

Understanding Rural Credit Statistics – A User Perspective

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Abstract

Rural credit statistics and indicators derived thereof are very important for understanding the ground level realities and formulating policy. There are two categories of sources for rural credit data. One, official statistics compiled and disseminated by regulators such as RBI and NABARD, and, the other, large-scale household surveys such as conducted by NSSO from time to time. In spite of several sources of data from demand and supply side, the understanding of rural credit scenario is incomplete due to incompatibility and hence, non-comparability of various sources. Even two surveys conducted by the same agency during the same year have thrown divergent estimates on crucial indicators such as extent of indebtedness. This paper describes various sources for rural credit data, highlights certain inconsistencies and lack of uniformity of concepts and definitions, and misreading of certain indicators, and cautions the researchers and readers to understand the limitations of various data and indicators while using and interpreting them.

Key words: Credit intensity, Debt-Asset ratio, Ground level credit, Indebtedness, Indicators, Priority sector, Rural Credit

1. Introduction

Rural Credit Statistics have been of significance for understanding the rural economy and policy interventions therein. Rural indebtedness has been a serious subject of enquiry into agrarian distress whether by the Royal Commission on Agriculture or McLagan Committee or various committees such as Rural Credit Survey Committee that delved on rural credit issues post-Independence period. Several arrangements have been put in place from time to time to collect data on rural credit. Thus, we have two sets of data- one pertaining to credit surveyed by rural financial institutions to their clientele as compiled by the regulators or supervisors such as *Reserve Bank of India and NABARD*; and the other, as reported by farmers/rural households through various surveys. Both sets of data describe different facets of the rural credit situation and, hence, give different types of inputs for policy.

*Views expressed in this article are those of the author only and not of the organization to which he belongs.

The available data as of now reveal different facets of rural credit situation in the country at different levels of aggregation and geographies. Even as plenty of data are available, there remain serious gaps in understanding as most often the data sources are not compatible and hence, not comparable. Thus, the objective of this paper is to delineate various credit related data available and sources thereof, explain the concepts and explore conflicts between the data available across different sources. The focus is mainly from a user perspective.

2. Rural Credit Structure

The rural credit system consists of institutional agencies and informal agencies catering various short-term, medium and long-term credit needs of rural people for production as well as consumption purposes. Figure 1 below gives the structure of rural credit system. Production purposes can be for agriculture and allied sectors— crop production, dairy, poultry, apiary, fishery, forestry, etc. and for rural non-farm sector activities such as manufacturing or service sectors. From a situation where, rural people depended heavily on private moneylenders and other informal agencies, public policy on rural credit helped build a super structure of formal credit system to cater to their needs so much so that over 60 per cent of the credit availed is met by formal agencies (Satyasai, 2015).

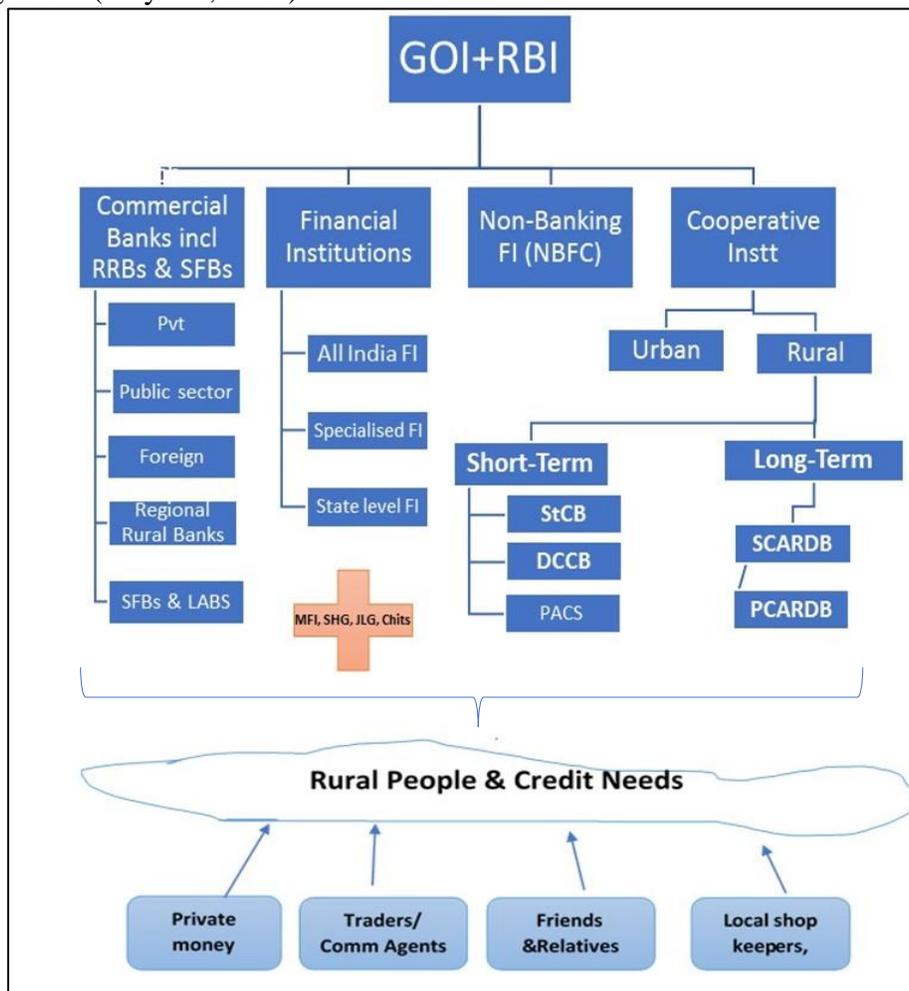


Figure 1: Structure of rural credit system

3. Data on Rural Credit from Official Sources

Broadly, three types of financial institutions catered to the rural credit needs: cooperatives, commercial banks and regional rural banks. Of late, urban cooperative banks, microfinance institutions (MFIs), local area banks (LABS), small finance banks (SFBs), etc have also been meeting the credit needs of rural clients. Data pertaining to the credit purveyed by these agencies is available from their regulators, RBI and NABARD. The associations or apex bodies such as Sa-Dhan (for MFIs), NAFSCOB (for State Cooperative Banks), NCARDB Federation (for State Cooperative Agriculture and Rural Development Banks) also disseminate data on the operations of their member institutions.

