

**The Contraction of Indian Rural Credit Markets 1951-1971:
A Cautionary Tale of Financial Formalization**

Burgess and Pande (2005), Cole (2009) and Kochar (2011) all exploit the 1977 to 1990 expansion of Indian rural banks to study financial formalization. Their results span finding a reduction in poverty to finding no effect to finding an increase in inequality. A potential cause of these disparate results was the government simultaneously expanded banks and credit subsidies. But from 1955 to 1968 the State Bank of India spearheaded an expansion of banked locations which in percentage terms dwarfed the later expansion, and had no confounding policies. In this study I show that the post 1955 expansions caused rural credit contractions, and may have led to a decrease in poor cultivators total financial holdings. Bank availability disrupted traditional patterns of saving-by-lending by facilitating saving in formal institutions. Importantly, this shows the extent of latent demand for convenient savings vehicles even in the presence of what appear to have been much higher returns to informal saving techniques.

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Susan Wolcott. The author is Assoc. Prof. at Binghamton University, Binghamton, NY 13902, swolcott@binghamton.edu

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Banerjee, Karlan and Zinman (2015) present an overview of recent evidence for the effectiveness of microfinance. The great promise of microfinance is that by expanding access to credit, one might reduce poverty. However, it is not clear that expanding credit reduces poverty. Levine (2005) examined multiple countries' experiences and found no consistent pattern of economic growth due to financial formalization. Similarly, the results of the six studies summarized by Banerjee, et al. do not point to significant poverty reductions.

Another potential benefit posited for financial formalization is that it may stimulate savings. But again, a recent review of the literature on saving in developing countries states, "it is not clear a priori that under-saving is a widespread problem and that everyone should save more" (Karlan, Ratan and Zinman 2014, 37).

An important paper cited both in the literatures on how banks improve growth and how banks increase savings is Burgess and Pande (2005). In that paper, the authors exploit a change in the rules for Indian bank expansion in 1977 associated with the nationalization of India's banks, and the end to those rules in 1990, to identify the effect of the expansion of bank branches into rural areas. Karlan, Ratan and Zinman (2014, 37) write that "the recent literature measuring the impacts of savings access starts with Burgess and Pande (2005)". Udry (2005) cites Burgess and Pande as showing that directed credit in the form of the bank expansion caused poverty to fall and rural wages to rise.

While the role of formal financial institutions in providing both credit and savings opportunities to the world's rural poor remains an important issue to be resolved, a problem with interpreting the Burgess and Pande results on these topics is that other scholars studying this exact same event arrived at very different conclusions. Cole (2009) found that nationalization had no effect on investment, but did cause a decrease in employment in rural trade and industry. Shifting

workers out of agriculture and into other types of rural employment is usually associated with increased rural income. Thus, the mechanism which would have reduced poverty or raised wages is not obvious. Kochar (2011) found even less optimistic results. She first finds that the bank expansion did increase borrowing and did lead to an expansion in expenditure of cultivators. But she then breaks down the effect of the expansion on the top and bottom quartile in terms of land ownership, wealth and caste. She finds that only the top quartile, however measured, experiences a positive effect from the banking expansion; she found no effect on the bottom quartile. One problem these studies faced was that the government of India simultaneously expanded banks and introduced policies which subsidized credit. The bank expansions studied were 1977 to 1990. The Integrated Rural Development Program (IRDP) was introduced in 1980 and peaked in the late 1980s. It was at the time India's largest anti-poverty program, and was meant to be linked to the bank expansion. The IRDP forced the banks to lend to the "poor" to purchase productive assets and the government subsidized the price of those assets by 25 to 50 percent (Kochar 2011). The authors of all of these studies recognize the problem of confounding credit subsidies, and in various ways test for its importance. They argue that the pattern of bank expansion is not the same as the pattern of credit expansion for agriculture. As Kochar points out, the rules for bank location differed from the rules for credit allocation. There is, however, a distinction between credit allocated by the government, and the effective subsidies received by cultivators. It is well known that almost 40 percent of IRDP loans were defaulted on (GET CITE). The placement of banks was linked to initial poverty. It is possible, even likely, that default rates were correlated with initial poverty. If so, effective subsidies would be greater in initially poor locations, and that could perhaps explain the link between poverty reduction and bank expansion that only Burgess and Pande found.

There was an earlier bank expansion in India which has not previously been studied, but which has potential to give a cleaner picture of the link between bank expansion and rural credit and saving. The expansion I will study here followed from the creation of the State Bank of India (SBI) in 1955. From that year until 1968, government assistance to banks was modest in terms of cost, and in terms of the number of banks which opened relative to the number opened between 1977 and 1990. But it was much more dramatic in changing the ratio of bank branches per population and the number of banked locations per population in rural India. In fact, if one examines the ratio of banked locations per population in Indian states from the time of Independence to 1990, most of the decrease in this ratio occurs before the first bank nationalization of 1969, much less the change in the rules associated with the second wave of nationalization.

This paper will argue the expansion of banked locations after 1955 encouraged saving in formal institutions, and so disrupted traditional rural patterns of saving-by-lending. The new banks concentrated on deposit creation and provided little credit. Consequently, in the majority of Indian states, and especially for poorer cultivators, the real value of cash loans declined and the real cost of credit increased 1951 to 1971. This credit contraction has largely been ignored in previous analyses of India's credit policies though it was very large. The levels of cash borrowing by poor cultivators fell so significantly from 1951 to 1971 that the expensive credit injections of the IRDP only brought borrowing levels of poor cultivators about 30 percent higher than they had been in 1951. Data on total financial savings, formal and informal, are noisy. What they suggest, however, is that wealthier cultivators' real levels of financial assets were approximately stable 1951 to 1971, while poorer cultivators real holdings are likely to have fallen substantially.

I begin the analysis of the effect of the bank expansion 1955 to 1968 with an examination of how rural credit markets operated before 1955. Up until the early 1950s there was widespread local participation in informal rural credit provision. Policy makers understood at the time that moneylending was fundamentally as much a vehicle for savings as it was a system of credit. In a 1953 government report discussing the potential for rural commercial banks to generate deposits, one difficulty noted was that “rural people who have savings can always lend their money in the villages” ((India 1953, 59). Saving-by-lending was a competitive and safe activity. It operated similarly to microcredit today, which is, in fact, simply a new manifestation of the centuries old practice of rooting the provision of credit in the local social network.

I next examine changes in the Indian rural financial market between 1951 and 1971 using the All India Rural Credit Survey of 1951, and the Debt and Investment Survey of 1971. For perspective, I include information on financial markets in 1992 drawn from the Debt and Investment Survey of 1992. I will show that total credit provision contracted, the price of credit rose, and that there was a switch in financial holdings of cultivators from holding a portfolio of informal loans to holding wealth in formal institutions.

Finally, I link the bank expansion to the credit decline. I first show that measures of the expansion of State Banks was tightly associated with credit contractions, while that of private banks was not. The differing correlation between private and State Banks and rural credit is an important result for my identification strategy. Private banks located the bulk of their new branches in districts which were relatively well banked in 1951. The State Banks located the bulk of their new branches in the districts which were the least banked in 1951. All but one of the 48 substate regions of rural India for which I can compare borrowing levels in 1951 and 1971 experienced a credit contraction for poorer cultivators between 1951 and 1971. (The exception

was Northern Punjab.) But if my hypothesis that bank expansion caused credit contractions were true, the most severe contractions would occur where the bank expansion most changed initial conditions. The expansion of private banks would have been associated with relatively unchanged conditions, and thus it is consistent with my hypothesis that they would be correlated with less severe contractions. The expansion of State Banks would have caused a more significant change, and thus, my hypothesis would suggest they would be correlated with the most severe credit contractions.

