DEBT AND ASSETS OF RURAL HOUSEHODLS IN INDIA –
A NOTE ON THE PRIMARY AND SECONDARY SOURCES OF DATA

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This note explores two issues related to the quantitative analysis of the debt and asset position of rural households in India. First, it attempts to critically evaluate the conceptual framework and sampling methodology of the major sources of secondary data on debt and assets of rural households. Secondly, it argues that primary sources of data, with a carefully and purposively designed conceptual framework, provide a very divergent set of results on debt and assets.

The discussion on secondary data in this note pertains primarily to the All India Debt and Investment Survey (AIDIS), which is the most important source of secondary data on debt, assets and savings of rural and urban households in India.

The note is organised into four sections. Section I provides some general information about the AIDIS. Section II discusses changes introduced in the sampling methodology of the AIDIS across different survey rounds. It specifically discusses the potential effects of changes in the sampling methodology on the reliability of results obtained. Section III discusses in a comparative framework the results on indebtedness, assets and savings from the AIDIS and from the village studies organized under the FAS. Section IV provides certain concluding observations.

I

ALL INDIA DEBT AND INVESTMENT SURVEY– AN INTRODUCTION

The AIDIS is a sample survey that seeks to generate basic quantitative information on assets, liabilities and capital expenditure in the household sector of the economy. There have been six rounds of surveys in the AIDIS series till date. The first survey was conducted in 1951-52 by the Reserve Bank of India (RBI). The first survey was primarily designed to provide a policy direction to the RBI on the issues relating to rural credit. It was called the All India Rural Credit Survey (AIRCS); this survey not only collected data on the liabilities of rural households but also undertook an extensive investigation of formal and informal credit agencies operating in rural areas. The subsequent round of survey, conducted again by the RBI in 1961-62, concentrated only on the assets and

indebtedness of rural households; this survey was called the All India Rural Debt and Investment Survey (AIRDIS).

The prominent role played by the RBI in the AIRCS and AIRDIS originated from a definite responsibility of studying the rural credit system in the country, which the RBI Act demanded of it (see EPWRF, 2006). Section 54 of the RBI Act stated that,

> …the Bank may maintain expert staff to study various aspects of rural credit and development, and in particular it may -
> (a) tender expert guidance and assistance to the National Bank;
> (b) conduct special studies in such areas as it may consider necessary to do so for promoting integrated rural development.

On account of various "administrative and other attending problems" in the above surveys, however, the RBI decided to hand over the responsibility of conducting the third round of this survey to the National Sample Survey Organisation (NSSO).

From the third round (1971-72), the coverage of the survey was extended to urban households and was called the All India Debt and Investment Survey (AIDIS). Though the responsibility of conducting the survey from 1971-72 onwards was with the NSSO, the RBI continued to contribute to the 1971-72 and 1981-82 rounds by pooling the Central and State samples.[1] From 1991-92, the survey results were based on the Central sample alone and the RBI ceased to play any role in the survey.

There have been suggestions that the RBI should resume its role in the organization of AIDIS. For instance, the *Committee on Informal Financial Sector Statistics* suggested in 2001 that there should be "close collaboration" between the RBI and NSSO in the organization of the AIDIS.[2]

The results from the initial two rounds of the survey were made public within a relatively short gap, possibly because the coverage was limited to rural households only (Table 1). Interestingly, information from the AIRCS of 1951-52, which had much wider scope, was published within two years of completion of the survey. There was an increased lag in publication of the data for the subsequent rounds until 1991-92. Nevertheless, data for the last round of 2002-03 were published within a short span of about two years.

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[1] The Central sample was canvassed by the NSSO field staff (in the 1961-62 survey, by the RBI) and the State sample was canvassed by the various State statistical bureaus.
[2] See <www.iibf.org.in/uploads/Committee_Report_Informal_Sector.doc> for the Report of the Committee on Informal Financial Sector Statistics. The Committee submitted its Report to the RBI in 2001, which became a part of the Report of the National Statistical Commission.

Table 1 *AIDIS rounds, years of enquiry and publication of estimates*

AIDIS rounds	Year of publication of first report
1951-52	1954
1961-62	1963
1971-72	1977
1981-82	1987
1991-92	1998
2002-03	2005

Source: Compiled by the authors.

The AIDIS provides data on household debt by credit agency (formal and informal), purpose (production- and consumption-related), interest rates and security/collateral. Debt primarily includes cash debt (including loans on hire purchase) or debt taken in cash, irrespective of whether it would be settled in cash or kind. All loans taken in kind, irrespective of whether they are repaid in cash or kind, are considered as kind loans. All the estimates of AIDIS are based on cash debt from 1991-92 round onwards. The debt in kind, along with dues with respect to shopkeepers, school fees and so on, are treated as "current liabilities" and classified separately.[3]

The AIDIS also provides data on assets of households. Household assets include physical assets (such as land, buildings, livestock, farm and non-farm equipment and durable household assets) and financial assets (such as shares, deposits and loans receivables). Assets, however, do not include crops standing in fields and stocks of commodities held by households. From the 1991-92 round onwards, cash held by households on the date of the survey was included under assets. Thus, it is perhaps more appropriate to refer to financial assets as "financial savings" of households. According to the AIDIS reports, physical assets are valued at their current market prices in their existing condition in the given locality.

II

ALL INDIA DEBT AND INVESTMENT SURVEY – ISSUES IN SAMPLING METHODOLOGY AND DATA RELIABILITY

There are two striking points about the changes in the sampling methodology of the AIDIS since 1961-62. These two points are discussed in separate sub-sections below.

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[3] As a result, the figures on debt outstanding for 1991-92 are not strictly comparable with corresponding figures in the previous surveys. However, this difference is not expected to be significant as debt in kind formed only about 1.5-2.5 per cent of total outstanding debt at all earlier surveys.

Reduction of sample size

First, there was a sharp reduction in the sample size of villages and households after 1971-72. As Table 2 (Columns 4 and 5) shows, the sample size of villages and households was reduced in the 1981-82 and 1991-92 rounds. There was an increase, however, in the sample size in the 2002-03 round.