4. Flow vs Stock

The data on financial quantities compiled for banks are generally in terms of outstanding as on a given date (i.e., stock). Outstanding credit data is important for banks as their interest income is computed on stock and hence, preferred. However, outstanding credit data and trends worked there of can be misleading as outstanding credit on, say, 31 March 2017 is equal to initial stock of credit plus disbursement during the period between 1 April 2016 and 31 March 2017 and interest accrued minus recovery during the same period. If recovery during the period is nil, the outstanding credit will be at a higher level as on 31 March 2017. In a cash credit account and Kisan Credit Card account, farmers can draw loan amount several times to meet their credit needs against the sanctioned credit limit if they maintain credit balance. Thus, if one adds up all the withdrawals, the total amount drawn during the year can be several times higher than the credit limit sanctioned. That is, the velocity of credit would be very high spurring the economic activity. Thus, outstanding data may mask many things that happen during the year.

Data on credit disbursements during the year, (i.e., flow), on the other hand, popularly known as ground level credit (GLC) are also compiled by NABARD and RBI. The annual targets for GLC are usually set in Union Budgets. Economic Survey reproduces this data – agency-wise and by tenure (short, medium and long term).

5. Data for Commercial Banks and Regional Rural Banks (RRBs)

Reserve Bank of India (RBI) brings out various publications at different periodicities. Banking Statistical Returns (BSR) gives data on credit outstanding by industry for scheduled commercial banks including RRBs¹. The credit data in terms of outstanding and disbursements are also available in Handbook of Statistics on Indian Economy brought out by RBI which are also available online. A few indicators available from these data sources for commercial banks and regional rural banks are: number of rural branches, deposits and loans outstanding, loans outstanding by farm size wise, agricultural credit disbursed during the year, etc. Information on working of banks is available along with detailed write up in *Trend and Progress of Banking in India* (TPB), an annual publication by RBI, discontinued for a while and resumed (see Rao, 2017 for critique on TPB).

¹ Details on data coverage and various returns prescribe, definitions and concepts used can be obtained in Manual on Banking and Finance by RBI, 2007.

6. Data on Cooperatives

Cooperative system in the country evolved over a century and has a vast network. Cooperatives in India are of two types: credit cooperatives and non-credit cooperatives. Credit cooperatives have two types of structures dealing with short-term credit and long-term credit (see Satyasai and Badatya, 2000 for detailed account of cooperative system). The short-term structure, usually, has three tiers consisting of State Cooperative Bank (StCB), District Cooperative Central Bank (DCCB) and Primary Agricultural Cooperative Credit Societies (PACS) at the grassroots level. Long term structure has two tiers in several states in a federal setup with State Cooperative Agricultural and Rural Development Banks (SCARDBs) at apex level and Primary Cooperative Agricultural and Rural Development Banks (PCARDBs) at the grassroots level. Other states have unitary structure with SCARDB at state level operating through its branches.

Besides, there are around 17 National Level Cooperatives dealing with promotional, developmental aspects of cooperatives in India both in the field of credit and non-credit societies. The basic purpose of these federations is to coordinate the functioning of its member institutions, provide support services, and compile data relating to members and give voice to the members.

For cooperatives, the data on credit outstanding from PACS, DCCBs and SCBs, PCARDBs and SCARDBs are available, though with a time lag. The data for cooperatives at grassroots level – both credit and non-credit societies used to be compiled and published by RBI and continued by NABARD before discontinuing the publication on non-credit society's data. The data on short term and long term credit cooperative structures in the country are available from NABARD but with time lag. Streamlining data on cooperatives and making them available at the earliest has been one of the vexing issues and crucial for refining flow of funds accounts for the country compiled by Reserve bank of India. The Committee on Financial Statistics constituted by Ministry of Statistics and Programme Implementation (MOSPI), Government of India, New Delhi, among others, is concerned about financial statistics on cooperatives. Earlier, the High Level Committee on Saving and Investment under Dr. Rangarajan (GoI, 2009) and Working group under chairmanship of Dr. Deepak Mohanty on Compilation of Flow of Funds Accounts of the Indian Economy (RBI, 2015) discussed the issue extensively.

7. Issues in Compiling of data for Flow of Funds from Cooperative Sector²

The cooperative network is so variegated and widely spread across the country that getting representative data with reasonable time lag is a herculean task. Notably, though several cooperatives are in the fold of these federations many others are not. As a result, the federations may not give full information. Also, except the credit cooperative federations like NAFSCOB and NCARDB which are compiling data of their member societies though not up-to-date, several other federations are not actually disseminating such information through their websites. Also, there is not much idea one gets about if such information is being compiled and if yes in what form.

The Statistical Statements relating to Cooperative Movement in India brought out by the NABARD, continuing the efforts of RBI, give comprehensive coverage of the co-operative

² This section draws from Satyasai (2017).

sector in terms of number, membership, liabilities and assets and operations of various types of credit and non-credit societies. The data is delayed due to delay in submission of data by the agencies from lower tiers and delay in audit process. The data comes through Registrars of Co-operatives (RCS) who reportedly do not have sufficient supporting technical and physical manpower to collect data pertaining to non-credit cooperatives. Due to numerous agencies prevailing to cater to different sectors, mere size and variety may deter RCS from attempting such exercise effectively. Also, getting compliance from defunct societies, which are sizeable in many states, is not easy.