I exploit the differing patterns of expansion of State and private banks to establish that State Bank expansions caused the changed financial conditions, and disprove the alternative hypothesis that the portfolio shifts and credit contractions attracted bank branches. I estimate a decision rule for district level expansion of State Banks 1951 to 1968 (pre-nationalization) which links expansion to the relative absence of commercial banks in the district 1951. I also show that private bank expansion did not follow this pattern. I next show that “predicted” state bank expansions based purely on district level conditions in 1951 are correlated with the shift in financial portfolios and credit contractions in the direction of my hypothesis.

The Indian bank expansion 1955 to 1968 represents not just a clean experiment to understand the effect of banking expansion on credit availability. It also represents a clean experiment highlighting the latent demand for formal savings vehicles in a traditional environment characterized by informal finance. Moneylending rates before the bank expansion were 18 to 25 percent. Inflation was effectively zero. Deposit rates 1951-1971 were always less than 10%, with small but positive inflation. The enthusiastic switch of wealthier savers to bank deposits from a portfolio of local loans after Independence despite these low rates could suggest colonial moneylending had small profit margins. Evidence from modern Indian rural microfinance, which

has as similar institutional structure, supports this finding. It is also possible that even if informal lending did have high rates of return, there could have been associated factors which made it effectively much less desirable. In either case, the difference in the stated rate of return to moneylending and the stated rate of return to deposits gives an indication of the enormous value cultivators place on access to convenient savings vehicles. The word “cautionary” appears in the title as the benefits of these savings opportunities appear to have benefited primarily wealthier cultivators, while the negative associated impact of credit contraction primarily affected poorer cultivators.

*I. Colonial India’s Credit Institutions*¹

The 1951 All-India Rural Credit Survey gives an overview of credit conditions immediately after the 1947 Indian Independence from Britain. The survey results indicated that Indian cultivators relied almost entirely on the informal sector for credit. And as noted in a follow-up 1969 government report, “The [1951] Survey also confirmed the well-known shortcomings of such credit. The rates of interest charged by the moneylender were almost always very high. This often resulted not only in chronic indebtedness but sale of lands for repayment of debts. (India. All-India Rural Credit Review Committee 1969, 24).” Despite these official concerns, I want to argue the system overall had many positive aspects. I am not unique in describing informal moneylending as competitive. Bannerji and Duflo (2010) summarize known facts about modern informal credit markets in developing countries, including India. They report

¹ Section I of this paper draw heavily from Wolcott (2011) and Wolcott (2010), which also are concerned with Indian social networks and the colonial Indian credit market.

that there is no evidence of monopoly power or excess profits. I wish to extend this argument to historical moneylending.

The structure of the market

The Indian colonial credit market had multiple layers. The formal sector consisted of the Imperial Bank- effectively the government's bank though privately held, exchange banks (European owned), and joint-stock banks (predominantly Indian owned). The informal sector was much larger. Immediately prior to Independence, it was estimated that 90 percent of internal commerce was financed by the informal sector (Chandavarkar 1982). India's informal credit network also had levels: village moneylenders, town moneylenders and, at the apex, private bankers, or as they are referred to in both the British and later Independent Indian government reports, indigenous bankers. These businessmen were very similar to the private bankers important to development in the antebellum US, and prominent in England (Sylla 1976). The reports distinguish the indigenous bankers from urban moneylenders in that the former accept deposits and the latter do not (Jain 1929, 35). Rural moneylenders were the very bottom rung of colonial India's credit structure.

Indigenous bankers played a major role in colonial India. Indigenous banking was well established when the Europeans arrived in India in the 16th century, and travelers were impressed with the sophistication of the bankers' techniques.² The PBEC Reports indicate that indigenous bankers controlled a much greater value of financial assets in colonial India than did commercial

² Few writers describing this market fail to quote the following colorful observation by the great 17th century traveler Tavernier: "The Jews engaged in money matters in the Turkish Empire are usually considered to be exceptionally able, but they are scarcely fit to be apprenticed to the money changers of India (Tripathi 2004, 21)."

banks. Indigenous bankers importance lessened over time, but they were still a significant component of Indian finance into at least the 1980s (Timberg and Aiyar 1984). The structure of the bankers' trade does not seem to have changed greatly across all of this time (India. Banking Commission 1972b). Indigenous banking was the purview of just a few castes.

Rural moneylenders, in contrast, were a diverse group. Jain writes, "so far as money-lending is concerned, any one and every one takes to it. A member of any caste who may have a little money in hand can hardly resist the temptation of lending it out to neighbours," (Jain 1929, 28). This is a common theme in official documents. Consider an early 1860s statement of the Deputy Commissioner of Rae Bereli in the United Provinces, north India. "Almost every man appears to be in debt, and he who saves a rupee puts it out upon interest," (Musgrave 1978, 219). William Crooke in his report on the Etah district in the United Provinces in 1888 listed these income sources for a Muslim Teli [oilmen] family: pressing oilseeds, Rs. 100 per annum; returns from 3 acres, 2 roods of land (an average size Indian farm), Rs. 50, 6 annas; and from moneylending, Rs. 3,500 per annum. (Rs. 1,000 per year was the minimum income required to pay income tax, and was considered very wealthy by Indian standards of the time.) Crooke also gives the income sources for a Thakur family. Thakur's are a rich agriculturist caste. Their income from agriculture was Rs. 1,231 per annum, and that from money-lending was Rs. 750 (Whitcombe 1972, 166-67). Charlesworth writes that though people assume the moneylenders of the Deccan in southwest India were Marwaris or Gujarati Vantias, the two most important caste clusters of indigenous bankers, this was grossly incorrect as "everyone dabbled in moneylending." He quotes a 1916 settlement report of the Junnar *taluka*, or administrative subdivision, of the Poona District in Western India. "Outside the towns and large villages the professional money-lenders are very few. Agriculturists and the artisan classes borrow and lend amongst themselves,"

(Charlesworth 1978, 102). Evidence given at the Madras PBEC in 1931 also suggests that moneylenders did not form a special class. "Roughly speaking all those who have spare money-ryots, merchants, retired officials, shopkeepers and vakils- lend it," (Baker 1984, 279). Musgrave gives a long list of lenders in the United Provinces.

In the 1920s, telis continued to lend money... Although the 570 cultivators also borrowed from a *zamindar* in a neighboring village, from *bantias* [small scale shopkeepers, moneylenders], Brahmins, Thakurs and Chamars [an "untouchable", leatherworking caste]. Elsewhere ... much of the money lending was in the hands of the Brahmin family priests, while in Edalpur, the local shrine was, through its *pandit* [priest], the leading source of credit. In Arrana,..., the school teacher established a very considerable lending business on his government salary, while the subordinate agents of the estate bureaucracies sometimes used their salaries- and sometimes the estates' money- in credit dealings. In Bhensa,..., the difficulties of the professional *mahajans* and *salukars* [large scale moneylenders] in the neighbouring village of Mawana led them to abandon the loaning of money to the Jat cultivators, who were constrained to borrow from the *behwaris* (butchers) (Musgrave 1978, 219).

It was not just the rich who engaged in rural money-lending. Prominent among India's credit sources for the poor were older women who operated the equivalent of pawn shops (Jain 1929, 66-67; Bhattacharya 1994, 199). Jain commented on the widows' ability to keep track of their many small loans despite their almost complete illiteracy. It appears illiteracy was not an insurmountable obstacle to participating in financial provision in India.