Table 2 *Number of sample villages and households, AIDIS, 1961-62 to 2002-03*

Year of survey	Central sample	State sample	RBI sample	Total sample size of villages used for estimation	Total sample size of households used for estimation
	(1)	(2)	(3)	(4)	(5)
1961-62	1,889	168	-	2,057	82,280
1971-72	4,548	3,910	3,994	12,452	1,49,424
1981-82	3,755	3,963	-	7,718	61,744
1991-92	4,321	4,731	-	4,321	36,425
2002-03	-	-	-	6,552	91,192

Sources: RBI (1977a, 1987); NSSO (1998).

The sample size of households declined across various rounds because fewer households were selected per village. Narayana (1988) argued that between 1961-62 and 1981-82, there was a shift towards sampling *larger number of villages and smaller number of households per village*. However, this shift held true only between 1961-62 and 1971-72; in the 1981-82 round, there was a reduction in both the number of villages and the number of households sampled per village. There was a reduction both in the number of sample villages and the number of households sampled per village between 1981-82 and 1991-92 also; this trend was reversed only between 1991-92 and 2002-03.

We shall now discuss the sampling procedure of the AIDIS in greater detail. In 1961-62, each State was divided into a number of strata roughly equal in size and with relatively homogeneous agricultural conditions.[4] The sample of villages was allocated among the strata in proportion to the population size and was selected at random with probability proportional to the population size in 1951 (RBI, 1963). From each of these sampled villages, 40 households were randomly chosen (*ibid.*).

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[4] A stratum is defined as a contiguous group of *tehsils* within a region with similar cropping pattern and geographical features (NSSO, 1978). These strata are by and large of the same size, where size is measured in terms of population.

In the next two surveys (1971-72 and 1981-82), the NSSO used a two-stage stratified sampling method with villages and households as the first stage units and second stage units respectively. The all-India sample of villages was allocated among various States on the basis of various considerations, such as their rural population, area under cereal crops investigator strength and ensuring that at least 180 villages were sampled in each State (Narayana, 1988).[5] The first stage units were selected circular systematically with equal probability. In 1981-82, the sample villages were chosen with probability proportional to the number of house-listing and with replacement. Again, in 1971-72 and 1981-82, the population size was measured as per the population figures provided by Population Census of 1961 and 1971 respectively. Thus, for each of the AIDIS rounds, as for the Landholding Surveys, the census frame used was at least 10 years old.

From 1971-72 onwards, in the selection of second stage units, all households in a sample village were arranged in an ascending order of "land possessed" (operated) by each household and divided into four strata (RBI, 1977a).[6] Those possessing land less than 0.005 acres (0.002 hectares) were considered as non-cultivators and formed the first stratum. In 1971-72, three households were drawn from each stratum making a total of 12 households from each sample village. In 1981-82, two households were drawn from each stratum making a total of only 8 households from each sample village. In other words, *the sample size of households per village was cut down by five times between the rounds of 1961-62 and 1981-82.*

Between 1981-82 and 1991-92, there was a minor increase in the number of households selected per village from 8 to 9. In 2002-03, the number of households per village was increased further to 14. More importantly, in 1991-92 and 2002-03, households were selected applying two criteria, "land possessed" and "indebtedness status" (NSSO, 1998).[7]

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[5] This condition was waived for States with small population size and Union Territories.

[6] A similar criterion was also employed earlier by the AIRCS. This was because AIRCS regarded every household possessing/operating some land as an agricultural enterprise and the operations of an agricultural enterprise were expected to provide an insight into the credit requirements existing in rural areas (RBI, 1956 cited in Thorner, 1962).

[7] During the 1991-92 round, households were divided into four sub-strata after arranging them in an ascending order on the basis of the size of land possessed with the first sub-stratum having households possessing no land or land less than 0.005 acres. The remaining three sub-strata were formed such that the total area of land possessed is almost equal in the three classes. During 2002-03, the formation of these three sub-strata was modified as in the table below.

Where, X and Y were two cut off points were determined at the State level in such a way that 40 per cent of the households possessed land less than X, 40 per cent possessed land between X and Y and 20 per cent

Relative rise in the State sample size

The second striking point regarding the sampling methodology in AIDIS is that there was a considerable increase in the size of the State sample of villages over successive rounds. Interestingly, from 1991-92 onwards, the national estimates of AIDIS are worked out on the basis of the Central sample alone (Table 2).

For each round after 1961-62, the total village sample in AIDIS was divided into two parts. The survey of 1961-62 was carried out by the RBI field staff, but in certain States, such as Punjab, Gujarat, Assam, Orissa and Rajasthan, State statistical bureaus were also involved in covering the State matching samples. The total size of the State sample was lower than the sample covered by the RBI field staff (RBI, 1963). Moreover, the results were based on a pooling of the two samples.

In 1971-72, the NSSO covered 4,548 villages in the Central sample, and different State agencies covered 3,910 villages in the State sample (RBI, 1977b). There was also an additional matching sample or an RBI sample of 3,994 villages (RBI, 1977b). The estimates were prepared after pooling these three samples. In 1981-82 and 1991-92, the size of the State sample exceeded the Central sample. As there was no pooling of Central and State samples during the 1991-92 round, the survey results of this round were entirely based on a relatively small Central sample.

Reliability of AIDIS estimates of household indebtedness

As we discussed, the AIDIS of 1971-72 had the largest sample size in terms of the villages and households surveyed. Incidentally, the 1971-72 round was one that produced immensely useful material in terms of reports from the Reserve Bank of India (RBI). There were special reports on certain large States that discussed the state of formal sector

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possessed land greater than Y.