At NABARD, whenever data is not received from some states and for some agencies, the usual practice is to repeat data for previous years and mere unmanageable volume of data makes it impossible to carry out updating and revision. In due course of time, the fat volumes of data on credit and non-credit societies in print form were discontinued and data was made available on compact discs (CDs). Further, only key summary statistics are being printed that too only for credit cooperatives. As of now, the latest publications are: i) Key Statistics on Cooperative Banks as on 31 March 2016 (unaudited), ii) Dossier on cooperative credit Structure – Short term structure, March 2014, iii) Dossier on Long Term Cooperative Credit Structure, March 2014. The data for non-credit societies is supposed to be received from RCS with whom they are registered. But, very few states such as Maharashtra, Gujarat and Rajasthan send such data regularly and in detail while other states send fragmented and incomplete data. Inconsistency is a common problem which often makes publication of data on non-credit societies still more time consuming and difficult.

Commonly cited problem with the co-operative banking system is lack of timely data. This impedes a proper assessment of their performance. Reporting of basic data on assets and liabilities for the scheduled co-operative banks is streamlined. But the data for non-scheduled co-operative banks are still available with a considerable time lag. Non-completion of the audit process is a major issue behind the delay. Another reason for delays is prevalence of semi-manual compilation and transmission of data at all levels. Data integrity also may be lost due to such system. The sheer size and number of cooperative institutions in the country, inadequate and qualified manpower makes timely data compilation a herculean task. The solution lies in computerization. The situation appears brighter now with three important developments. One, StCB and DCCBs are on Core Banking Solutions (CBS) platform and hence, MIS may get automated which speeds up the compilation process and minimizes data errors and inconsistencies. At present out of 402 StCB/DCCBs 382 (29 StCB and 353 DCCBs) are on CBS (see Box). Caution is warranted here. Mere CBS platform will not ensure data flow. Skilled manpower who can mine data are crucial. Further, cooperatives are allowed time up to Sept of next financial year to complete audit while on CBS, cooperatives need to close accounts by 15th April. Hence, rectification vouchers to be passed in the wake of the audit observations do not reflect in CBS created balance sheets. In this context, the recommendation of Trend and Progress of Banking in India, 2001 (RBI, 2002) to standardise financial statements of cooperatives to match those of commercial banks is worth mentioning.

Box. Features of Core Banking Solution

Core Banking Solution stands for Centralized Online Real-time Exchange (CORE) based banking solution. This helps the banks in maintaining a single set of books of accounts in electronic form, located at Data Centre. This electronic set of books of account are accessible to customers of the bank as well as other banks, who transact business with the bank. Reserve Bank of India (RBI) made CBS implementation mandatory for all banks including Regional Rural Banks (RRBs) as well as Cooperative Banks under the STCCS. All the RRBs and almost all the State Cooperative Banks (StCBs) and District Central Cooperative Banks (DCCBs), barring the unlicensed ones, have adopted CBS which has the following features:

- a. Centralized Database which can be accessed universally.
- b. Transactions take place at various locations round the clock through alternate channels of banking besides regular branches, like ATMs, Internet Banking, Mobile Banking, Point of Sale Machines, Tele Banking, Debit Cards, Credit Cards, etc. Besides, the CBS data is replicated to Disaster Recovery Systems (DRS), Back up Servers, Data Warehousing, MIS Servers, Financial Inclusion Servers, etc., to be used for different other purposes.
- c. The centralized database is updated on real time basis.
- d. Report Generation and MIS is taken care of in the back end, mostly through MIS servers. MIS servers have a replica of the centralized database, which is replicated at predefined intervals, e.g., daily, weekly, etc., based on need.
- e. Predefined access to the Centralized database is provided to different users.

Two, in the Union Budget 2017-18, it is announced that 63000 functional PACS will be linked to the CBS of respective DCCBs with an outlay of Rs.1900 crores during next 3 years. This will help bring PACS to the mainstream and capture PACS data faster and better. Three, at NABARD, new data portal, named ENSURE (short form for Electronic Submission of Returns), has been launched in March 2015 to submit OSS Returns online by banks. ENSURE is an enterprise-level, web-enabled data collection and management system. It helps in the convergence of onsite inspection and offsite surveillance systems, resulting in quality and timely data.

8. Rural Credit Data from Household Surveys

At present we have quite a few sources of information on rural credit and related aspects in addition to small scale surveys conducted by different agencies from time to time. Some of them are: 1. All India Debt Investment Survey, 2. Situation Assessment Survey of Agricultural households, 3. Input survey, 4. Consumer Pyramids Surveys by Centre for Monitoring Indian Economy, 5. FINDEX by World Bank Group, 6. Inclusix by CRISIL, and 7. Financial Inclusion and Financial Literacy Survey by The National Centre for Financial Education (NCFE), and, 8. Financial Inclusion Insight Surveys (FII). The major, but not common, drawbacks of these surveys include: limited coverage of indicators, long gap (10 years) between two consecutive surveys, non-inclusion of SHG, MFI as sources of credit, variation in definitions across surveys and over time, to mention a few. Brief contours of these surveys are given below:

9. All-India Debt and Investment Survey (AIDIS)

Conducted by NSSO every 10 years, AIDIS covers debt and investment profile of rural and urban households (HH) on Value of assets, Average outstanding debt, Incidence of indebtedness, Average assets of specified categories and cash loan, Shares of credit agencies in debt, Details about fixed expenditure incurred for different purposes, and, Normal repairs and maintenance expenditure on different items of farm business. Latest survey covered 2012-13 with a sample of 62135 HH from rural and 48665 HH from urban India. Studies revealed serious underestimation of incidence of debt as well as outstanding loan amount (Pallavi, 2012, Rajakumar *et al*, 2017).