These anecdotal accounts are consistent with a competitive market with easy entry. The price of colonial informal credit is also consistent with a competitive market. Colonial moneylender interest rates were similar to the rates charged by microfinance institutions in India today. For comparative purposes, consider the Grameen bank. The Grameen bank has deposit

rates of 8.5 to 12 percent, and loans at rates equivalent to 30 percent.³ Armendáriz and Morduch (2007, 240ff) suggest that the Grameen Bank relies on grants and subsidized loans to fund their activities. Thus the reported premium between deposit and loan rates is an underestimate of the true premium. Rural colonial moneylenders could obtain funds at 12 percent, and typically loaned at rates between 18 and 35 percent, with the majority of the loans being at rates between 18 and 25 percent (NEED CITE, ME). Those figures would suggest a rough equivalence between the two types of institutions, with the Grameen bank perhaps charging a higher premium. On the other hand, I have less information on fees by moneylenders in the colonial period, though they existed. In Western India, Hardiman (1996) reports there was a "purse opening" charge of a few annas per loan. (An anna is 1/16 of a rupee.) To give another example, Bannerjee et al (2015) reported that Spandana, a large microfinance company in India, has interest rates of 27 percent with inflation rates of about 6 percent (FIX THIS).

Next consider the issue of moneylenders and land tenure. Bhaduri (1977) presented a model in which the moneylender, assumed to be a monopoly supplier of credit, has an incentive to undervalue the collateral given implicitly for the loan. The moneylender uses his monopoly position to set the interest rate at "usurious" levels because he would actually prefer the borrower to default as the size of the loan is less than the value of the collateral. The implication of the model is that indebted cultivators will gradually lose their land to moneylenders. Note that this is a different critique than simply criticizing the high price of credit. Bhaduri was concerned with moneylending as it operated in India at his time. The issue he raised, however, was also a concern

³ The standard Grameen loan rate for an income producing loan is 20 percent, though as the loan must be repaid within the loan period, and the interest charge is on a "declining basis", the Bank reports that the effective rate is only 10 percent. On the other hand, there are fees and forced saving associated with Grameen Bank loans, and that will bid up the real cost of the loan. Shreiner estimates that 30 percent is a more accurate figure (Schreiner 2003, 362).

in the colonial period. In fact, moneylenders first came to the forefront of the attention of colonial administrators in just such a situation as might have been predicted by Bhaduri's model. The Deccan Riots erupted in Western India in the 1870s as a response to what were perceived to be widespread losses of land to moneylenders following a prolonged agricultural recession. In rural colonial India, the vast majority of loans were provided on personal security, that is, on the basis of a personal promissory note or bond. This had apparently been the practice in the pre-British period as well. What changed under the British was that civil courts were introduced to enforce these bonds. If a moneylender brought the case to court, and the lender was found to be liable, his assets could be seized to repay his creditors.

The extent to which land was actually lost to moneylenders in colonial India is a contentious issue among historians (Hardiman 1996; Guha 1985 and 1987a and b). Most agree, however, that the Deccan land acquisitions were an unintended result of the agricultural crisis. They were also short-lived. In his analysis of Western India's rural history, Charlesworth (1985, 5) concludes that "whatever the illusion of tenurial turmoil, landowning elites and peasant cultivators in most localities came from substantially the same groups in 1947 as in 1850". The Punjab represents another case in point. The Punjab Land Alienation Act of 1900 is perceived to have been passed after widespread loss of agriculturists' land to professional moneylenders. Islam (1995) assesses the evidence, and finds few land sales before or after the law's passage.⁴

⁴ There are several potential explanations for limited land transfers. Hardiman suggests that fellow villagers would not buy the land of a neighbor who fell on hard times as this would be socially inappropriate. Guinnane (1994, 56) reports similar social norms limited repayment in Irish credit cooperatives at roughly the same period. The Punjab Provincial Bank Enquiry Report suggested that moneylenders were not competent agriculturalists, and did not want to acquire the land. In some parts of colonial India, the borrower might "sell" his land to his creditor, but remain in possession while he paid off his loan. Thus a British administrator wrote in 1899, "The same ryot whose land was apparently sold for ever in 1880 may have full possession of it in 1885 and again borrow for a marriage and go through a mock sale in 1890, and so on," (Charlesworth 1985, 178). Binswanger, et al., (1985, 52) gives a modern example of a "sale" to an informal lender in which the cultivator remained in possession of his land .

The final point which I believe it is necessary to make to interpret subsequent developments is that in the colonial period, informal rural credit markets were not completely isolated. There were links between indigenous bankers and professional, and even agricultural moneylenders. These links allowed intermediation in the informal credit market. And because the indigenous bankers were linked to the formal sector, funds flowed from the apex of the colonial Indian credit system, the Imperial Bank, to the bottom rung, rural moneylenders.

The connection running between the Imperial Bank and indigenous bankers is summarized in the following quote from a witness before the Madras PBEC.

Indigenous bankers can be said to be practically helping agriculture, trade and industry in the district [Tanjavur], say to the extent of 60% ... The indigenous bankers generally start with a very small capital. The Imperial Bank of India and joint-stock companies [banks] help them to a certain extent. They easily influence the public and get deposits which, in some cases, rise to several times the capital. There are instances where private bankers started business with a nominal capital of Rs. 10 or 20 thousands and transacted more than Rs. 15 lakhs [Rs. 1.5 million] within a period of fifteen years. Finally when the accounts were closed they had a surplus of Rs. 1, 2 or even 3 lakhs in some cases (Baker 1984, 287).

Funds from indigenous bankers to rural agriculture flowed through several channels. Sometimes the traders who had been loaned money themselves would subsequently loan money to the agriculturalists. Baker writes that the produce of Madras Province was sold to village dealers. Production and credit expanded "as more and more village dealers became known in the urban market and were able to borrow extra funds from the indigenous bankers," (Baker 1984, 258). Other times the indigenous bankers would loan money to smaller moneylenders (small relative to the bankers), who loaned to agriculturists. Musgrave relates the story of a rich agriculturist in Chakerji, a village in Etah in the United Provinces in the 1880s. The agriculturist, Narayan Singh,

lent from his own profits. He found this so lucrative that he borrowed Rs. 2,000 from a Bohra (a Moslem caste) banker in Kasganj, paying interest at 12 percent per year and lending out at 3 Rs. 2 annas percent per month (3.125 percent per month) (Musgrave 1978, 218). The evidence of the indigenous bankers before the Bombay PBEC Report suggests that this was common practice even in 1929. The rate at which moneylenders could borrow from indigenous bankers had not changed much from Musgrave's example (India. BEC (Bombay) 1930b, 200; also 1930a, 483).

Of course large agriculturists could borrow directly from the bankers. And, all of these bankers and moneylenders might themselves be brokers or traders, or even agriculturists. It was an extremely fluid system with no legal segregation and the traditional occupational segregation among these productive activities was much more fluid than one might have supposed.

The AIRCS contacted not only rural cultivators but also sources of credit in the sampled districts, including 3,476 moneylenders. Only 1 percent of these reported borrowing from commercial banks, and only 95 of the 3,476 reported borrowing from indigenous bankers. A larger share, 23.3 reported borrowing from other moneylenders. In all, 33 percent reported borrowing from at least one source (India. RBI 1954, table 7, 958-59).⁵ These data suggest the majority of lending was done from own capital, but there were nontrivial linkages.

Caste and the Indian credit system

I argue that the caste system of India was in part responsible for the success of the informal credit system in colonial India. Caste is a formalized kinship network. The prominent anthropologist Srinivas argued that despite the scorn heaped upon it, few Indians would want to abandon the caste system as "joint family and caste provide for an individual in our society some

⁵ Bell (1993) also uses these data to indicate intermediation in the informal sector.

of the benefits which a welfare state provides for him in the industrially advanced countries of the West,” (Srinivas 1962, 70).