Stratum	Size-class of land possessed
1	Land < 0.005 ha
2	0.005 ha < Land< X
3	X < Land < Y
4	Y < Land

Later, the first and second were each further divided into "indebted" and "not indebted". The third and fourth were merged and classified into "indebted to institutional and non-institutional sources", "indebted to non-institutional sources alone" and "not indebted". These, in total, gave rise to seven classes. From these 1,1,1,2,1,1 and 2 households were chosen respectively, making a total sample of *9* households during the 1991-92 round (*ibid.*). During 2002-03, seven households were chosen from each of these seven classes thus making a total of 14 households.

of credit (such as co-operatives in Maharashtra). The 1981-82 round, on the contrary, had a considerably smaller number of special reports, which reflected a waning interest of the RBI in the survey.

There were a number of questions raised about the reliability of the data from the 1981-82 round. Narayana (1988) found that the total sampling variance in 1981-82, inclusive of both within- and between-village variance, was much greater than its corresponding figures for 1961-62 and 1971-72. The larger variance indicated the possibility of an unreliable estimation of indebtedness in 1981-82. According to Narayana, the unreliability was particularly expected for *incidence of indebtedness* of households. The reason was that the reliability of any estimate generally depends upon whether it shares any linear relationship with the stratification variable. Since 1971-72, the AIDIS began using "land possessed" as its stratification variable. Narayana found it difficult to trace any direct relation between area of land possessed and the incidence of indebtedness. In other words, the proportion of indebted households was not expected to be higher among households with a greater size of landholding. Therefore, according to him, the change in the sampling methodology was expected to affect the reliability of the estimates of incidence of indebtedness.

Narayana's argument was supported in a study by Prabhu *et al* (1988). Prabhu *et al* argued that there was a sharp reduction in the share of indebted cultivator households between 1971-72 and 1981-82, which was a period that witnessed a significant expansion of credit from institutional sources. There were only 1833 rural bank branches in 1969, which increased to 17,656 in 1981. As against this, there was a major *fall* in the incidence of indebtedness between 1971-72 and 1981-82 (Figure 1). According to Prabhu *et al* (1988), the above paradox was largely attributable to an *underestimation* of the incidence of indebtedness in 1981-82.[8] From the low base of 1981-82, the incidence of indebtedness increased through the subsequent AIDIS rounds of 1991-92 and 2002-03 (Figure 1). However, as we would discuss in a following section, the incidence of indebtedness in AIDIS is *generally lower* than the corresponding figures estimated from primary village surveys.

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[8] See also Rao and Tripathi (2001) for further discussion on this point.

Figure 1*: Incidence of Indebtedness, rural households, AIDIS, 1961-62 to 2002-03,* in per cent
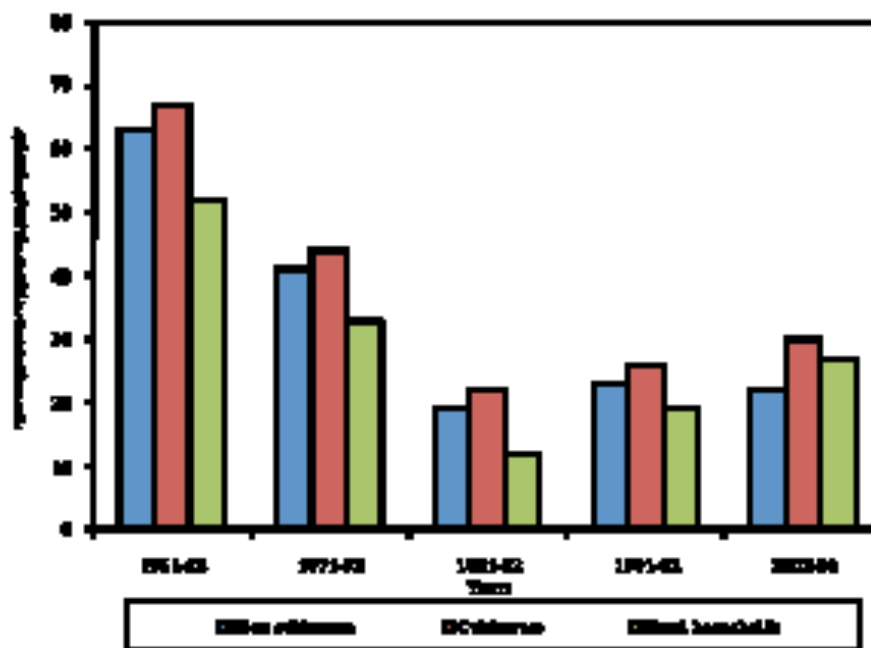
Other studies have also argued that the reliability of the AIDIS estimates of *extent* of indebtedness is suspect. Gothoskar (1988) compared the supply-side estimates of the volume of debt outstanding (obtained from the records of co-operatives and commercial banks) with the demand-side estimates of the same (obtained from the AIDIS). He found an underestimation of the volume of debt in AIDIS by about 50 per cent in 1981-82 and about 40 per cent in 1971-72 (Gothoskar, 1988).[9] As per a quick test of 208 households in Maharashtra at the survey of 1971-72, the RBI found that there was an under-reporting of amount of debt by a magnitude of 3 per cent to 37 per cent in AIDIS when compared with the records of Primary Agricultural Co-operative Societies (RBI, 1977b). Considering the magnitude of under-estimation, various studies have concluded that sampling errors, such as those associated with the sampling design and size, were possibly responsible for such an underestimation.

Apart from the shift in the sampling methodology, an increase in the size of the State sample vis-à-vis the Central sample was also considered to be a factor influencing the quality of data (Bell, 1990). Bell argued that State agencies were likely to be less equipped in conducting surveys than the NSSO. Therefore, it was desirable to allot a larger Central sample to be canvassed by the NSSO (*ibid.*). Gothoskar (1988), while discussing the

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[9] For a similar observation, see Rao and Tripathi (2001).

possible underestimation at the survey of 1981-82, showed that the estimates obtained from the State sample happened to be *lower* than those obtained from the Central sample across different States.[10]

The need to improve the quality of data in AIDIS was highlighted by the Committee on Informal Financial Statistics in 2001. It recommended a pooling of the estimates of Central and State samples and also an increase in the sample size for AIDIS.