The gap of 10 years between consecutive surveys is too long considering dynamic nature of the rural credit market. Estimates are given up to state level. It is often criticized that the AIDIS results come late after the survey and become obsolete faster in dynamic world as we live now. Also, a more frequent surveys instead every 10 years as of now were recommended by Satyasai (2002) and Task Force on credit Related issues of farmers under Chairmanship of Dr. U. C. Sarangi (GoI, 2010)³.

Data on household level information on credit are available from various surveys commissioned periodically, the survey which has been repeated over several decades at 10-year interval being the most famous All India debt Investment Survey (AIDIS). This survey gives information on indebtedness of rural and urban households, besides their investment patterns. This is one survey that gives information on share of informal (non-institutional credit sources) in the outstanding debt of households. This report also gives classification of debt according to tenure of the loan, rate of interest, type of security, among others. Here, rural households consist of cultivators and non-cultivators.

10. Situation Assessment Survey (SAS)

Another survey that collected information on loans data of agricultural households besides their income levels is Situation Assessment Survey conducted by NSSO during 2002-03 (59th round) and 2012-13 (70th round). This survey was the first to assess incomes of farm households.

Recent SAS by NSSO with 2012-13 as reference year is the second in series, the first SAS of Farmers being in 2002-03. It is based on sample of 35200 HH only from rural India. Important information provided by the survey include: Number of agricultural HH, Major source of income for agricultural HH, income and consumption expenditure, Details of dwelling units, Status of crop insured – its penetration, crops insured, reasons for not insuring crops, and, average outstanding loan amount. Survey is spaced 10 years apart. NABARD is a member of the advisory group on the above two surveys and could convince NSSO to collect information on SHG and MFI as a source of finance in the survey. Estimates are given up to state level.

³ Now NSSO reduced the time gap by conducting AIDIS, Situation Assessment Survey (SAS) during 77th round in 2019 repeating the 70th round in 2012-13.

11. Input Survey

Conducted by Ministry of Agriculture, GOI every five years, input survey gives information on credit disbursed during the year in rural areas and longer series of data are available over several decades. The estimates on borrowings during the year from cooperatives, regional rural banks and commercial banks are given at district level. This survey also includes information on use of other inputs. This source does not give information about outstanding credit and informal sources of credit.

12. CMIE Consumer Pyramids

Consumer Pyramids is the largest survey of households of India. It makes estimates of income, expenses, savings, borrowings, investments and ownership of assets of households. It also makes estimates of the age, gender, education, occupation, health financial inclusion and mobile connectivity of individuals.

Characteristics of households for a quarter are captured in the succeeding quarter and results are released within 15 days of the completion of the survey. About 4,400,000 presentations per survey are offered for use to subscribers that includes 2,700,000 tabulations, 1,700,000 charts and 30,000 maps. The range and depth of information the Pyramid offers is immense. The spatial coverage includes: 1.5 lakh HH across 319 Cities, 97 Rural regions, 99 Homogeneous Regions and 24 States & Union Territories.

The estimates covered include: Household Income, Expenses, Pattern and items of Expenditure, Savings, Investments, Sources and purposes of Borrowing, Financial Inclusion, Assets, socio-economic traits, Health status, Mobile Connectivity and so on. The rural area is not well represented.

13. The Global Findex

Is the only global demand-side data source allowing for global and regional cross-country analysis. It includes data from 148 countries and collects information on 506 indicators from at least 1,000 individuals over 15 years old within each country. Some of the indicators are:

The sample is nationally representative and randomly selected. Since the survey is a module added to the Gallup World Poll⁴, it combines information about socio-demographic conditions and access to or usage of financial services. The Global Findex is mainly used for global trend analysis and cross-country comparison to highlight headline financial inclusion indicators such as the number of adults with access to formal bank accounts. The drawback is that the data is not sub-nationally representative, which means that it is less useful for in-country policymakers and their decision-making as there is just not sufficient granularity. Also, the definition of formal financial services is based on people's perception of whether their provider is a formal financial institution, which is not necessarily aligned with the regulatory and supervisory framework of a country. The sample is randomized at the individual level, which

⁴Gallup, Inc. is an American research-based, **global** performance-management consulting company. Founded by George **Gallup** in 1935, the company became known for its public opinion **polls** conducted worldwide.

allows users to aggregate the data by individual characteristics, such as income and gender, but this also makes the data incompatible with household-level surveys.

14. Inclusix

CRISIL Inclusix is a comprehensive index for measuring the progress of financial inclusion in the country, down to the district-level. A pro bono initiative by CRISIL, the launch of the index is in line with the company's goal of 'doing good with what it is good at'. With its ability to objectively analyse and measure inclusion, CRISIL Inclusix will be a key enabler in taking financial services to the bottom of the pyramid.

CRISIL Inclusix, whose methodology is like other global indices, such as UNDP's Human Development Index, measures financial inclusion on the three critical parameters of basic banking services - branch penetration, deposit penetration, and credit penetration. The index uses parameters that focus only on the 'number of people' whose lives have been touched by various financial services, rather than on the 'amounts' deposited or lent.

15. Financial Inclusion Insight Surveys (FII)

The Bill and Melinda Gates Foundation in partnership with Intermedia has also recently launched the data collection effort for the FII survey. The data was available during 2014. Contrary to FITS, the FII surveys are not panel surveys as they do not track the same household over time. They focus more on measuring individual perception and behaviour, making them comparable to the Fin Access and the like. However, their strong focus on mobile money and digital financial services sets these surveys apart. The strategic objective of the surveys and the methodologies and frequencies for data collection vary between the eight countries for which the data will be collected (Kenya, Tanzania, Uganda, Nigeria, India, Pakistan, Bangladesh and Indonesia). The sample size is typically high to allow for sub-national representation. The surveys include welfare measures based on the Grameen Progress out of Poverty index (PPI) which is unique to the FII. Because FII surveys only focus on insights into digital financial services, they do not capture many indicators around access and usage for non-digital financial services. Furthermore, they are only carried out for eight countries.