Munshi and Rosenzweig (2016) identify several factors which make caste networks well-suited for providing credit.⁶ First, due to the restrictions that marriage must be outside the village, they are dispersed. Also, information flows freely across the network through social connections. Finally, all groups in India have a “caste”, including Christians and Moslems.

Caste members, however, not only provided credit, but they also facilitated creditworthiness, allowing the actual credit to be supplied by others. Caste members, just like collective liability group members in modern microfinance, had the local knowledge to distinguish between true negative shocks and opportunistic defaults. Group members in modern microfinance have a legal obligation to guarantee one another's loans. They use social sanctions to control opportunism and assist one another in the presence of true shocks. Caste worked similarly even though obligations were implicit rather than legal.

On the positive side, network members provided assistance in the presence of a true negative shock. Hardiman (1996, 104) notes that historically, the honor of the caste meant that caste members would absorb the liability of a “respectable” family at a time of temporary difficulty”. Nehru examined the surveys of 54 rural villages in the Mid-Gangetic Valley which had been conducted for the PREC in 1929/1930. He noted that 50 percent of the debt was not secured. “Patently they are unsecured, as there is no tangible security behind them. But in fact as in a business proposition, they are based on the strongest security, the borrowers caste and credit,” (Nehru 1932, 115, emphasis in the original).

⁶ Munshi and Rosenzweig note they are actually referring to the jati, or sub-caste, but use the more familiar word caste for expositional purposes, as do I. Note that unlike the Hindu classes of Brahmin, Kshatriyas, Vaishyas, and Shudras, which are standard across India, jatis are confined to one geographic area.

Caste networks could also minimize moral hazard by punishing renegeing on loans. Good standing in the network required meeting certain obligations. If these were not met, the member, *and his family*, would be formally outcasted, and lose all benefits of membership. In India, there were accepted, formal means of adjudicating cases in which members failed in their obligations to the social network. Each caste had its own *panchayat*, or council. Cases taken up by the caste-panchayat dealt with, among other issues, personal matters which would lower the reputation of the caste (Kolenda 1978, 89). The decisions of the *panchayats* were upheld by the group. The punishment meted out for grievous violations of caste rules was to “deprive a casteman of the right to receive water, or the tobacco pipe, from the hands of his fellow castemen and forbids them likewise to receive it from them.” This effectively expelled him from the community. He would not receive help in time of difficulty. There would be no one for his children to marry. Kolenda (1978, 11) writes that the resulting “social control of members is unusually strong and effective.”

Panchayats enforcing repayment was known to policy makers.

The social compunction [to repay moneylenders] is connected with considerations such as loss of ‘face’ or local prestige, caste disapproval, possible pressure through the caste *panchayat* and a variety of other social sanctions which, because they happen to be intangible, are not on that account any the less powerful (India. RBI 1954, vol. 2, 171).

Binswanger, *et al.* (1985, 35) describe a similar mechanism operating in 1979/80. "In most villages, village elders will assist recovery [by moneylenders] by mediating between borrowers and lenders in public meetings. The threat to ask for such a meeting is definitely used to speed up recovery". In marked contrast, there was no stigma associated with failure to repay government loans (Binswanger, *et al.* 1985, 51).

The rigidities of the caste structure would have imply that, *ceteris paribus*, the Indian moneylending market would have relatively low risk. In modern Indian village credit markets, risk does appear to be minimal. Walker and Ryan were involved in creating the ICRISTAT data. They write that a “crude, upper bound estimate” of the default rate in the informal market was 5 percent in any given year even though the great majority of loans were unsecured (Walker and Ryan 1990, 204). Their estimate accords with that of Aleem (1993), for the Chambar area in Sind, Pakistan, who also found a default rate of less than 5 percent. These rates are not very different from the 98 percent repayment of the Grameen Bank.

It was not only caste structure which secured loans in India; it was also the relative immobility of rural Indians. According to the 1931 Census, 959 out of 1,000 Indians resided in their district of birth, an out-migration rate from the district of less than 5 percent. Indian migration rates remain quite low. Munshi and Rosenzweig (2016) report that internal migration rates in India are low relative to other countries with similar income levels. The authors attribute these low levels to the need to maintain caste connections for credit purposes.

Even if an individual moved, his family probably would not. Kessinger (1975) showed for at least one village that the core community is remarkably stable. He analyzed manuscript censuses, revenue records and family genealogies, stretching from 1848 to 1968 for Vilyatpur in the Punjab. Though there were a few land sales every year, typically of very small lots, land ownership changed very little over this period (ignoring the fact that fathers were replaced by their sons), or in the family composition of his village. What this means is that even if one member of the family moved away, the rest of the family could provide guarantee for the loan. This was especially true in India because, at least according to Hardiman (1996, 108-111) for Western India, family members considered themselves collectively responsible for debt.

I. Indian Rural Financial Markets, 1951, 1971 and 1991

Legal Rules

The British policy toward rural credit in India would best be described as concerned *laissez-faire*. The government periodically studied the rural credit system, decried exploitation by moneylenders, and encouraged a shift toward cooperative banking, but did not actively interfere. Independent India took a more activist stance. Various laws regulating moneylending practices were put into place in the late 1940s. The government advocated for the expansion of cooperatives, and the Reserve Bank of India (RBI) began to loan the cooperatives ever increasing amounts (RBI 2005). Another change was the creation of the State Bank of India (SBI) in 1955, with a mandate to expand rural banks. In 1968 the government introduced “social control” of banking to make banks “a more effective instrument of economic development” (India. Banking Commission 1972a, 38). One plank of social control was the creation of priority sectors to which banks were required to direct at least a portion of their lending. Later in 1969, in a move that was not widely anticipated, Indira Gandhi’s government nationalized the fourteen largest commercial banks (RBI 2005, 3). Expansion of rural branches accelerated and social control deepened. An additional four banks were nationalized in 1980. Also in 1980 the Integrated Rural Development Programme (IRDP) was put in place to provide bank loans and direct subsidies to agriculture. The subsidies were scaled back in 1988, but remained substantial (Kochar 2011).

To summarize, banking policy started modestly and escalated. One way to compare the programs is in terms of relative costs. The cumulative amount the central government gave to the SBI to support the branch expansion program from 1955 to the end of the program in 1968 was Rs. 73.5m (Ray 2009, 185 and 242). In 1965-66 the RBI loaned Rs. 2,129 m to the cooperative

sector, which in that year had 18.6 percent overdue loans. One can think of this as the RBI giving an annual subsidy to the cooperative sector of Rs. 400m; in 1981-82, the RBI's share of overdue loans from the cooperative sector was the much larger Rs. 1,307m (RBI 2005, calculated from values given on 266 and 269). In 1980, the first year of the IRDP, the government budgeted direct subsidies of Rs. 1,800m with a further projected Rs. 5,000m in bank credits (Ray 2009, 401). The modest cost of the branch expansion initiative is perhaps one reason its effect was never analyzed.⁷

Data

Rural financial market data are available 1951 and 1971. I will also present 1992 data to give perspective on how the changes in rural financial markets 1951 to 1971 compare to the changes by 1992 which were the focus of the Burgess and Pande, Cole, and Kochar studies. The financial data are drawn from the All-India Rural Credit Survey (AIRCS) of 1951, and the Debt and Investment Surveys of 1971 and 1992. (The Surveys of 1961 and 1981 are not published in sufficient detail to be useful.)

