

The hazards of piecemeal reform: british civil courts and the credit market in colonial India

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Abstract

The colonial experience of developing countries provides valuable evidence regarding the impact of legal and institutional innovations on economic growth. However, there has been little effort by economists to study colonial policies to gain theoretical insights into the process of institutional reform. This paper considers the introduction of civil courts in colonial India and its impact on agricultural credit markets in the Bombay Deccan. Drawing on historical records and a formal analysis of the credit market, the paper finds that the reform led to increased competition among lenders. Ex ante, we expect that this would have raised farmers' welfare. But increased competition also reduced lenders' incentives to subsidize farmers' investments in times of crisis, leaving them more vulnerable in bad times. © 1999 Elsevier Science B.V. All rights reserved.

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1. Introduction

Economists widely hold that an effective legal system promotes economic growth. Without a formal institution to enforce contracts, individuals must rely on informal, personalized enforcement mechanisms. Exchange opportunities are lim-

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ited, markets are segmented, and economic expansion is difficult. Accordingly, legal reforms that improve contract enforcement should encourage economic development.¹ In many developing countries, colonial administrations introduced such legal reforms. The impact of these policies on the performance of local markets, indigenous institutions, and economic development has long been the subject of controversy.² Surprisingly, however, there has been little effort by economists to gain theoretical insights into the process of institutional reform from the colonial experience.

In this paper we consider the introduction of civil courts by the British in India and their impact on agricultural credit markets. We examine colonial administration records and accounts from the Bombay Deccan and analyze a model of the credit market. This paper studies an incremental policy change. The British courts enforced only simple, non-state-contingent debt contracts. Not all contracts became enforceable, nor did there exist (or come into existence) a complete set of markets. In this environment, we find that these reforms did reduce enforcement costs and stimulate the entry of new lenders, making the credit market more competitive. This change, by lowering interest rates, should have made farmers better off. When setting credit terms, lenders could have extracted less rents from farmers.

However, the value of farmers' output was subject to risk and price fluctuations, and the behavior of lenders changed in the more competitive environment. Lenders were no longer willing to forgive or roll over farmers' loans in times of crisis. Thus, while farmers were likely to have been better off in an *ex ante* sense, that is, before the realization of any price or other shocks, they may have been worse off *ex post*, after negative shocks occurred.

British legal reforms affected credit markets in many regions in India. We focus on the Bombay Deccan because of the availability of an exceptionally rich data source, Report of the Committee on the Riots in Poona and Ahmednagar 1875.³ This report by the British-appointed Deccan Riots Commission (DRC) is unique in that it tracks a credit market over time, with emphasis on the impact of legal reforms. In contrast, most studies right up to the present day provide snapshots of markets at given points in time. In our investigation we draw heavily from this source. We also use accounts of observers, British officers, and secondary sources, especially Kumar (1968), and Charlesworth (1985).

Before British rule, lenders in the Bombay Deccan relied largely on their own resources to recover loans. The local judicial officers and village courts had little

¹ For a clear statement of this view, see North (1990), p. 54.

² For example, Scott (1976) and Wolf (1969) have argued that colonial agrarian policies, including legal reforms, undermined traditional institutions which had guaranteed peasants' subsistence incomes. This view has been criticized by, among others, Feeny (1983) and Popkin (1979).

³ We discuss similarities between the Bombay Deccan and other regions in Section 4.

actual enforcement capabilities.⁴ Since enforcement was costly and personalized, a lender's scope of operations was limited. British officials, familiar with the work of Adam Smith, David Ricardo, and other leading economic thinkers of the day, argued, as do contemporary policy makers and economists, that if loan agreements were legally enforceable, capital would move freely, increasing economic welfare.⁵ Consistent with this, soon after the onset of their rule in 1818, the British established civil courts that enforced credit contracts, allowing for seizure of property and imprisonment in the event of default.

We find that the civil courts did enable lenders to recover loans from farmers who were beyond the reach of their private enforcement methods. However, before the reforms lenders were more likely to assist farmers by providing subsidies or writing off loans in times of crisis. After the reforms, they were more prone to collect their dues without concern for peasants' future productivity. As stated in a petition submitted by the peasants of Thana in 1840 to the British administration, lenders would previously moderate their demands in bad times. After the reforms, however, if a peasant failed to satisfy his legal obligations "the whole of his property is disposed of and he is reduced to such a condition as to never regain his footing in society again." [Kumar, 1965, p. 615].