16. Financial Inclusion and Financial Literacy Survey

The National Centre for Financial Education¹ (NCFE), at the behest of the Technical Group of the Sub-Committee of the Financial Stability and Development Council (FSDC) on **Financial Inclusion and Financial Literacy**, has appointed Mott MacDonald India, a global management and development consultancy organisation, to carry out a nationwide baseline survey i.e. NCFE-Financial Literacy and Inclusion Survey (NCFE-FLIS) for assessing the state of financial literacy and financial inclusion.

This study covering approximately 75000 people across 35 states and UTs, would not only assess the present state of financial literacy and financial inclusion, but also yield benchmarks of core financial literacy and financial inclusion indicators at various socio-economic sub group levels and measure its rate of change on a continual basis to assess the efficacy of various financial education interventions including those under NCFE. This study would also provide comparative analysis of states/ UTs and help evaluate India's standing at

global level. This study is very important for research to understand and improve delivery of financial education which in turn will lead to a higher level of financial literacy and financial inclusion in India. The results are available on NISM website. The survey followed OECD methodology.

Thus, there is lot of information on rural finance through various sources. Still, it is difficult to construct a big picture as there are serious gaps in understanding the rural financial landscape. The main reason is the differential coverage of these surveys and the concepts and definitions used in each of them that makes them non-comparable. As a user one needs to understand the specific concepts used and comparability across the sources, limitations thereof and carefully use and interpret the data.

17. Some Issues in Rural Credit Data Inconsistencies

With the banking industry rightly being risk averse as it is the custodian of public deposits, demand-side factors, including the absorptive capacity and repaying abilities of borrowers, play a crucial role in credit delivery. In recent years, the banking industry has been faced with significant structural changes in the economy with the share of agriculture in the country's GDP receding rather very sharply. When GLC data on crop loans and term loans are juxtaposed with current inputs and farm sector private investment, we observe that almost full part of farmers' inputs (over 90 %) is financed by short-term credit, and about 90 per cent of private farm investment is similarly financed by term loans from banks. This appears somewhat unrealistic. For the value of inputs and output pertain to the entire universe of agricultural households, while the institutional credit data corresponds to only a segment of households who had access to credit (Table 1).

Table 1: Credit, input, output, GDP and capital formation in agriculture and allied sectors

Year	Output Value (₹ Crore)	Input Value (₹ Crore)	GDP/GVA from Agriculture (₹ Crore)	Short-Term Credit (ST) (₹ Crore)	Total Credit Flow (ST+LT) (₹ Crore)	ST Credit as % of Input Value	Total Credit as % of Output Value	Total Credit as % of Agriculture GDP	Private Sector Capital Formation (₹)	Term Credit From All Institutions (₹)	Term Credit as % of Private Sector GCF (₹)
1	2	3	4	5	6	7	8	9	10	11	12
2001-02	553591	147343	498620	40509	62045	27.5	11.2	12.4	60,279	21,536	35.7
2002-03	540755	153174	485080	45586	69560	29.8	12.9	14.3	56,525	23,974	42.4
2003-04	615691	170561	544667	54977	86981	32.2	14.1	16.0	52,988	32,004	60.4
2004-05	638530	175865	565426	76062	125309	43.3	19.6	22.2	58,498	49,247	84.2
2005-06	716839	194936	637772	105350	180486	54.0	25.2	28.3	66,922	75,136	112.3
2006-07	801496	214187	722984	138455	229400	64.6	28.6	31.7	72,570	90,945	125.3
2007-08	828785	231800	836518	181393	254658	78.3	30.7	30.4	91,094	73,265	80.4
2008-09	1049121	264214	943204	210461	301908	79.7	28.8	32.0	127,816	91,447	71.5

2009-10	1199744	301056	1083514	276656	384514	91.9	32.0	35.5	142,966	107,858	75.4
2010-11	1416441	354437	1306942	335550	468291	94.7	33.1	35.8	1,65,396	1,32,741	89.3
2011-12*	1908087	406188	1501947	396158	511029	97.5	26.8	34.0	238716	114871	48.1
2012-13	2153172	479788	1675107	473500	607376	98.7	28.2	36.3	234952	133875	57.0
2013-14	2481996	555693	1926372	548435	730123	98.7	29.4	37.9	283681	181687	64.0
2014-15	2660202	585671	2068958	635412	845328	108.5	31.8	40.9	268642	209916	78.1
2015-16	2792945	608818	2175547	665313	915510	109.3	32.8	42.1	274126	250197	91.3

Note: Data are at Current Prices.

*from here onwards data are as per 2011-12 series and Gross Value Added (GVA) data is given in place of GDP

Source: (i) Value of output, Value of inputs and GDP/GVA are from *CSO's National Accounts Statistics various volumes*

According to Vaidyanathan (2013) the reach of the Primary Agricultural Credit Societies (PACS) in terms of membership, borrowers, and access to credit from different segments of the rural population was much less than available data would suggest. It is corroborated by NSSO's Situation Assessment Survey in 2002-03 which estimated that only 13% of rural households report borrowing from cooperatives, banks and other institutional sources. The volume of borrowings from cooperatives estimated by the NSSO is less than half the volume of direct loans reported to RBI. In the case of other institutions, estimated volumes are 60% lower than reported to RBI. Thus, data on agricultural lending by cooperatives are most hazy.

There are significant differences even between control returns filed by banks and consolidated and published by the RBI in its *Annual Reports* and *Reports on Trend and Progress of Banking in India* and branch level returns filed by banks and tabulated and published by the RBI as *Basic Statistical Returns (BSR)* of scheduled commercial banks in India (EPWRF, 2014). Even if explained by definitional differences, they call for special attention. We already mentioned earlier that there are serious differences as between the nation-wide field survey results and the official data on household formal debt.

