality in Institutional Access to Finance and Development

In an effort to link development outcomes and the inequality in the access to finance simple correlation between the variables representing access to finance and development outcomes has been obtained at the state level. The construction of variables is described in Box 1. For extending the coverage of analysis twenty Indian states, including three newly created states, are considered. The correlation results are given in Table 3. As the available data do not permit the calculation of average amount of debt from institutional agencies by asset-holding classes for the 1991 survey therefore the association between the inequality in the access to finance and development outcomes is analysed for the 2002-03 survey only.

The analysis reveals that there is negative association between poverty headcount and the average amount of loans outstanding per household against institutional agencies indicating that the states having lower rural poverty is having higher access to finance per household from institutional sources and *vice versa*. The most interesting result is that when households in all asset-holding classes are able (unable) to access finance in the same proportion from institutional sources the poverty outcome is bettered (worsened). It is indicated by the significant positive correlation of the variables namely SDAVRINS and HCRR. In support of the above result, it can be hypothesised that there is positive association between inequality in the access to finance and poverty level in Indian states. To what extent the hypothesis is correct would need further research. Nonetheless, states which are consistent or inconsistent with the hypothesis could be identified for further investigation. The criterion of classification of states into high or low poverty and inequality in the access to finance is shown in Table 5. The states are presented in the association Table 4 against the level of poverty and inequality in the access to finance. There are twelve states namely Andhra Pradesh, Assam, Haryana, Himachal Pradesh, Kerala, Rajastan, Tamil Nadu, Bihar, Madhya Pradesh, Maharashtra, Orissa, Chhattisgarh in which positive association is found in the poverty level and access to finance. In other words, these states (in the diagonal) satisfy the hypothesis that there is positive association between inequality in the access to finance and poverty. There are eight states which are in contradiction with the hypothesis. These off diagonal states need further

investigation. Nevertheless, the explanation lies in the level of development of the state as well (Please see the NSDP for these states, Table 6). The lower left states, except Jammu and Kashmir, are high income states and the upper right states are low income states. The association between access to finance from institutional sources and two more development outcomes is shown in Table 3. The values are significant at conventional level. The correlation between AVRINS and LITR is 0.71 and the same between AVRINS and ELR is 0.54. This indicates that higher access to institutional loan is associated with better development outcomes. What happens when the inequality in the access to finance from institutional agencies is controlled for? The correlation between SDAVRINS and LITR is -0.06 and the same between SDAVRINS and ELR is -0.46, albeit the former is not statistically significant. The association between inequality in the access to finance from institutional sources and the two development outcomes is in line with the hypothesis that lower (higher) inequality in the access to finance from institutional sources is associated with better (worse) development outcomes. From this a couple of issues arise for further research. To be specific, the mechanisms that translate the inequality in access to finance into better/worse developmental outcomes can be examined. In addition, whether unequal access to finance reinforces inequality over time deserve much research.

Table 3: Correlation Matrix of Poverty, Literacy, Electricity Use, Access and Inequality in Access to Finance (Rural 2002, Number of States=20)

	HCRR	**LITR**	**ELR**	**AVRINS**	**SDAVRINS**
HCRR	1				
LITR	-0.33	1			
ELR	-0.72*	0.51*	1		
AVRINS	-0.40	0.71*	0.54*	1	
SDAVRINS	0.61*	-0.06	-0.46*	-0.30	1

Note: *significant at 5 percent

Table 4: Classification of States by Inequality in Access to Finance & Poverty

	Low Poverty	High Poverty
Low Inequality	Andhra Pradesh, Assam, Haryana, Himachal Pradesh, Kerala, Rajastan, Tamil Nadu	Uttar Pradesh, West Bengal, Jharkhand, Uttaranchal
High Inequality	Jammu & Kashmir, Gujarat, Karnataka, Punjab,	Bihar, Madhya Pradesh, Maharashtra, Orissa, Chhattisgarh

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Box 1: Construction of Variables and Data Sources

HCRR= head count ratio for rural area for the year 2004-05 at uniform recall period. This is one of the variables representing development outcome. Data taken from Planning Commission, Government of India.

LITR= literacy rate for rural area for the year 2001. This is also a variable to represent development outcome. Data taken from census of India, 2001.

ELR= percentage of rural households using electricity as source of lighting for the year 2001. This is a proxy for rural standard of living. Data taken from census of India, 2001.

AVRINS= average amount of loans outstanding against institutional agencies (rural). It represents how high or low the access to finance from institutional sources is at the state level. Data taken from All India Debt and Investment Survey, NSSO.
The 2002-03 survey reports the average amount of cash loans per household by household asset-holding class and also the per thousand distribution of amount of cash loans outstanding over credit agency for each household asset holding class. This information is used to calculate average amount of cash loans per household from institutional agencies by household asset-holding class. This is done in two steps by converting the latter into percentage distribution of amount of cash loans outstanding over credit agency for each household asset-holding class and then multiplying the corresponding percentages with the former.