Of course, the sale of land and assets could have been welfare-enhancing. British officials had indeed hoped that competition would drive out inefficient cultivators. However, they found that productive farmers were going bankrupt and losing their land to professional moneylenders who had no desire to cultivate or manage the land. C. Hope, a member of the Imperial Legislative Council, describes the deficiencies of the British policies:

If the present condition of the Deccan *ryots* [farmers] is caused by moral and physical defects [...] if they encumber the land to the exclusion of intelligent, enterprising capitalists, [...] then indeed we must sit down and sit out the process of gradual transfer of property from one class to another. But consideration will show that no such circumstances exist in the Deccan. The Maratha *kunbi* [cultivator] is by no means the useless and defective creature postulated [...] On the other hand, those into whose hands the land is now observed to pass are not yearning to improve it. With solitary exceptions the transferees are professional moneylenders, who have no wish to even hold the status of landed proprietors. [Kumar, 1968, p. 213]

By analyzing a model of the credit market, we explain this outcome as follows. When enforcement was private, moneylenders associated with particular villages

⁴ British observers of the period, including Chaplin (1824), Coats (1821), Coats (1823), and Elphinstone (1822), describe the necessity of private enforcement. We discuss this further below.

⁵ See the statements of the Lieutenant-Governor of the Northwest Provinces in 1802, cited by Gupta (1963) (p. 80) for an early expression of this view.

were likely to have market power; outside lenders, lacking enforcement capabilities, would not offer farmers credit.⁶ Lenders with market power had an incentive to maintain farmers' asset levels because a farmer who sold off his assets in a time of crisis would require less complementary inputs and, hence, demand less credit in the future.⁷ A proverb from the Bombay Deccan makes this argument succinctly: "The kunbi [peasant] is the *Marwari's* [moneylender's] cow and is too valuable an animal to be allowed to perish" [Deccan Riots Commission, 1876, Supplementary minutes, p. 21].

Lenders' incentives changed when low-cost formal enforcement became possible. They could now recover loans from many farmers, and each farmer had access to numerous lenders. We expect that competition among lenders lowered interest rates.⁸ *Ceteris paribus*, this would make farmers more likely to maintain or expand their capital stock. However, lenders no longer had a stake in the productivity of individual farmers. If a lender were to assist a farmer during an economic downturn, there was no longer a guarantee that the farmer would borrow from him in the future, and even if the farmer did, he could be charged no more than the competitive interest rate.

The data available show that the introduction of civil courts increased competition in the credit market. We do not have the data to determine the overall welfare effects of the policy reform. But accounts from principals and observers indicate that moneylenders' incentives changed in a manner consistent with our model. We conclude that the introduction of the civil courts by the British in the Bombay Deccan did have its intended effect of increasing competition in the credit market. But, there was an unanticipated negative consequence of the court system. Increased competition among lenders reduced incentives for lenders to roll over farmers' loan during downturns. Thus, in an *ex ante* sense, the reforms were likely to have increased farmers' welfare. But *ex post*, when negative shocks occurred, they may have been worse off under the court system. We discuss further the consequences of the reforms in Section 5.

The rest of this paper is organized as follows. Section 2 gives an overview of the Bombay Deccan economy and describes the British reforms. Section 3 constructs a model of the credit market and analyzes moneylender-farmer interactions and welfare outcomes before and after the introduction of civil courts.

⁶ It is likely that in villages where a few lenders had private enforcement capabilities, lenders could more easily collude. This representation of rural credit markets, especially in South Asia, is common in the literature. See Basu (1984), Bhaduri (1973), Rudra (1992).

⁷ In a controversial paper, Bhaduri (1973) argued instead that monopolist lenders would want to keep their borrowers in poverty, since they would then borrow more for consumption purposes. This argument was criticized by Srinivasan (1979) who suggested that the demand for credit is increasing in the wealth of the borrower. Our paper emphasizes a different motive for borrowing, i.e., borrowing for working capital.

⁸ We do not have adequate data to compare interest rates before and after the legal reforms.

Section 4 presents historical evidence on the impact of legal reforms. Section 5 discusses our findings and concludes.

2. The Bombay Deccan

2.1. The Bombay Deccan at the onset of British rule

The British took control of the Bombay Deccan from the Marathas in 1818. The Bombay Deccan was a semi-arid region, in which agriculture was dependent on highly variable rainfall. The main crops were millets which were hardy, but low value. Farming was done on a small scale, and the majority of farmers owned the land they cultivated. The village was collectively responsible for payment of land tax and the allocation of the burden between farmers was decided within the village. Much of the moneylending was in the hands of immigrant Gujarati and Marwari trader-lenders, who had settled in the Deccan in the early 17th and early 18th Centuries, respectively.