Similarly, data on agricultural credit available from RBI's *Basic Statistical Returns of Scheduled Commercial Banks (BSR)* and Government of India's *Economic Survey* show differences. The differences in data, however, cannot be explained with our knowledge of definitional differences and thus they appear a mystery. Yet another set of differences in the agricultural credit outstanding is found between the data from RBI in its annual publication *Handbook of Statistics on the Indian Economy* and those revealed by the RBI's *Basic Statistical Returns of Scheduled Commercial Banks (BSR)*. Here too, definitional differences can explain the data differences, but only partially (EPWRF, 2014). Some caution on data is in order here.

First, ground-level credit data include indirect lending of commercial banks both in the aggregate data series as well as in the data set on individual agencies. Second, data cover public sector banks along with RRBs and cooperatives and do not include data for private sector banks until 2005-06; therefore, the state-wise and region-wise distribution is exclusive of private

commercial banks until 2005-06. Incidentally, private sector banks' disbursements for agriculture constitute about 10 to 13% of the total ground-level disbursements. Finally, the ground-level disbursements for the co-operative sector are apparently worked out based on the available data for state-level and district-level cooperative banks (SCBs and DCBs) along with the data for land development banks (SCARDBs and PCRDBs). In fact, primary agricultural credit societies (PACs) purvey the ground-level credit to agriculture. In such a situation, we have no way of knowing how these data for the ground-level disbursements for cooperative sector are arrived at. With the advent of Kisan Credit Cards (KCC) which operates like a cash credit account, multiple withdrawals are possible if there is credit balance in the account which can be maintained by frequent credits. This makes compiling ground level credit more complicated.

Cooperative sector data from the divergent sources do not match. RBI's *Handbook* began to incorporate data in respect of SCARDB and PCARDB for the first time in 1990-2000, as a result of which there was a sudden 184% increase in total loans issued in respect of cooperatives in that year or 142% increase in loans outstanding. However, such a kink is not seen in the NABARD's ground-level data. It is not known if and how the SCARDBs and PCARDBs are covered in the GLC data for cooperatives (EPWRF, 2014).

18. Serious Under-estimation by the Surveys

Chavan (2012) found that AIDIS rural indebtedness data were gross underestimates to the extent of 46% in 1991-12 and 35% in 2002-03 owing to the problems in sampling methodology. Rao and Tripathi (2001) reported similar under estimation. State-level estimates of incidence of debt obtained from the AIDIS also were consistently and substantially lower than the figures obtained from village surveys across various States. She recommends intensive village surveys which can play an important role in capturing the magnitude of household debt and diversity in household debt portfolios across space. Rajakumar *et al*, 2017 also reported underestimation of survey results based on their longitudinal analysis of all AIDIS conducted so far.

Even in respect of certain indicators such as incidence of indebtedness, as penetration of KCC among cultivators, the divergence between what administrative data says and the estimates thrown by the surveys. For example, KCC penetration among cultivator households is 11 per cent as per AIDIS 70th round which is much lower than what official data on KCC issued reveals. Several field studies corroborate the AIDIS estimates. The difference can be while the AIDIS asks the cultivator about possession of KCC by the household, the official statistics reflect what is reported by the banks who consider all crop loans as KCC accounts for reporting purpose irrespective of possession of physical card by the household. AIDIS estimates may be underestimates to the extent the respondent (need not be the member of the household who possesses the card) is sure of his/her response and how the investigator solicits and interprets the response. The reality can be somewhere in between.

19. Discrepancies among survey results

Even between two different Survey results covering similar aspects like indebtedness, the estimates vary quite significantly. Lal et al (2001), for instance, finds the National Sample Survey (NSS), a well-regarded national household surveys, and the Market Information Survey of Households (MISH) of the NCAER revealing contradictory trends in poverty ratio. While

MISH suggested a marked decline, the NSS pointed to stagnation in poverty ratios. Coming to rural credit related surveys, two surveys conducted by the same organization, NSSO, during the same 59th and 70th Rounds threw different estimates of incidence and level of indebtedness. These two surveys are Situation Assessment Survey (SAS) and All India Debt and Investment Survey (AIDIS), both conducted during 2003 and 2013. The definitions and reference points of data do differ and thus, can explain some part of the difference in the estimates (see Rao, 2006 for the differences in the definitions and concepts between these two surveys). However, it is difficult for the policy makers and non-academic users to comprehend and appreciate the differences. The estimates of incidence of indebtedness (IOI), defined as the proportion of households reporting any debt and amount of debt per indebted household are given in the Table 2.

Table 2: Indebtedness of Cultivator Households (*Proportions in per cent and amount in Rs.*)

State	Farmer Households (SAS 2003)		Cultivator Households AIDIS 2002-03 (June 2002)		Agricultural Households (SAS 2013)		Cultivator Households AIDIS 2012-13 (June 2012)	
	PRD	APRH	PRD	APRH	PRD	APRH	PRD	APRH
Andhra Pradesh	82	29226	54	29915	92.9	132831	62.8	139772
Assam	18.1	4492	6.7	9567	17.5	19429	9.3	49247
Bihar	33	13564	22.5	14827	42.5	38353	31.4	62650
Gujarat	51.9	29915	33.9	38225	42.6	89437	30.1	95239
Haryana	53.1	48977	31.7	54700	42.3	186761	29.8	217872
Himachal Pradesh	33.4	28796	17.9	32643	-	-	29.0	136221
Jammu & Kashmir	31.8	5984	3.8	31526	-	-	13.6	92743
Karnataka	61.6	29440	39.1	34327	77.3	125744	51.8	127658
Kerala	64.4	52651	42.9	64431	77.7	274903	53.5	320712
Madhya Pradesh	50.8	27988	31.7	38631	45.7	70241	28.5	92123
Maharashtra	54.8	30863	37.8	37746	57.3	95462	41.5	103925
Orissa	47.8	12282	31.3	12703	57.5	49043	29.7	42020
Punjab	65.4	63572	28.5	88459	53.2	224624	38.8	311570
Rajasthan	52.4	35061	36.7	36134	61.8	114078	40.6	128448
Tamil Nadu	74.5	32165	40.3	36782	82.5	140485	49.6	129633
Uttar Pradesh	40.3	18424	24.1	22253	43.8	62329	32.2	80140
West Bengal	50.1	10453	24.7	15466	51.5	34563	30.3	49003
All India	48.6	25895	29.7	31182	51.9	90559	35.0	110443
Chhattisgarh	-	-	-	-	37.2	27419	16.2	72080
Jharkhand	-	-	-	-	28.9	19723	20.0	35020
Telangana	-	-	-	-	89.1	104938	69.0	98591