The rural credit surveys of 1951, 1971 and 1992 published data at differing levels of detail. The 1951 survey reports information separately for 75 sampled districts. For each district, data are reported as averages per commensal family for various categories. A cultivator family is defined as "families who cultivated any land, owned or leased, excluding small garden plots." A garden plot is one less than .05 acres (India. RBI 1956, vol. 3, 5). The cultivator families in each sampled village were divided into deciles based on the size of their cultivated holding. "Small cultivators"

⁷ The decline in credit 1951 to 1971 has been noted. See Thorat, (2006), Binswanger and Khandker (1992), and Das-Gupta (1989). The branch expansion subsequent to nationalization has been well studied. See Kochar (2011), Cole (2009), and Burgess and Pande (2005). On the effects of the IRDP, see Kochar (1997) and Bell, Srinivasan and Udry (1997), among others.

were in the three lowest deciles, and “big cultivators” were in the top decile. Some variables, gathered only from a subset of enumerated villagers, are reported for the top five deciles of cultivators, and the bottom five deciles of cultivators.

The 1971 survey reporting is even more complex. Information on assets and liabilities in 1971 are given by detailed total asset value categories, and by sub-state regions, which comprised several districts. But not all data are reported at the substate-region by asset category. For example, information on borrowing in the year 1971 to 1972 are given at the sub-state region level, but only for “all” cultivators. The price of loans is given for detailed asset categories, but only by state. Thus, I will sometimes refer to state averages, and sometimes averages by sub-state regions. The unit of observation of the 1971 survey is again the commensal family, and cultivators are defined as in 1951.

The 1992 data are available on an individual basis.

I aggregate the 1951 districts into states by taking the weighted averages of the district data, using 1971 state boundaries. The weights are the number of families enumerated in each district. I do the same when I compare 1951 to 1971 subregions. The 75 districts for which there are data in 1951 map onto 48 subregions in 1971. To facilitate comparison, I aggregate the asset categories of the 1971 survey to make “big” (top 10 percent) and “small cultivator” (lowest 30 percent) groups for each state. And I assign each individual in the 1992 survey to “big” and “small” categories according to the value of their assets relative to others in their National Sample Survey division. I similarly divide the 1971 and 1992 cultivators into the top five deciles and the bottom five.

I focus on cash loans taken during the year. Cash loans dominate “in kind” loans. The data for cash loans taken in 1951, 1971 and 1992 are snapshots of credit availability. Based on

measures of Indian aggregate agricultural productivity, none of these years is atypical (Sivasubramonian 2004, 275).

Realized Loans

Tables 1 through 3 (and 5) report averages for India. These are weighted across states by that state's share of India's rural population in these states. The population values are from the 1961 Census. Table 1 shows that the source of loans had already significantly shifted away from moneylenders by 1971, though the shift is more complete by 1992. The government and financial institutions did not supply a substantially larger share of loans. It is not shown in the table, but the increase in "other sources" is not because these sources were supplying more loans, but rather the real value of loans from these sources was approximately stable while the denominator of the share measures, all loans, was shrinking.

Tables 2 through 4 more clearly show a tightening of Indian credit conditions 1951 to 1971, and a significant loosening 1971 to 1992. Table 2 reports the percent of families which reported cash borrowing during the survey year. Looking at all cultivating families, there is a significant drop between 1951 and 1971 in the percentage of families reporting cash loans. The drop is most severe for small cultivating families. The situation improves in 1992 in that the share of families reporting loans in 1992 increases relative to 1971, but it is still not as large as in 1951.

The average nominal value of loans per sampled family was approximately stable between 1951 and 1971, as shown in table 3. There is no obvious best way to deflate these loans, but one way is with the wholesale price index for agricultural commodities. The WPI rose 110 percent between 1951 and 1971 (Sivasubramonian 2004, Appendix table 4r). Another way of determining the real change of loan values is to consider the change in the price of bullocks and tractors since

such purchases were one of the main uses of credit (bullocks 1951 and 1971, tractors by 1992). The price of bullocks rose approximately 100 percent between 1951 and 1971.⁸ As loan values were stable, and prices about 100 percent, there was a significant real decline in loans per commensal family. (It should be noted that since the number of commensal families in rural India also rose, there would have been a larger absolute increase in credit.) By 1992, the availability of credit as indicated by the average size of loans had increased dramatically. The ratio of the 1992 value to the 1951 value was 18. The ratio of the WPI in 1992 to that of 1951 was only 9.9, and tractor prices had risen by a factor of 9 between 1957 and 1992. But the credit expansion was uneven across income categories. The ratio of the average value of loans 1992 versus 1951 for big cultivators was 24, while that for small cultivators was 13. These numbers suggest the IRDP increased loans only about 30 percent above what the laissez-faire policies of the early 1950s had delivered.

Table 4 reports measures of the price of credit in 1951, 1971 and 1992, as well as the Reserve Bank of India's bank rate in these years. The difference between the rate paid by cultivators and the bank rate measures the real tightness of rural credit. I report these measures by state as, unlike the other measures, there is a great deal of variance across states. The 1951 and 1971 surveys did not report interest rates by source of loans. But does report the amounts borrowed at various rates. As these are reported in 1951 for the highest and lowest 50th percentile families, I created similar measures for 1971 and 1992. The first column of the table reports the average positive rates paid by the lowest 50th percentile of cultivators by state according to asset

⁸ Sanghi (1998) has bullock and tractor prices for 1957-1987. Bullock prices were roughly stable between 1951 and 1957, as were tractor prices between 1987 and 1992 (India. Directorate of Economics and Statistics).

values.⁹ As a much lower percentage of families are receiving loans in 1971 relative to either 1951 or 1992, *ceteris paribus*, only lower risk families were borrowing. Despite that, the overall pattern suggests credit prices rose for the bottom half of cultivators between 1951 and 1971, and then fell substantially in 1992, relative both to 1971 and 1951. Nominal rates rose between 1951 and 1971 in all but three states: Himachal Pradesh, Maharashtra and Punjab. In four states, rates rose about as much as the bank rate, suggesting stable real rates. And in the remaining eleven, rates rose more than did the bank rate, some substantially more. Of the ten states which had a lower nominal value of loans per family in 1971 than in 1951, eight had an increase in average rates greater than the increase in the bank rate.

For each survey, I also calculated the share of cultivators with loan rates in the top interest rate category, and the difference by state in the rate paid by the top 50 percent and the bottom 50 percent of cultivators. These measures are reported in the second and third columns of table 3. These other measures also suggest a tightening of credit for poor cultivators between 1951 and 1971, as well as relatively easy credit conditions in 1992. The highest rate category in 1951 is 35 percent and above while that of 1971 and 1992 is 37 ½ percent and above, a 2.5 percent difference. The Reserve Bank of India's bank rate rose 2.5 percent between 1951 and 1971, and 8.5 percent between 1951 and 1992. Thus, the 1951 and 1971 categories are equivalent in real terms, and the 1992 reflects much lower real rates. The share of loans in the top category declined in two states: Himachal Pradesh and Madhya Pradesh. In two states, Karnataka and Uttar Pradesh, the share was approximately stable. The share of poorer cultivators paying the top rates

⁹ In 1951, categories include 35-50 percent, and 50 percent and above. The highest rate categories for 1971 and 1992 are 37 ½ percent and above. For consistency, I aggregated the top two categories for 1951. Rates reported are weighted averages. For defined categories, I used the midpoint of the range to calculate the average. For the top category in 1951, I used a rate of 55 (the midpoint of 35 and 75), and for 1971 and 1992, I used 57.5 (the midpoint of 37.5 and 77.5). Seventy-five is a high rate, but not the highest quoted in the historical literature on moneylending.

rose in the other thirteen Indian states. The share drops to a very small number in 1992. The differential in the rate paid by the bottom half of the distribution relative to the top half rose between 1951 and 1971 in all but one state, Himachal Pradesh. The differential in 1992 is smaller even than what it had been in 1951 on average, and in most states.