Lenders predominantly used personal resources to enforce debt contracts, supported by the state and prevailing norms. Disputes were commonly taken to the village headman, who would convene a *Panchayat*, usually a group of five respected men selected from the village, to adjudicate. The headman, however, typically did not coerce disputants to appear before a Panchayat. Instead, lenders were permitted to harass or torture debtors, a privilege known as *takaza*, until they accepted arbitration. Even after a Panchayat had rendered its verdict, the headman would not necessarily enforce the decision. Again the lender might need to resort to harassment. In his famous report, Mountstuart Elphinstone, the first Commissioner of the Deccan, describes how lenders used physical restraints against their debtors to counter the inability or unwillingness of the authorities to enforce debt contracts [Elphinstone, 1822, p. 64]:

The inertness of the government was counteracted by various expedients. [...] If a man have [sic] a demand from his inferior or equal he places him under restraint, prevents his leaving his house or eating, or even compels him to sit in the sun until he comes to some accommodation. If the debtor were a superior, the creditor had first recourse to supplications and appeals to the honor and shame of the other party: he laid himself on the threshold, threw himself on the road, or employed others to do the same.

One well-known form of harassment was *dharna*, wherein the lender or his servant would sit outside the debtor's door to force him to pay. By custom, the debtor was responsible for the daily food costs of his tormentor. A report by William Chaplin, who succeeded Elphinstone as Commissioner of the Deccan, also describes how lenders had the privilege of *takaza* and could 'dun' their

debtors to compel them to repay their loans [Chaplin, 1824, p. 109]. Poorer debtors could be subjected to severe physical punishment [Chaplin, 1824, pp. 109–110].⁹

2.2. *The Bombay Deccan under British rule*

The onset of British rule in the Bombay Deccan led to numerous changes in agrarian society. The following policies are relevant for our analysis. The British made each cultivator individually responsible for the payment of the tax on his land. A farmer would forfeit the land if he could not pay. In addition, land could be freely sold or mortgaged. The British also established civil courts that enforced credit contracts. In the event of default, a lender could sue for loan recovery. A debtor's assets could be seized, and he could be imprisoned. Only the farmer's cattle and implements were exempt from attachment. In practice these exemptions were of little consequence, since a farmer who faced the threat of imprisonment would be forced to sell these assets. The new laws also ended the lender's privilege of *takaza*; that is, using *dharna* or other forms of harassment to obtain repayment.

The Bombay Deccan economy remained stagnant until the early 1840s. Agricultural prices all over India were low, and the British land taxes were excessively high. Subsequently prices recovered, and the land taxes were substantially reduced. The cultivated area, especially the area under 'cash crops,' increased. The American Civil War disrupted exports of American cotton to the English textile industry, and cotton production in the Deccan expanded dramatically to meet the demand. Much of the expansion was financed by the immigrant moneylenders.

Moneylender–peasant relations changed during the British period. Many observers noted that they were becoming more antagonistic and argued that the antagonism was a consequence of the British legal reforms. In 1852, Captain Wingate, a senior British official, made the following widely cited remarks [Deccan Riots Commission, 1876, p. 31]:

[...] for all practical purposes, the relations between the debtor and the creditor were determined under the Mahrattas without reference to any legal means of enforcing payment of debts [...] the relations between lenders and debtors were those of mutual interest and confidence [...]. Under our [British] system this happy and mutually advantageous state of affairs has been completely overturned [...]. Mutual confidence and goodwill have been replaced by mutual distrust and dislike.

Tensions further increased when cotton prices fell after the end of the American Civil War, and agricultural commodity prices in general declined after 1870.

⁹ For more on *takaza*, see, for example, the account of Coats (1821), pp. 293–294, a doctor in Poona. There are similar accounts of 'informal' enforcement methods from other parts of India for this period. See Cohn (1961).

Peasants found it difficult to pay off the debts they had accumulated. Increasingly, they were defaulting on their debts, and lenders were suing in the courts for loan recovery. In 1875 riots broke out in some villages of Poona and Ahmednagar districts following the refusal of lenders to advance loans for payment of the land tax. Peasants attacked moneylenders and stole the ‘bonds’ which were proof of their debts. The British administration feared that this was a harbinger of large-scale social unrest and appointed the Deccan Riots Commission to investigate the riots. The Commission produced the aforementioned report, arguably the most detailed study of a rural credit market in 19th Century India.

Why did the behavior of lenders change after the courts were introduced? In Section 3 we model the credit market in the Bombay Deccan before and after the introduction of British civil courts. We show how lenders’ incentives differed in the two environments and discuss the potential welfare effects of this policy reform.