Notes: PRD: Proportion of households reporting debt; APRH: Average debt/loan per reporting household

Source: NSSO Reports No 498, 501, 576, 577.

SAS recorded these data as on the date of the survey whereas AIDIS recorded them as on a fixed reference date (end June). The proportion of households reporting debt (i.e. IOI) is about 30 per cent as per AIDIS 2003 against 48.6 as per SAS 2003. Even in 70th round also similar divergence is noticed with 35 and 52 per cent reported as IOI by AIDIS 2013 and SAS 2013, respectively. Average debt per reporting household is lower in SAS during both 59th and 70th rounds at All India level. Across states too there are significant differences in the estimates of these two surveys.

20. Marriage between different sources of data

A caution has been sounded earlier about the underestimation of credit outstanding by different surveys, non-comparability of different sources. Apart from this, surveys seem to have failed to reflect the changes overtime in the rural landscape. For instance, during the decade between 2002 and 2012, several initiatives towards financial inclusion have been taken. However, SAS or AIDIS for these two years did not show any improvement in penetration of institutional credit any better than previous decades (Satyasai, 2015). Though Kumar (2016) cautions against comparing two rounds of data, in the absence of any other source of such data, researchers are compelled to indulge in such comparisons. Due caution to readers, however, is essential.

21. How good are the credit related indicators?

Several reports use different indicators and unless the reader understands the definition and limitations thereof, the interpretations can play havoc. A few indicators are discussed here. Priority Sector achievement level

In November 1991, the Committee on the Financial System (Narasimham Committee – I) recommended the gradual phasing out of the directed credit programmes as the growth of agriculture and small industry in India had reached a point where the legitimate productive requirements of these sectors (or large parts of them) could be met by banks based on their commercial judgement. The redefined priority sector, as per the Committee, should consist of small and marginal farmers, tiny sector of industry, small business and transport operators, village and cottage industries, rural artisans and other weaker sections. But, the 40% target for the ‘priority sector’ continued. However, the definition has been liberalized and expanded to cover bank finance to many activities, so much so, the targets are achieved thanks to other priority sector activities that accounted for larger share now than ever. While our purpose here is not to discuss dilution of priority sector lending, the alert is that while comparing priority sector lending, the researchers should be aware that temporal comparisons are misleading due to definitional changes.

22. Credit Intensity

Ground level credit (GLC) has been growing in absolute terms over time. Since, data in absolute terms may not reveal the real growth story, the practice is to normalise the time series with reference to a *numeraire* to understand the intrinsic trend in credit intensity.

23. Credit per hectare

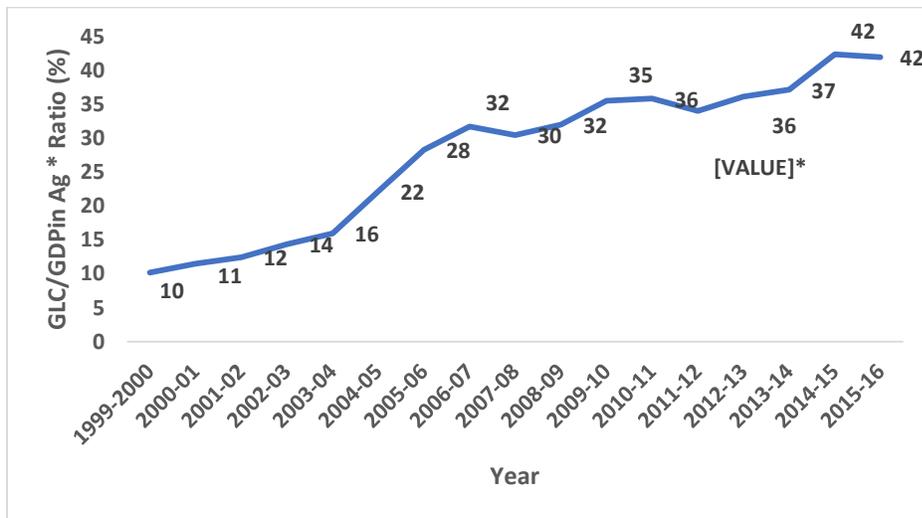
This measure tells us the flow of credit per unit area or hectare. Growth in credit flow per a unit area (hectare) tells us that credit flow increased faster than the growth in cropped area and credit intensity increased.

24. Average loan per accounts per borrower

While computing this indicator, we should divide total loan amount by the number of accounts or number of borrowers. The number of loan accounts does not entirely correspond to the number of borrowers because of the multiple accounts held by big-size borrowers. This phenomenon is, of course, more relevant for industrial loans, but in agriculture, it is felt, the link between the number of borrowers and the number of accounts is much closer. However, farmers were observed to have 1.2 loan accounts on an average, in an internal study in major states by NABARD. To this extent the two indicators need to be understood properly and there is no way to compute the loan amount per borrower from secondary data.