A Change in Financial Holdings

The rural credit surveys include noisy data indicating the extent of locally held informal loans; this measure is “dues receivable”. The 1971 Debt and Investment survey reports dues receivable:

give an overall extent of moneys receivable from individuals as well as institutions for services rendered by the household, or for the output sold as owners of agents. In respect of a moneylender it included loans receivable, for a provision merchant, dues receivable from customers, for doctors, fees receivable from patients, etc.

Information on dues receivable in the three surveys are in table 5. This measure tracks informal loans in that the value of dues receivable falls in a real sense just as informal loans fall across time. There is no obvious reason that the other types of “dues receivable” would collapse across periods in this manner. Thus while not a perfect measure of loans provided from local funds, it seems to be a reasonable proxy.

The table also shows how financial asset holdings by type shifted between 1951 and 1971. Keeping in mind that rural prices roughly doubled over the period, the fall in the real value of dues receivable was substantial and the increase in holdings of shares and deposits was remarkable. It is important to note, however, that the nominal value of the sum of dues receivable and formal financial assets does not quite double for “big” cultivators, and actually falls in nominal terms for

“small cultivators”. For “all” cultivators, it probably did not rise, and may have fallen, in real terms.

The Dues Receivable reported in the surveys are, for most areas, less than the informal loans in these areas. The informal market was most robust in 1951. On a district level, dues receivable from all families are about 40 percent of all informal loans. That value is more than 100 percent of loans to the small families who are more likely to have drawn on purely local sources. As noted in the historical discussion, though most villages would have some degree of intra-village lending, the larger professional moneylenders would likely be located in nearby market towns. Only rural villages are included in the survey. The decline in dues receivable indicated by the table, however, can account for a large share of the rural decline in loans.

II. Bank expansions and Financial Conditions in Independent India.

Initial Correlations.

This section links the expansion of banked locations 1951 to 1968 to credit contractions 1951 to 1971. The analysis of branch expansion ends in 1968 to avoid the 1969 bank nationalization. I created a data series on newly banked locations by digitizing the bank directories for 1951, 1961 and 1968 published by the Reserve Bank of India in *Statistical Tables Relating to Banks in India*. (I have also digitized the directory for 1941.) The directories report the name of the town, district and state in which the branch is located, the population for the town when it was available, and the name and number of branches of all banks in the town.¹⁰ For each

¹⁰ Indian towns can be spelled in multiple ways; some have multiple names. I matched states and districts, and assumed that towns with similar names (and similar population when available) were the same town. For example, I assume that Chabra listed in the 1961 directory is the same town as Chabra Gugar listed in the 1968 directory, since both are in the Kotah district of Rajasthan and there is some overlap of banks, and that Chikhli listed in 1951 and 1961

bank, I identify whether it is a State Bank, or a private bank.¹¹ A location is newly banked if it appears in either the 1961 or 1968 directory, but does not appear in the 1951 directory.

Table 6 shows the growth of the various bank types between 1941 and 1968. The Rural Banking Commission of 1953 argued that a state sponsored bank was needed in part to support remittances to rural cooperatives, but also to generate deposits (Ministry of Finance 1953). The Indian government had embarked on the first five year plan, and realized it would need funds. The report proposed opening branches at already existing treasury and sub-treasury centers to contain costs. These were towns in which there was an office conducting government business, sometimes at branches of the Imperial Bank. The new branches of the SBI would take over this business along with all other assets of the Imperial Bank. There were to be small operational subsidies for the first five years the new branches of the SBI were in operation. From the initial discussions, there were plans to incorporate various other state sponsored banks with the SBI, which it did in 1961. These affiliated banks, created between 1902 and 1946 by the governments of princely states, were not given subsidies by the central government as was the SBI, but they nonetheless accelerated their expansion of rural branch openings in the 1950s. To further accelerate rural branch openings, from July 1962 the RBI required all private banks to open one branch in an unbanked location for every two branches opened in a banked location (Ray 2009, 249, fn. 37).

is the same as Chikhali listed in 1968 for similar reasons. I was generous in matching as I wanted- if anything- to underestimate the expansion of banked locations.

¹¹ Private banks can be further divided into scheduled and non-scheduled banks; the latter are not subject to the same degree of oversight by the RBI. Throughout, I am referring to scheduled banks. Non-scheduled banks had much smaller levels of deposits than scheduled banks, and the number of non-scheduled banks, as well as the number of their branches, shrinks significantly 1951 to 1968 as the branch network of scheduled banks expands.

Figure 1 shows the locations of banked locations in 1951 and 1968 with panel A showing banked locations in 1951 and locations newly banked by State Banks by 1968, and Panel B showing banked locations in 1951 and locations newly banked by private banks by 1968. (NEED TO FIX. JUST ONE MAP NOW.) Note that the locations newly banked by State Banks are approximately evenly distributed across the map. The new locations due to the opening of private banks tend to be clustered in a few states, and near the coasts. In this period, private banks had to expand branches, but were free to choose where to expand. Private banks would expand in locations which were likely to be the most profitable. State Banks expanded according to the presence of unbanked treasury centers. The differing decision rules led to differing patterns of expansion visually apparent in the maps. These differences will be confirmed in the statistical analysis discussed below.

I create a measure of bank expansion at the district level. Bank branches, whether measured in 1951 or 1968, were clustered in the largest cities. The expansion of bank branches at an aggregated level would give little indication of the change in the convenience of formal banking for rural cultivators. The ideal measure of bank expansion would be the percentage change in banked locations in a district, but many of the districts have no banked locations in 1951; percent change is undefined. The measure I use, change in banked locations 1951 to 1968 relative to banked locations in 1968, is an index which varies from 0 when there is no change, to 1 when there were no banks in 1951. It can be interpreted as the share of a district's banks in 1968 due to expansion 1951 to 1968. The sub-state region measure of bank expansion is the weighted average of district level expansions, with the 1961 district level populations as the weights.

My implicit assumption is that the shock to a district's informal credit patterns will depend on the relative change in banking conditions. If I am correct, a larger change in bank availability

will cause a larger relative decline in credit. Table 7 reports regressions showing the correlations of banks expansions with the ratio of the nominal value of cash loans of cultivators in 1971 and 1951 in the 48 sub-state regions for which I can make a comparison. (The states covered are the states listed in table 4. There were 4 sub-state regions in these states in which there were no district data reported in 1951. The regressions are based on the other 48 sub-state regions.) A larger ratio indicates better credit conditions in 1971. Only one region, Northern Punjab, had a ratio above 2 (the approximate increase in prices). The next highest ratio, 1.51, was for Southern Punjab, suggesting that even there, realized loans fell. Private bank expansion has no measurable correlation with credit conditions. State Bank expansion, on the other hand, has a statistically significant, and quantitatively large negative correlation with relative realized loans in 1971, consistent with my hypothesis. The R-squared suggests just this simple regression accounts for 10 percent in the variation in credit levels across the regions.

Causality of the Bank Expansions

I want to argue that State Bank expansions caused credit contractions by shrinking moneylending. If moneylending became less attractive for some other reason, however, this not only would have caused a credit contraction, but it also would have created a pool of surplus funds, which might have attracted banks. Shortly after Independence in 1947, each of the Indian states passed Moneylender Acts. These acts commonly had six features (though not all features were in all Acts):

1. registration and licensing of moneylenders;
2. prescribed forms for account keeping by them;
3. the requirement that debtors had to be furnished periodical statements of account in prescribed formats;
4. the requirement that debtors had to be issued receipts for payments against loans;
5. interest rate ceilings on secured and unsecured loans;

6. protection of debtors from certain actions of lenders (Das-Gupta, Nayar and assoc. 1989, 576).