We have attempted a small exercise that would throw some more light on the reliability of the AIDIS data. For 1991-92 and 2002-03, we compared AIDIS data on debt outstanding to commercial banks with secondary data on bank credit outstanding from commercial banks. We have used data from commercial banks given the reliability of the supply-side estimates from commercial banks compared to cooperative banks. The secondary data used are from *Basic Statistical Returns* (BSR), the most extensive source of data on commercial banks collected from the branch level by the RBI. Here, we make a distinction with the study by Gothoskar (1988). Gothoskar took the *total* credit outstanding from rural offices of commercial banks while we have taken only *specific* sections of this credit. We have left out credit that goes to cooperative sector, public sector, private corporate sector, joint sector undertakings and foreign governments, as this part of bank credit does not directly go to households. Thus, the comparison here is between the BSR data on credit outstanding reported by the rural offices of commercial banks and RRBs (to individuals and proprietorship, partnership firms, joint families and SHGs) with the AIDIS data on debt outstanding from commercial banks (as reported by rural households).

Our exercise shows that there was an under-estimation of total household debt from commercial banks of rural households by about 43 per cent and 35 per cent respectively in 1991-92 and 2002-03 (Table 3). If we follow Gothoskar's exercise by taking *total* credit outstanding from rural branches of commercial banks, then the magnitude of this under-estimation works out to be even greater for these two rounds.

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[10] For a similar point, see Rao and Tripathi (2001).

Table 3 *Comparison of AIDIS and RBI credit data on commercial banks, 1992 and 2002*, credit in Rs. lakh

	Item	1992	2002
1	Debt outstanding from commercial banks of rural households from AIDIS	7,48,510	27,30,960
2	Credit outstanding from rural branches of commercial banks from RBI	17,33,760	66,68,190
3	Credit outstanding from rural branches of commercial banks to selected sections*	13,03,612	42,00,960
4	Extent of under-estimation following our method in per cent [(1-3)/3]	-43	-35
5	Extent of under-estimation following Gothoskar's method in per cent [(1-2)/2]	-64	-59

Source: NSSO (1998; 2005), RBI, *Banking Statistics*, various issues.
Note: * - Selected sections include individuals, proprietorship, partnership firms, joint families and SHGs. As per the information available to us, about 60-63 per cent of total credit from rural branches goes to these selected sections. We have applied this percentage to work out figures in Row 3.

Such a comparison needs to be treated with caution, as the definition of *rural* areas in the Population Census and the RBI are different. For the RBI, credit from rural offices refers to credit from offices located at centres having population less than 1000. However, the Population Census definition of rural areas is much wider and uses not just population but also population density and occupational structure as the defining criteria. In other words, the definition of rural areas as per the Population Census may work out to be much broader and thus, the extent of under-estimation may be even higher in 1991-92 and 2002-03.

There are certain basic reasons for under-estimation of data on household debt, collected from households, as compared to data collected from banks directly. First, given that data on debt is a sensitive issue and households may not reveal the exact extent of debt, there is bound to be some under-estimation of incidence of debt. Secondly, there is also a problem of memory lapse for households. For instance, households that have taken loans under IRDP a decade back and have paid only a part of their debt are usually unable to spell out the details of the present debt charge on them. In the books of the banks, however, the debt charge is expected to be accurately calculated and considered under the total credit outstanding for banks, even if it is treated as a Non-Performing Asset (NPA).

Thirdly, any estimate of total debt outstanding requires a correct calculation of *principal* and *interest* outstanding. Unless the reporting household and investigator are thoroughly systematic, there is likely to be some bias either upward or downward in the estimation of debt outstanding. This is less an issue with commercial banks, as they are expected to

maintain correct records directing any payment from the borrower first towards interest and then towards principal.

Reliability of AIDIS estimates of household assets

AIDIS provides data on the value of asset holdings of households. These assets include various physical and financial assets. Most studies that we have noted till now have looked into the debt-related underestimation in AIDIS but none have dealt with the issue of reliability of data on asset values; for this, we attempt a small exercise here.

We compared the data on bank deposits held with rural branches of commercial banks with data on deposits of rural households from the AIDIS. Here again, caution must be exercised as we are comparing across two definitions of "rural" areas (Table 4).[11] Our exercise shows that there was an underestimation of amount of deposits in the AIDIS by about 58 per cent in 1992 and 45 per cent in 2002-03. The extent of under-estimation was much greater for deposits than for credit from commercial banks.

Table 4 *Comparison of AIDIS and RBI deposits data on commercial banks, 1992 and 2002*, deposits in Rs. lakh

	Year	1992	2002
1	Deposits outstanding of rural households (data from AIDIS)	14,87,524	83,84,737
2	Deposits outstanding from rural branches of commercial banks held by individuals (data from RBI)	35,74,971	1,51,45,229
3	Extent of under-estimation in % (1-2)/2	-58	-45

Source: NSSO (1998; 2005), RBI, *Banking Statistics*, various issues.

Apart from bank deposits, deposits are also held by households with post-offices and companies. Bank deposits, however, account for about 97 per cent of total savings of households in deposits.[12] Thus, the comparison of AIDIS data on deposits with banking data on deposits can be considered reasonable.

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[11] Moreover, bank deposits here refer to deposits held by individuals alone and not deposits by non-individuals such as trusts, corporations and other groups. This was done to make the banking data on deposits more comparable with the AIDIS data, which pertains to households.

[12] This observation is based on another source of data on household savings compiled by the RBI, see RBI (2008).