SDAVRINS= standard deviation (of loans from institutional agencies across asset-holding classes at the state level) divided by the average amount of loans outstanding against institutional agencies for the state. It captures how unequal the access to institutional loans is across asset-holding classes in the state. Author's calculation from NSSO survey data.

CVAI= coefficient of variation of the outstanding loan amount from institutional sources across asset-holding classes at the state level. It also captures inequality in access to finance from institutional sources. Author's calculation from NSSO survey data.

NSDP= Per Capita Net State Domestic Product at current price 1993-94 series for the year 2002-03. It captures the level of development of the states. Data from Handbook of Statistics on Indian Economy 2005-06, Reserve Bank of India.

Table 5: Classifying Poverty and Inequality in Access to Finance into Low and High

Variable	Criteria	Proxy
Poverty	Low: Below All India Average High: Above All India Average	Head Count Ratio (HCR)
Inequality in Access to Finance	Low: Below All India Average High: Above All India Average	Coefficient of Variation of Outstanding Loan from Institutional Sources

Table 6: Poverty, Inequality, NSDP, Electricity Usage, Literacy Rate, 2002

STATE	HCRR	CVAI	NSDP	ELR	LIT
Andhra Pradesh	11.2	1.24	19087	59.7	54.50
Assam	22.3	1.44	12247	16.5	59.73
Bihar	42.1	1.67	5683	5.10	43.92
Gujarat	19.1	1.63	**22838**	72.1	61.29
Haryana	13.6	0.87	26818	78.5	63.19
Himachal Pradesh	10.7	1.44	22902	94.5	75.08
Jammu &Kashmir	04.6	1.63	14507	74.8	49.78
Karnataka	20.8	1.82	**19865**	72.2	59.33
Kerala	13.2	1.07	22776	65.5	90.04
Madhya Pradesh	36.9	1.76	11483	62.3	57.80
Maharashtra	29.6	1.58	26291	65.2	70.36
Orissa	46.8	1.70	10208	19.4	59.84
Punjab	09.1	2.07	**26395**	89.5	64.72
Rajastan	18.7	1.39	12745	44.0	55.34
Tamil Nadu	22.8	1.47	21740	71.2	66.21
Uttar Pradesh	33.4	1.38	***9963***	19.8	52.53
West Bengal	28.6	1.26	***18849***	20.3	63.42
Chhattisgarh	40.8	2.24	12244	46.1	60.50
Jharkhand	46.3	1.35	***7500***	10.0	45.70
Uttaranchal	40.8	0.86	***14934***	50.3	68.10
India	**28.3**	**1.50**	**19040**	**61.0**[#]	**58.74**

[#] Median value. For data sources please refer to Box 1.

5. Conclusion

The percentage of rural households getting access to finance from institutional agencies is considerably low and the same has declined in 2002-03 compared to what it was in 1991. Further, there are significant variations in the same across states. More importantly, there is significant amount of horizontal inequality and lower asset-holding classes have not been able to access finance from institutional sources in an equiproportionate manner. It is found that better access to finance is associated with better development outcomes. For instance, there is negative association between poverty headcount and the average amount of loans outstanding per household against institutional agencies indicating that the states having lower rural poverty is having higher access to finance per household from institutional sources and *vice versa*. Same is the case with the other two

development outcomes. The most interesting result is that lower (higher) inequality in the access to finance from institutional sources is associated with better (worse) development outcomes. For instance, when households in all asset-holding classes are able (unable) to access finance in the same proportion from institutional sources the poverty outcome is better (worse). Same is the case with other two development outcomes.

Thus, reduction in inequality in the access to finance is likely to produce better developmental outcomes. Lack of access (or involuntary self exclusion in the form of non-usage of finance due to cultural or 'no need' reasons) to finance can be the critical mechanism for generating persistent poverty traps. It needs to be recognised that rural does not mean agriculture *per se*. There is massive scope for banking in rural areas. This is so for more prominent reasons. There has been expansion of infrastructure in rural area through government programmes. To help the people in rural areas to start modern enterprises financial institutions must deliver their potential in rural areas as well in order to ensure access to finance for all economic classes. Access can be provided by a range of institutions including the microfinance institutions. What is required is to build an inclusive financial system by laying down the rules of the game for players in the financial market as identifying barriers to physical access, eligibility, affordability, enforcement of creditor rights etc. The government and the apex financial institutions must deliver in maintaining macroeconomic stability because macroeconomic stability can foster financial sector development. Incentive based system for improving financial access by providing the private sector with the right incentives (with prudential measures in place) is going to be the key. ICT and new technologies can aid a lot. On the flip side, promotion of financial literacy is important to broaden the focus of attention from finance for the poor to improving access for all who are excluded. There has to be support and subsidies wherever necessary to provide financial services in rural areas because villages are not homogenous in many parameters. In other words, there is urgent need to encourage pluralistic financial sector in which proximity banking can flourish, create or gather credit information in the unbanked areas, promote financial literacy and ensure credit guarantee for improving access. It will also help in capacity building by stimulate the banking habits among rural households in the lower stratum of our societies.

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