All evidence is that these acts were widely ignored ((India. All-India Rural Credit Review Committee 1969, 24; Centre for Development Studies 1988, 248-251). It is unlikely that they directly caused the very large observed decline in moneylending. It may be, however, that though the Moneylending Acts were ineffective at the village level, they induced indigenous bankers to stop or curtail intermediation, limiting village or small market-town funds.

A simple correlation cannot distinguish between these possibilities. I exploit differences in the reasons for private and State Bank expansions to argue for a causal interpretation of the correlation between state bank expansions and credit contractions. The regression results in Table 8 indicate correlations between my measure of district level bank expansions 1951 to 1968 and 1951 district characteristics. The district characteristics are the percent of unbanked treasury centers as of 1951, an indicator variable for no treasuries in the district (to distinguish these districts from those in which there are none or few unbanked treasuries), the number of scheduled banks in the district in 1951, an indicator variable for no scheduled banks in the district in 1951, the number of census towns in the district as a measure of the commercialization of the district and the population of the district (in 1961) as a control.¹² The estimated coefficients for most right hand variables in the State Bank Expansion regression are statistically significant at the 1 percent level or better. The estimated coefficient for the variable “urban centers” has a p-value of 0.04. All of the coefficients are as predicted: the share of unbanked treasury centers has a large positive effect, and any measure of commercialization in 1951 has a negative effect. These variables account for 44 percent of the variation in expansion across the regions.

¹² An urban center is a “census town”, as defined by the 1961 census. A census town has a majority of workers not employed in agriculture, and typically, though not always, has a population of greater than 5,000.

Note how different the estimated coefficients for the private bank expansion regression are from the State Bank regression. A reasonable amount, 34 percent, of the variation is accounted for, but most of the signs of the estimated coefficients are reversed. An exception is the coefficient on unbanked treasury centers, which is significant and positive for private bank expansions, as it was for the State Banks. Treasury centers tended to be commercial centers, so it is not surprising that private banks located branches there. But the estimated coefficient on percent unbanked treasury centers in the regression for the expansion of private banks, 0.25, is half the size of the coefficient in the regression for the expansion of state banks, 0.50, indicating the draw was not as important for private banks. More surprising is that the indicator for no treasury center in the district has a large, positive, and very precisely defined coefficient in the private bank regression. It had the expected negative coefficient in the State Bank regression. The quantitative impact of this variable on the expansion of private banks, measured as the estimated coefficient multiplied by the standard deviation of the “no treasury” variable, is larger than the effect of unbanked treasuries on the expansion of State Banks. It is not obvious why an absence of treasury centers would attract private banks, though as both private banks and State Banks were seeking deposits (CITE), it may just be that the private banks were avoiding areas in which the State Banks were likely to expand.¹³ A de sire to face limited competition might also explain why both private and State banks expanded in districts which had no scheduled banks in 1951. The coefficient on that variable is virtually identical in both regressions. But the number of branches in 1951 and number of urban centers switch signs across regressions. In terms of the quantitative

¹³ It may be interesting that the positive correlation is driven almost entirely by the aggressive expansion of two private banks, both begun with Nationalist goals, into remote areas of the southern states of Tamil Nadu and Karnataka.

impact, measured as described above, the positive pull of urban centers for private banks is about the same as that of unbanked treasuries for State Banks.

A key point illustrated by the regressions was that the decision rules of private and State Banks differed as expected. Policy rules drove the expansion of State Banks: the presence of unbanked treasuries was quantitatively the most important determinant. The motives of private banks were more diverse, but a key determinant was the commercialization of the district.

I use the regression coefficients from the estimated decision rules to predict the district level measures of State and private bank expansions. Then, as with the actual measures, I create a weighted sub-state region expansion measure. The last columns of table 7 use these measures as the right-hand variables. The predicted measures have similar estimated coefficients as the actual measure in both regressions, with similar degrees of significance.

By construction, the predicted measure should be correlated with credit contractions only through its correlation with actual State Bank expansions. But I make a final check to be sure this is the case. Note that the expansion measure indicates the degree to which states were unbanked in 1951. If states which were more unbanked in 1951 relied more intensely on moneylending, and if moneylending declined for some reason other than the bank expansions, such as the moneylending laws, then there might be a spurious correlation between bank expansions and the decline in moneylending. Regressions of the share of 1951 loans supplied by either professional moneylenders, agricultural moneylenders, or the the sum of the two, on the measure of State Bank expansions does not yield a statistically significant coefficient. The R-squared of all of these regressions is less than .01. Thus this potentially confounding linkage is not a concern.

Conclusion

This paper argues that colonial Indian moneylending was competitive and functioned reasonably efficiently in that it provided a large share of poor cultivators with access to credit at rates reflecting the opportunity cost of funds. Further, moneylending declined after Independence because the spread of formal financial institutions gave rural Indians who had been saving by lending better access to formal vehicles for saving.

The most startling implication of this study is the low implied profit rates of much of colonial moneylending. Interest rates on formal deposits in the 1950s and 1960s were less than 10 percent (RBI Bulletin various year). Colonial moneylender loan rates were 18-30 percent. If my analysis of the decline of moneylending is correct, the opportunity to save at 10 percent dominated the opportunity to lend at 18-30 percent for many market participants. Thus, the effective marginal profit on moneylending must have been less than 10 percent.¹⁴

There are echoes of these low rates in modern Indian microfinance. The Bharat Report noted a recent shift away from rural clients in Indian microfinance. “One of the key findings from our research shows that the business models of MFIs are becoming urban centric in order to minimize operational expenses and maximize their operational efficiency (Sa-Dhan 2015, 20).” The authors of the report write that this was necessary to maintain profitability after the RBI put a cap on margins post the Andhra Pradesh crisis. The RBI requires margins to be maintained under 12 percent (p.44). (Margin is defined in the report as “the difference between the finance cost on portfolio and the total yield on portfolio (p.xii).”) Twelve percent or less is about the margin for

¹⁴ To calculate the effective rate one would have to deduct the social and economic costs of collecting from neighbors, as well as the opportunity cost of not having ready access to one’s own financial capital since most rural moneylending was done from own capital and there was an expectation loans would be rolled over as necessary.

colonial moneylenders I gave in Section II. The recent movement of microfinance out of rural lending is not too different than the historical movement of rural savers to bank deposits.

This study suggests the most obvious failing of the market driven colonial system was its inability to provide attractive savings vehicles. The extent of the portfolio shift toward holding formal financial assets between 1951 and 1971 remains surprising. While formal financial institutions became *more* convenient, it is hardly the case that they became convenient. No Indian state had a bigger increase in banked locations per square mile than Orissa. But in 1968 it was still the case that in Orissa there were only 1.15 banked locations per 1,000 square miles. Part of the explanation is that, to a large extent, savings in formal financial institutions was a luxury for the relatively wealthy. The geographer Wanmali (1987) found that between 1961 and 1981 the use of social services such as banks was strongly a function of distance for poor Indians, but there was little relationship between distance and use for wealthier Indians.¹⁵ When Indian cultivators could, they switched out of informal loans. That is hardly a ringing endorsement of informal loans as a savings vehicle.