III

INCIDENCE OF INDEBTEDNESS AND ASSETS:

A COMPARISON OF DATA FROM VILLAGE STUDIES AND AIDIS

Despite the extent of literature on the subject, the caution that we emphasized in the use of debt-related data from AIDIS is discarded in many policy discussions. Surprisingly, even many eminent economists tend to use AIDIS data uncritically while arguing for major shifts in official policy. We shall provide one striking example here. In the context of the debate on the policy measures required to address agrarian distress in parts of rural India, Professor A. Vaidyanathan wrote that:

> There is a widespread perception that unbearable burden of debt and increased competition from imports are symptomatic of a crisis in Indian agriculture…Suicides [should not] be interpreted to mean that the Indian peasantry, in general and everywhere, is suffering from an unbearable burden of debt. In 2002, less than 30 per cent of rural households in the country had outstanding debt and this constituted barely 2-3 per cent of the total value of assets held by them…*The burden of debt is neither crushing nor of crisis-making proportions* (Vaidyanathan, 2006).[13]

Two years later, Professor Vaidyanathan questioned, on the same basis, the desirability of a major agricultural debt-waiver scheme announced by the government (Vaidyanathan, 2008). He wrote that,

> The magnitude of outstanding debt of rural households, going by National Sample Survey data, is less than outstanding debt reported by the institutions in the cooperatives and substantially so in regional rural banks. Since both are intended to lend mostly in rural areas, this difference suggests that they also carry a sizeable portfolio of non-household, non-rural loans…There is good reason to believe that a generalized waiver of all overdues will benefit non-rural borrowers to a considerable extent; that the large majority of rural households, including those in the below 2 hectares category will not benefit…*Benefits in rural areas will accrue to a rather small fraction of households and the magnitude of beneficiaries is likely to be considerably less than the cited figure* (Vaidyanathan, 2008).[14]

Given our discussion on the underestimation of incidence of debt by the AIDIS, the use of the same dataset to judge a rather sensitive policy is deeply problematic. One of the ways to obtain a more accurate idea of the extent of household indebtedness is the use of intensive village surveys. Of course, in the sub-sections that follow, we are comparing State-level results from the AIDIS of 2003 with results of village studies organized in 2007 and 2008. Despite this qualification, it would be instructive to compare these two data sources to identify the glaring differences, if any.

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[13] A. Vaidyanathan, "Agrarian Crisis: Nature, Causes, and Remedies", *The Hindu*, 8th November, 2006.
[14] A. Vaidyanathan, "Farm Loan Waiver: A Closer Look and Critique", *The Hindu*, 6th March, 2008.

Incidence of debt in village surveys

Professor Vaidyanathan's argument that incidence of indebtedness is not widespread in rural India is not in conformity with the results from the FAS village studies. What is most striking when we compare results from FAS village surveys and the AIDIS is that village surveys have consistently shown much higher incidence of indebtedness than the AIDIS. In 2002-03, State-level AIDIS estimates for incidence of debt rarely exceeded 40 per cent, and for most States were between 20 and 30 per cent. On the contrary, results from the FAS surveys have consistently given levels of incidence above 50 per cent (see Figure 2). As Figure 2 shows, in most FAS villages, the incidence of debt exceeded the corresponding AIDIS figures by almost 100 per cent.

Figure 2 Incidence of household indebtedness, AIDIS and FAS villages, in per cent
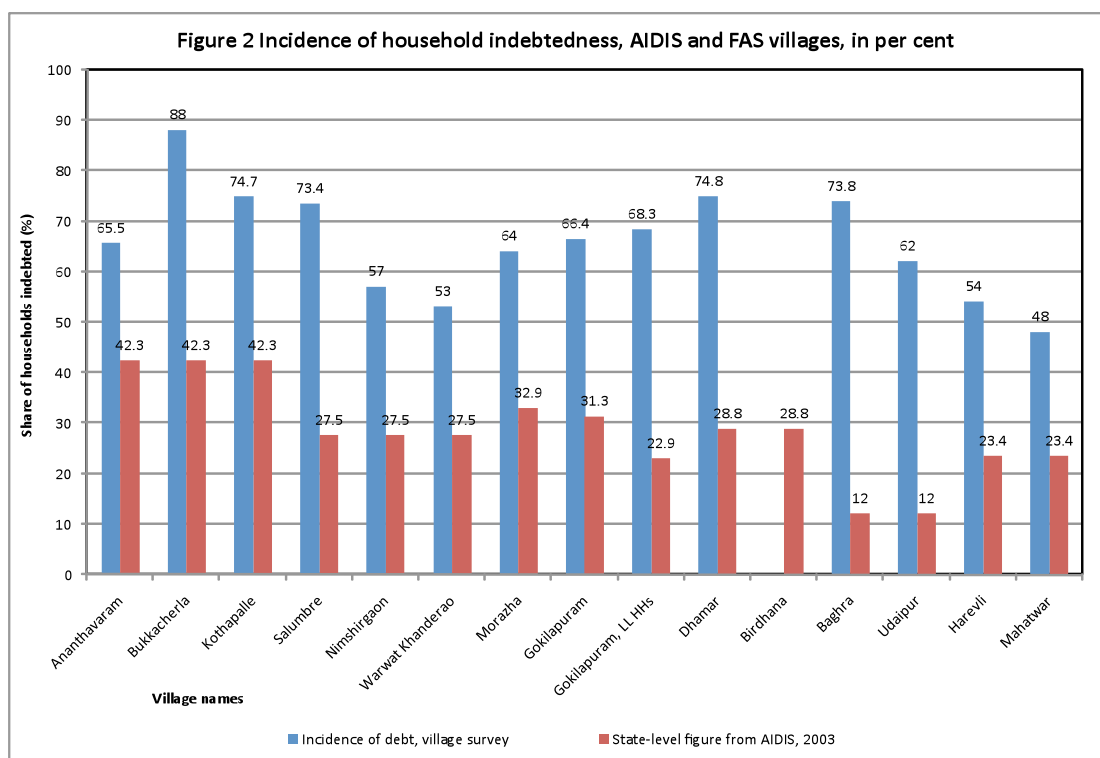
Playing a devil's advocate, let us hypothesize that apart from issues of sampling, the reliability of AIDIS estimates of incidence would depend on its ability to capture informal sector loans accurately. Formal sector loans are more easily captured by official surveys than informal sector loans, as the latter are embedded in the local socio-economic and cultural settings. As informal sector loans continue to be a major presence village credit markets, it is only logical that the incidence of indebtedness is underestimated in the AIDIS. While *prima facie* this hypothesis would appear sound, it does not stand the test of evidence.