3. Formal analysis of the credit market

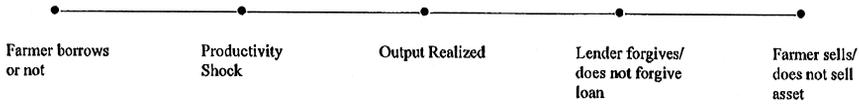
In this model farmers own land and all productive assets and are the residual claimants to output. They receive loans from moneylenders who do not cultivate land.¹⁰ Lenders and farmers interact over time. They have an infinite time horizon and a common discount factor $0 < \delta < 1$. We assume that when lenders rely on personal resources to enforce debt repayment, each moneylender transacts with a subset of the farmers and acts as a monopolist in his segment of the market. When lenders use the courts to enforce contracts they can recover debts from any farmer, and lenders compete in the credit market.

3.1. *The model*

3.1.1. *Production and loans*

Each farmer owns a potentially productive lumpy asset (land or a bullock, say). At the beginning of the growing season, each farmer requires a loan of amount l to finance working capital. During the season the farmer could experience a shock that reduces the ultimate value of the output. With probability $(1 - p)$ the farmer does not receive a shock, and the value of his output is Q . With probability p , however, this value is reduced by an amount M . This shock could be a result of (say) bad weather or a drop in crop prices. We assume that the expected returns from using the asset exceed the cost of working capital and the opportunity cost of

¹⁰ We argue below that such a class of non-cultivating lenders dominated the credit market in the Deccan.



costly and required proximity to the borrower, only a few lenders could enforce contracts with any given subset of farmers.¹³ It is reasonable to assume that the fewer moneylenders there are for any set of farmers, the greater any individual moneylender's ability to extract rents from credit transactions.¹⁴ For simplicity, we assume that when moneylenders rely on the private enforcement, each moneylender can extract as much rents as possible from a transaction with a farmer; i.e., he acts like a monopolist. A farmer's incentive to repay a moneylender comes from the threat of takaza and other private enforcement methods; we assume that this threat is sufficient to guarantee repayment.¹⁵

When formal contract enforcement became available, lenders used the courts to enforce contracts and could easily recover debts from farmers. (We provide evidence of this below.) Therefore, lenders could lend to any subset of farmers.¹⁶ We assume that in this setting the credit market is competitive and moneylenders cannot extract any rents from credit transactions with farmers. A farmer's incentive to repay a moneylender comes from the threat of being taken to court; we assume that this threat is sufficient to guarantee repayment.

3.2. *Analysis of the model*

3.2.1. *Informal contract enforcement*

As described above we assume that when enforcement is informal the lender is a monopolist in his segment of the market. In this section we find the conditions under which monopolist moneylenders will forgive a farmer's debt when he receives a negative shock. The condition is intuitive: the lender will be willing to do so if future profits from lending decline sufficiently when the farmer sells his land or fails to maintain his asset in response to the shock.

Our analysis proceeds as follows. First we examine the terms set by a monopolist lender who forgives loans in bad times (a 'forgiving monopolist'). He will set a repayment amount R^* such that the farmer is indifferent between taking a loan and selling his land and giving up farming. Second, we derive the incentive constraint for loan forgiveness, i.e., the condition under which it is advantageous

¹³ For an analysis of the nature and impact of private enforcement costs on rural credit markets, see Hoff and Stiglitz (1996).

¹⁴ For example, it is easier for few moneylenders to collude.

¹⁵ Note that with this assumption, a monopolist lender need not leave the borrower any surplus from the transaction. He uses his coercive power to induce the borrower to repay the loan. In an alternative model in which the lender can ensure repayment only by threatening to cut off future credit, the borrower would have to receive some surplus from the transaction. The threat of losing this surplus provides the incentive to repay. Our modeling choice is based on the historical record; there is ample evidence that in the pre-colonial period lenders in the Bombay Deccan used direct coercion to enforce repayment.

¹⁶ In Section 4, we provide evidence that indeed peasants borrowed from multiple lenders after the legal reforms.

for the lender to forgive the loan after a negative shock. We find that loans will be forgiven in bad times only if the repayment in good times is greater than some amount \bar{R} . Combining these two results, an equilibrium with loan forgiveness will exist if only if $R^* > \bar{R}$. This condition is easy to interpret: for it to hold a lender's future profits must fall by a sufficiently large amount if the farmer sells his land.