25. Credit-GDP ratio

The indicators mentioned before, does not talk of the productivity of credit in generating income. Thus, credit as a ratio to GDP (income) is another measure often used to understand credit-income relationship. The trend in the ratio is shown in Figure 2. The ratio which was 16 per cent in 2003-04 doubled during the 'doubling period' and there after slowly increased to reach a plateau at 37 per cent. That is, about Rs.16 rupees were used to obtain Rs.100 GDP in 2003-04 and in recent years, we need to ensure Rs.32 of credit to obtain the same income.



* Ratio since 2011-12 is computed as a ratio to Gross Value Added in Agriculture

Figure 2. Credit Intensity: Ratio of GLC to GDP* in Agriculture and allied sectors

The ratio can tell us how much increase is there in credit per unit increase in income. In other words, higher ratio would reveal that there is a commensurately lower income generated with every addition to credit flow. This is quite acceptable because given that credit helps farmers to buy inputs and pay for other farming expenses, the increasing trend in credit to GDP ratio only indicates diminishing marginal returns as we increase the use of inputs unless there is

any technological breakthrough. Thus, a lower credit-GDP ratio may reveal low level of input use and higher ratio may indicate over use of inputs. As such there may not be any ideal level of the ratio.

However, one should be cautious in interpreting the credit-GDP ratio, especially when computed based on secondary information for the following reasons:

- The credit data pertains to the set of farmers who availed institutional loans and GDP from agriculture is the income generated by entire universe of farmers.
- Credit data used is from institutional sources only while farmers do avail credit from other sources also to use in farming.
- There are possibilities of diversion of loans taken and actual usage in farming may vary from year to year.
- The credit data contains both short term credit (used up during the reference year) and investment credit influences income generation over several years. Apportioning term credit across years is difficult. Also, we cannot omit term credit totally as some proportion of it is used up during the year.
- The pathways in which credit influences the income generation determine its productivity. As per empirical studies, credit determines the fertiliser (and other input) use and which in turn influences income. The transmission mechanism can be complex as it depends on factors such as varietal response to nutrients, genetic potential of the seeds, factors influencing the fertiliser use other than credit (i.e., shift factors for fertiliser demand), and so on.

Thus, while the trend in credit to GDP ratio can indicate trend in productivity of credit, in a rough sense, its use is ridden with problems of interpretation.

26. Incidence of Indebtedness (IoI)

This ratio is used in AIDIS to indicate the proportion of households who reported debt to the total. The ratio is a fair indicator of the extent of coverage of households with loans from any one or more agencies. Here indebtedness must be understood in a positive angle of having access to the loans though indebtedness may denote debt burden in normal sense. SAS also gives similar ratio but does not use the same name. AIDIS records indebtedness and adjusts to a fixed reference date while SAS records indebtedness as on the date of the survey of the given household. One more difference is that AIDIS covers cultivator households while SAS 2012 covers agricultural households irrespective of ownership of land. Hence, comparability of these sets of data is difficult and which one to adopt also is a question. Since the ratio by SAS is higher at over 50 per cent, it is in wider circulation.

27. Average amount of Debt (AOD)

Another indicator AIDIS gives is average amount of debt (AOD) per household, a ratio of loan amount outstanding to number of households. Another ratio often derived is loan outstanding per household reporting debt which is termed AOD per household reporting outstanding loan (AODL). Similar ratios are derived from SAS as well. One must clearly specify the definition so that readers will understand the correct connotation.

28. Debt-Asset Ratio (DAR)

AIDIS gives Debt-Asset ratio which is derived by dividing total debt outstanding to the assets value. This ratio represents burden of debt on a household on a given date. A higher ratio can indicate debt trap, of course a subjective interpretation. A study from Kerala, for example, worked out this ratio and concluded that Kerala farmers are not debt trapped (Sensarma *et al*, 2018). The conclusion can be different if one drops land which has very high value in Kerala out of the definition of assets, as the study noted. Composition of assets apart, how the assets are valued determines the comparability of the indicator over time. For instance, DAR calculated with data from 70th and 59th rounds is not comparable as the asset valuation and composition are different on several counts. First, values of land & building as on 30.06.2012 were recorded in the 70th round as per their normative/guideline values, whereas in the 59th round they were recorded 'as reported by the informant'. Second, household durables were not considered as assets in 70th round. Third, bullion and ornaments also were kept outside of the purview of assets. In the 59th round all household durables including bullion and ornaments were part of asset. Fourth, assets and liabilities of household enterprises were recorded only if the enterprise is fully owned by the household, and not a partnership involving members of different households. Fifth, in the 70th round, unlike the previous round, direct question on the value of asset excluding shares/debentures as on 30.06.2012 was asked. In 59th round asset data as on reference date was derived from the data as on the date of survey and the data on transactions during the reference date to the date of survey.

29. Non-availability of Data

One important aspect that needs highlighting before closing is non-availability of data relating to certain categories of population. Data on credit access to SC/ST and small and marginal farmers are available through certain surveys and also some official publications. However, data on credit access or on the economic activities of transgenders, differently abled, rag pickers, people engaged in marginal occupations. For inclusive growth we need focus on all such segments of the population.

30. Conclusions

This paper deals with describing sources of data on agricultural credit from supply and demand side. The paper concludes that while there are multiple sources of data on various aspects of agricultural credit, the understanding about the agricultural credit scenario in the country is still inadequate. The reasons are several including lack of uniformity in definitions, concepts coverage, and sample design. Even the surveys conducted by the same agency during the same reference period gave divergent estimates on simple indicators like degree of indebtedness. This shows poverty of understanding amidst plenty of data. Researchers are often puzzled as to what they are dealing with and are handicapped for temporal analysis. Then readers and policy makers are equally perplexed leading to use of comfortable estimates.

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