There are at least two States in India where the formal sector of credit is well developed and widespread: Kerala and Maharashtra. In both these States, commercial banks and co-operatives supply significant shares of total credit. On the other hand, there are States where the formal sector is relatively poorly developed, such as Andhra Pradesh and Rajasthan. In between these two extremes are States where the formal sector is developed to a certain extent, but not to the extent as to decisively weaken the informal sector. The above picture of the relative strength of the formal sector is supported by data from the AIDIS, data from the Situation Assessment Survey (SAS) of the NSSO as well as different primary surveys (see Table 5).

Table 5 *Share of formal sector in the total outstanding cash debt of rural households, State-wise, AIDIS, 1971 to 2002*, in per cent
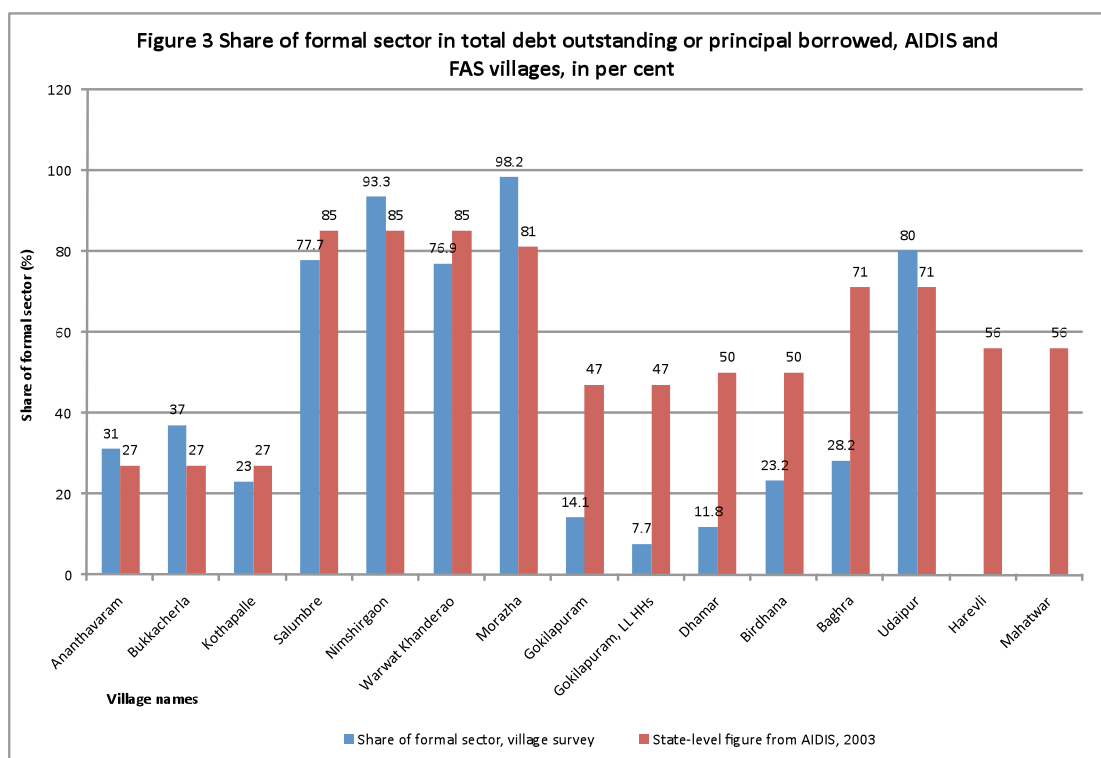
State	AIDIS, rural households				SAS, farmer households
	1971	1981	1991	2002	2003
Andhra Pradesh	13.7	40.9	34.0	27.0	31.4
Haryana	26.4	75.8	73.0	50.0	67.6
Jharkhand	-	-	-	71.0	64.1
Kerala	44.4	78.6	92.0	81.0	82.3
Madhya Pradesh	31.6	66.3	73.0	59.0	56.9
Maharashtra	67.4	86.4	82.0	85.0	83.8
Rajasthan	9.4	40.9	40.0	34.0	34.2
Tamil Nadu	22.1	44.3	58.0	47.0	53.4
Uttar Pradesh	23.4	55.1	69.0	56.0	60.3
West Bengal	30.6	65.5	82.0	68.0	58.0

Source: AIDIS reports, various issues.

In this context, it may be noted that there is fair amount of convergence between AIDIS estimates and village study estimates on the share of formal sector in total debt outstanding of households across States (Figure 3). In States like Kerala and Maharashtra (where the formal sector is well-developed), estimates on the share of formal sector in total credit are high and close to each other in both the AIDIS and FAS village studies. Similarly, in States like Andhra Pradesh (where the formal sector is poorly developed), the estimates in the AIDIS and FAS village studies are low and close to each other.

If the relative importance of the formal sector could be captured in AIDIS fairly well (though there are exceptions to this, as in Tamil Nadu and Haryana), one would expect the AIDIS to be equally accurate in capturing the incidence of debt. That is, it must be true that the divergence between the estimates of incidence in AIDIS and village surveys

are narrowest in Kerala and Maharashtra and widest in Andhra Pradesh. However, as Figure 2 shows, no such relationship can be established. The gulf between the AIDIS and village level estimates remained as wide in Kerala and Maharashtra as they did in Andhra Pradesh. During primary surveys, households do try to withhold information on loans from sources like moneylenders and landlords, but not so much on loans from commercial banks and cooperatives. It is interesting that even when loans taken by households are mostly from public banking institutions, official data sources fail to capture them accurately.