This study speaks to more than the attributes of the historical Indian rural credit market. There is also the general point of the linkage between banks and economic growth. From this example, the implied linkages in the rural sector appear to be tenuous. At least in terms of the provision of credit, and providing a means of saving, Indian villages appeared to benefit from their isolation. Interestingly, however, there is no evidence that the contraction of the informal system had much effect, positive or negative. Datt (1998) reports annual poverty measures (including a

¹⁵ Note that one implication of my study is that in the period 1951 to 1971, shrinking the distance to a branch did seem to effect the behavior of even the relatively wealthy. The data for Wanmali's study came largely *after* the branch expansions I study. I would argue that for the relatively rich, having all major towns in the district banked is sufficient. The poor would need even more convenient savings institutions.

head count index) by state; the years covered include 1957/58 to 1970/71. Punjab and Haryana are aggregated, and there are no data reported for Himachal Pradesh or Tripura. But for the years and states reported, the correlation between the change in the head count index and the predicted measure of state bank expansion is 0.07, with a p-value of 0.82. The available data thus suggest state bank expansion was independent of relative growth. While definitive statements on the linkage between growth and access to credit and savings are beyond the scope of this paper, at a minimum, this suggests that providing credit is not a panacea for poverty.

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Table 1. The Source of Loans (by value) to Indian Cultivating Families in 1951, 1971 and 1992

Source of Loan	Type of family	Share (by value)		
		1951	1971	1992
Professional and Agricultural Moneylenders	all	60	31	12
	big	57	27	7
	small	62	33	15
Government	all	6	4	9
	big	6	5	9
	small	4	2	9
Financial Institutions	all	4	18	62
	big	4	26	70
	small	2	8	53
Other Sources	all	31	47	18
	big	34	42	14
	small	32	58	22

Note: The category “big” means the top decile and “small” means the bottom 3 deciles. For 1951 the deciles refer to the area cultivated. For 1971 and 1992, the deciles refer to asset categories. Other loan sources listed in the original data sources are Friends and Relatives, Traders, Landlords and Unspecified.

Sources: Data are from the 1951 AIRCS, 1971 Debt and Investment Survey and 1991 Debt and Investment Survey.

Table 2. Share of Indian Cultivator Families Obtaining Cash Loans

	1951	1971	1992
All families	60	30	43
Top 10 percent of families	58	32	47
Bottom 30 percent of families	56	28	38

Note: See note to table 1.

Sources: See table 1.

Table 3. Ratio of the Nominal Value of Cash Loans for Indian Cultivator Families

	ratio 1971/ 51	ratio 1992/ 51
All families	0.99	17.58
Top 10 percent of families	1.09	23.50
Bottom 30 percent of families	0.84	12.99

Note: See note to table 1.

Sources: See table 1.

Table 4. The Cost of Credit in 1951, 1971 and 1992

	Average positive rate, small cultivators			Share of loans in top rate category, small cultivators			Difference in rate paid by cultivators in top and bottom 5 deciles			Share of loans with no rate reported		
	1951	1971	1992	1951	1971	1992	1951	1971	1992	1951	1971	1992
average of states	21.3	24.6	14.0	12.7	16.8	3.2	2.7	9.3	0.4	3	15	12
RBI bank rate	3.5	6	12									
Andhra Pradesh	13.1	21.9	22.8	0.4	2.9	3.3	2.4	3.3	2.2	0	8	4
Assam	9.9	36.0	5.7	0.8	51.4	1.6	2.5	26.8	-1.5	0	24	30
Bihar	24.7	33.5	13.4	9.7	22.9	6.9	0.6	14.2	-1.5	0	8	15
Gujarat	10.0	16.7	10.3	0.0	0.7	0.1	2.1	6.9	-0.7	4	34	17
Haryana	20.6	22.0	16.8	0.0	6.2	0.0	-0.2	6.2	2.8	0	8	4
Himachal Pradesh	37.0	16.5	7.5	49.8	0.0	1.9	16.0	3.9	-3.3	0	21	24
Karnataka	13.5	16.1	13.2	0.9	0.8	1.2	-1.0	1.9	-2.0	0	11	6
Kerala	10.5	15.2	14.9	2.6	8.8	3.4	-3.8	5.5	1.1	1	20	8
Madhya Pradesh	26.8	26.8	15.9	20.3	16.9	2.4	6.7	9.8	1.4	21	11	10
Maharashtra	24.2	22.1	14.1	10.2	14.7	3.9	4.7	9.0	0.3	1	15	4
Orissa	31.6	34.0	16.0	14.1	38.3	8.8	4.6	16.1	-1.3	8	29	1
Punjab	18.2	15.5	12.6	4.0	4.3	0.7	2.7	4.6	-1.1	0	2	6
Rajasthan	18.0	21.4	18.5	3.7	4.9	0.9	3.4	4.8	2.7	0	14	7
Tamil Nadu	13.8	22.4	20.5	3.0	10.6	8.1	2.0	8.1	2.9	4	9	8
Tripura	32.2	33.1	7.1	39.0	40.4	0.0	2.9	11.2	1.3	13	12	21
Uttar Pradesh	27.2	30.3	16.1	17.0	16.6	8.0	4.1	10.6	2.6	1	12	13
West Bengal	30.9	34.8	11.7	41.2	45.2	4.1	-4.0	15.1	1.0	0	23	18

Notes: The top category in 1951 was 35 percent and above. The top category in 1971 and 1992 was 37 ½ percent and above.

Sources: See table 1.

Table 5. Indian Cultivator Families Nominal Rupee Values of Financial Assets

1951	Formal Financial Assets	Dues Receivable	All Financial Assets
all	11	106	116
first 5 deciles	16	161	177
last 5 deciles	5	50	55
1971			
all	126	55	180
first 5 deciles	222	99	322
last 5 deciles	26	12	37

Table 6. Expansion of Scheduled Banks in India, 1941 to 1968

	Number of Banked Locations			
	1941	1951	1961	1968
Private Banks	345	774	982	1865
State Bank of India	296	350	869	1297
Affiliated State Bank	42	199	430	737
Total	683	1323	2281	3899

Note: A banked location is a town with at least one branch of a scheduled bank. In 1941 and 1951, the locations given for State Bank of India were locations for the Imperial Bank of India.

Source: Bank directories in Statistical Table Relating to Banks in India (India. Department of Commercial Intelligence).

Table 7. Regressions of the Ratio of Nominal Loan Values of Indian Cultivators 1971 to 1951 on measures of Sub-State Regional State Bank Expansions and private bank expansions 1951 to 1968.

Right Hand Variable	Estimated coefficient	Number of observations	R-squared
Expansion of State Banks	-1.37 (0.011)	48	0.111
Expansion of private banks	0.408 (0.497)	48	0.006
Estimated Expansion of State Banks	-1.42 (0.015)	48	0.087
Estimated Expansion of private banks	0.178 (0.854)	48	0.001

Table 10. Regression of District Bank Expansion Measures, 1951-68 on 1951 District Characteristics

Left Hand Variable	Expansion in State Bank Locations	Expansion in Private Bank Locations
Percent of treasures unbanked in 1951	0.489 (<0.0001)	0.252 (0.001)
Indicator of no treasuries in the district 1951	-0.284 (<0.0001)	0.707 (<0.0001)
Number of branches 1951	-0.010 (<0.0001)	0.003 (0.246)
Indicator of no scheduled banks in district 1951	0.156 (.004)	0.134 (0.016)
Number of urban centers	-0.006 (0.039)	0.018 (<0.0001)
District population 1961	5.52E-8 (0.002)	3.82E-8 (0.101)
observations	350	350
R-squared	0.441	0.335

Note: The p-values reported in parenthesis were calculated using robust standard errors. Due to many changes in Indian district borders shortly after 1951, district populations are from the 1961 census.

Figure 1. Bank Locations, 1968

Yellow indicates a private bank location.

Blue indicates a State Bank location.