Figure 3 Share of formal sector in total debt outstanding or principal borrowed, AIDIS and FAS villages, in per cent

Average debt outstanding in village surveys

The underestimation in AIDIS, as compared to village studies, is not restricted to incidence alone. With respect to figures for average debt also, village studies report much higher levels of average debt than AIDIS (see Figure 4). The conclusion from the AIDIS of Professor Vaidyanathan that average levels of debt in rural India are "neither crushing nor of crisis-making proportions" is hard to arrive at from the FAS village surveys. In most cases, the village study estimates are more than twice the average debt reported in the AIDIS. This was equally so in Maharashtra (where the formal sector is well developed) and Andhra Pradesh (where the formal sector is weakly developed). In other words, even among the small set of indebted households captured by the AIDIS, the

levels of debt are not accurately captured. The underestimation, thus, is *not just in spread but also in depth.*

Figure 4 Average amount of debt, AIDIS and FAS villages, in Rs per household
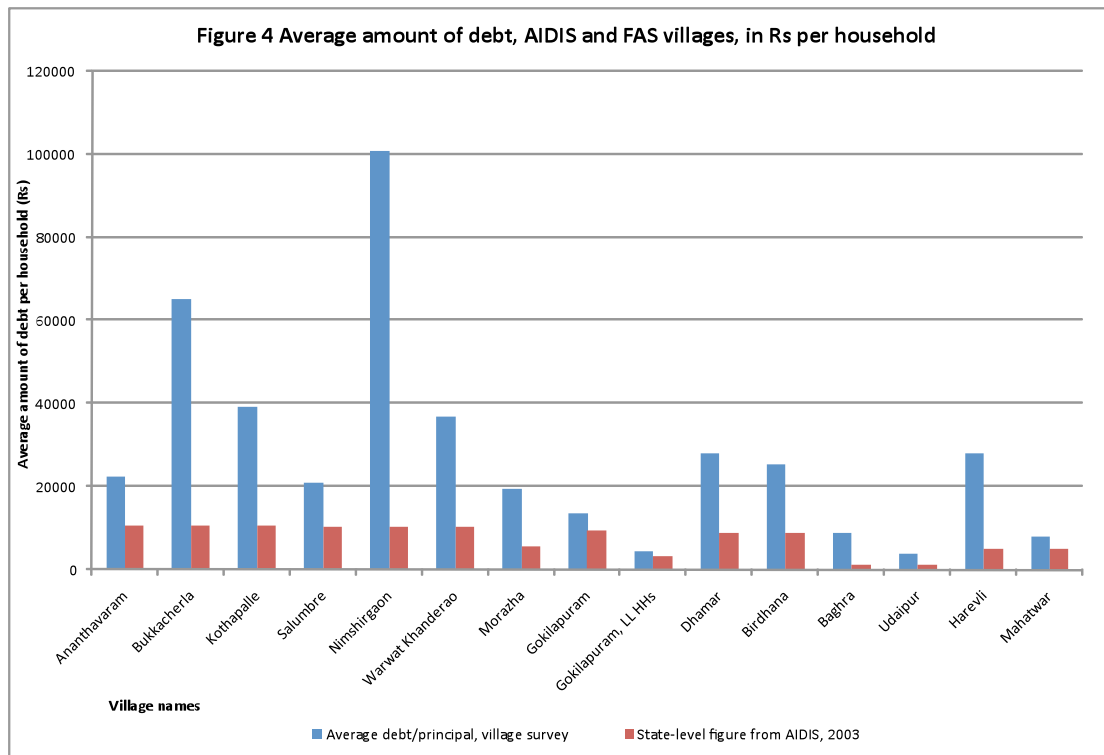
In Figure 4, the numbers presented are nominal and not deflated to adjust for price changes over time. Nevertheless, the differences that we note in the two sets of figures are so high that deflation would make little difference to the broad results (also, the period between 2003 and 2007 was a period of low and stable inflation).
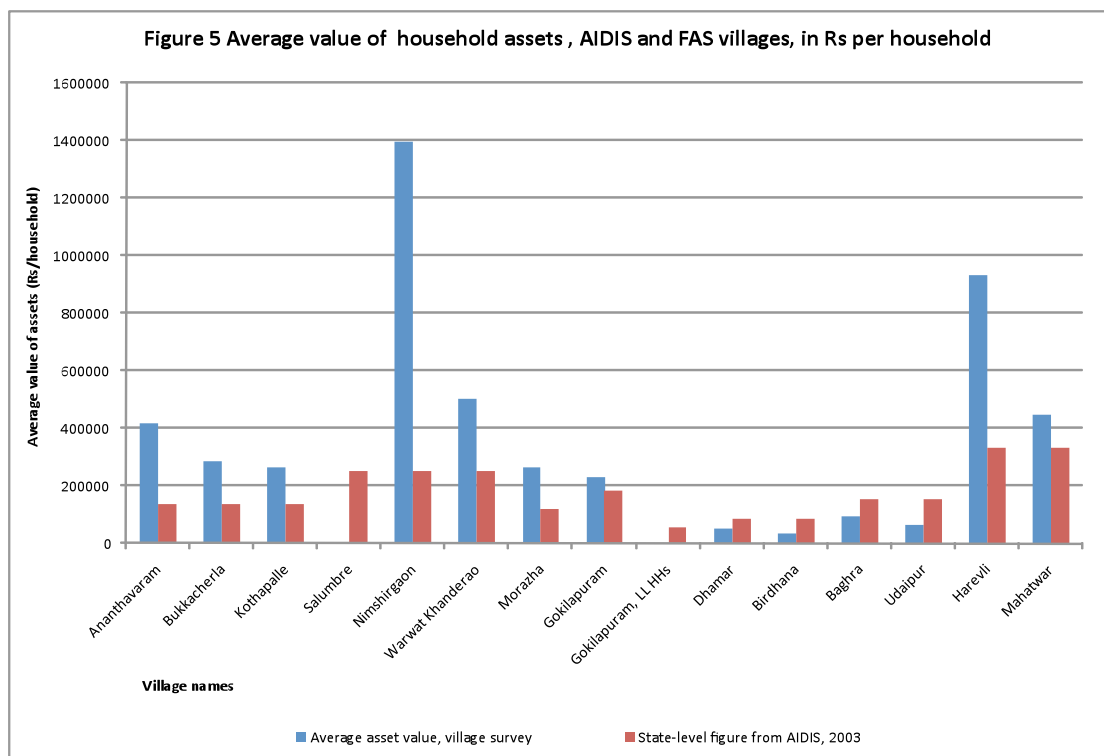
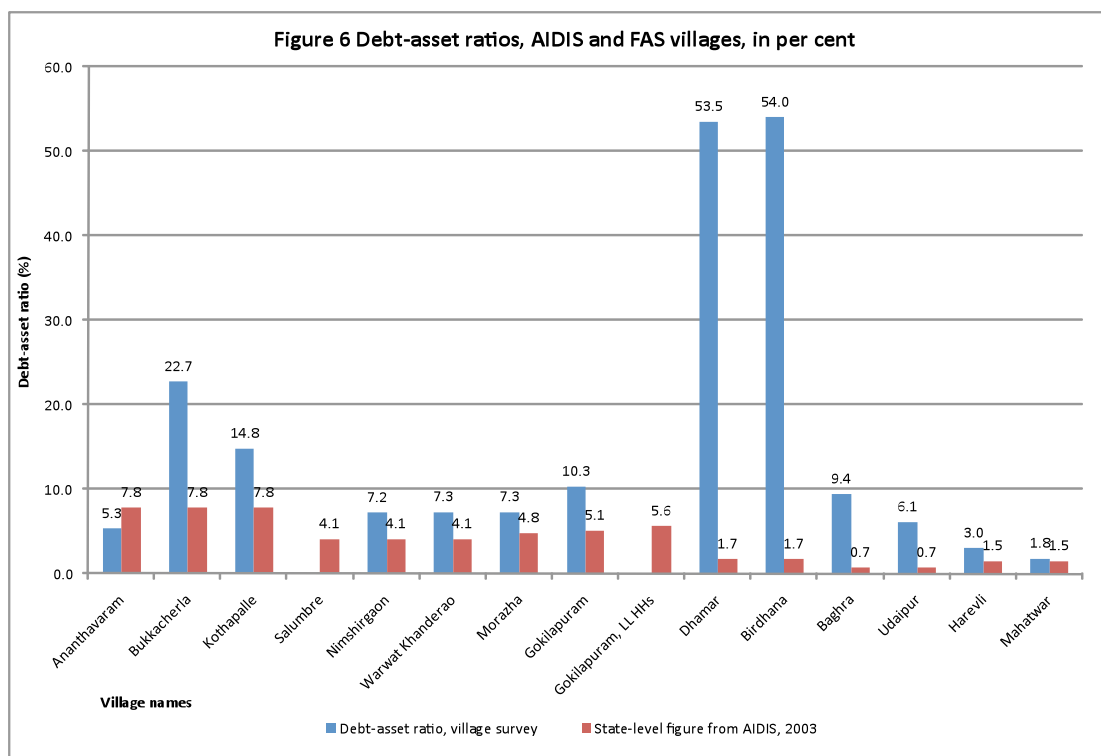*Debt-asset ratio in village surveys*

A convenient index of the burden of debt of households is the debt-asset ratio. It provides an indication of how much of the debt can be repaid by selling one's assets; in other words, it gives the charge that debt makes on one's assets. Let us first consider the value of assets. While the AIDIS values both physical and financial assets, the FAS village surveys have not collected information on financial assets at all (except for the village Salumbre in Maharashtra, the data analysis for which is not complete). Thus, the attempt here is to compare the results on *physical and financial* asset values from the AIDIS with the *physical* asset values in FAS village surveys.

As in the case of debt, the value of assets estimated from AIDIS is a general underestimate. Interestingly, this underestimation is despite the fact that financial assets

are excluded from the village survey estimates. In all the villages surveyed by FAS, except for the villages in Haryana and Jharkhand, the value of assets was higher than the corresponding State-level AIDIS figures (Figure 5). If we had collected and included data on financial assets also from the villages, the order of underestimation would have been considerably higher.

Let us now look at debt-asset ratios. Debt-asset ratios estimated from the AIDIS have uniformly been lower than the corresponding estimates from the village surveys (see Figure 6). The divergence was most significant in the case of villages in Andhra Pradesh and Haryana. Clearly, while both debt and assets are underestimated by the AIDIS, the extent of underestimation of debt is much more than the extent of underestimation of asset values.

Figure 5 Average value of household assets , AIDIS and FAS villages, in Rs per household

Figure 6 Debt-asset ratios, AIDIS and FAS villages, in per cent

IV

CONCLUDING POINTS

The following are the major concluding observations of this note.

1) Data on the incidence of indebtedness from the AIDIS, which is the most important secondary data source on rural credit, are significant underestimates owing to problems in its sampling methodology;

2) If we compare data on total household debt from AIDIS and data on credit supplied from commercial banks, there was an under-estimation of rural households' debt from commercial banks by about 43 per cent and 35 per cent respectively in 1991-92 and 2002-03;

3) The estimates of incidence of indebtedness in AIDIS are consistently lower than the corresponding figures estimated from primary village surveys organized by the FAS;

4) Even when loans are mostly taken by households from public banking institutions, AIDIS fails to capture the incidence of debt accurately;

5) Even among the small set of indebted households captured by the AIDIS, the levels of debt amount are not accurately captured. The underestimation, thus, is not just in spread but also in depth.

6) As in the case of debt, the value of assets estimated from AIDIS is a general underestimate;

7) Debt-asset ratios estimated from the AIDIS have uniformly been lower than the corresponding estimates from the village surveys;

8) Given the above issues, it is undesirable to use AIDIS data uncritically, especially while arguing for major shifts in official agricultural policy.

9) While secondary data sources would continue to be important in providing broad trends over time, there is much to be gained from intensive village surveys in capturing the magnitude of variables like debt and assets, and their diversity across space.

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