3.2.1.1. The terms set by the 'forgiving monopolist'. A farmer who borrows from a lender who forgives the loan in the case of a bad shock earns $(Q - M)$ in the case of a negative productivity shock, and $Q - R$ in the absence of the shock. His discounted value of the relationship is then

$$\frac{1}{1 - \delta} [p(Q - M) + (1 - p)(Q - R)] \quad (1)$$

The farmer can choose not to borrow and instead sell the land and become a landless laborer. We denote the market value of the land as A . After selling the land, the farmer earns \bar{v} per period. The discounted expected income after selling the land, which we denote, \bar{U} is then

$$\bar{U} = A + \frac{1}{1 - \delta} \bar{v} \quad (2)$$

The moneylender will charge an interest rate so that the farmer is just indifferent between borrowing and earning \bar{U} . Solving for this maximum repayment, R^* , yields:

$$R^* = \frac{Q - pM - (1 - \delta)\bar{U}}{1 - p} \quad (3)$$

Note that R^* is increasing in the expected output of the farm $(Q - pM)$ and decreasing in the borrower's outside option (\bar{U}).

3.2.1.2. The incentive constraint for loan forgiveness. If the lender forgives the loan in the case of a bad shock he earns $-L$. In the absence of this shock, he earns profits $(R - L)$. Therefore, if a bad shock occurs, the forgiving monopolist's current profits and his expected discounted future profits from lending to the farmer are

$$-L + \frac{\delta}{1 - \delta} [(1 - p)R - L] \quad (4)$$

A moneylender can always choose not to forgive the loan in the case of a bad productivity shock and use coercion to ensure repayment. For the farmer however, the sum $(Q - M - R)$ is below subsistence level and he must sell his land in order to survive. The lender can earn therefore earn no further profits from lending to that farmer. The moneylender may earn some profits from lending to another farmer that purchases the land. We label the monopolist's per period profits from

lending to another farmer as $\bar{\pi}^M$. A lender that does not forgive the loan in bad times therefore earns

$$R - L + \frac{\delta}{1 - \delta} \bar{\pi}^M \tag{5}$$

Comparing profits from forgiving the loan in Eq. (4) with profits from not forgiving the loan in Eq. (5), we see that a moneylender has an incentive to forgive the loan if and only if

$$R \leq \frac{\delta}{1 - \delta} [(1 - p)R - L - \bar{\pi}^M] \tag{6}$$

Note that a necessary condition for this inequality to be satisfied is that $\bar{\pi}^M < (1 - p)R - L$, i.e., after the land is sold the surplus that can be extracted from the new farmer is less than can be extracted from the old farmer. We assume that this condition holds because the original farmer is more productive than his replacement. Alternatively, one can imagine that the farmer is more productive when he has a bullock; if his bullock dies due to under-feeding during a crisis the lender can extract less surplus in future periods. Under this interpretation $\bar{\pi}^M$ is the per period expected profit of the monopolist lender after his client’s bullock has died.

Both sides of inequality Eq. (6) are increasing in R . We see, then, that a necessary condition for a lender to forgive the farmer’s loan is that the discount factor is sufficiently high. We must have $\delta \geq 1/(2 - p)$. For smaller discount factors, Eq. (6) can never be satisfied—the RHS is less than the LHS for all values of R . Given that $\delta \geq 1/(2 - p)$, there exists a repayment level

$$\bar{R} = \frac{\delta(L + \bar{\pi}^M)}{\delta(1 - p) - (1 - \delta)}$$

such that for all $R < \bar{R}$ the constraint is not satisfied and for all $R \geq \bar{R}$ the constraint is satisfied. Thus, the lender will have an incentive to forgive the farmer’s in loan in the event of a bad shock if and only if $\delta \geq 1/(2 - p)$ and $R^* \geq \bar{R}$. Comparing these two repayment levels, we have

$$Q - pM \geq \frac{\delta(1 - p)}{\delta(1 - p) - (1 - \delta)} (L + \bar{\pi}^M) + (1 - \delta)\bar{U} \tag{8}$$

i.e., the expected surplus from the asset must be sufficiently high. Examining condition Eq. (8) we see that it is easier to satisfy at higher discount factors and harder to satisfy at higher p ’s. The intuition is straightforward: the higher the discount factor, the greater the value placed on declines in future profits. The higher the probability of a negative shock, the greater the likelihood the lender will

have to forgive the loan in the future, and hence the lower the expected future profits of the lender from retaining his client.

Thus we have the following proposition:

Proposition 1: If the monopolist lender's profits fall by a sufficiently large amount when the farmer sells or fails to maintain his asset, he will forgive the farmer's loan in bad times.

3.2.2. Formal contract enforcement

We now consider the situation in which courts enforce credit contracts; any lender can lend to any farmer and the credit market is competitive. The central issue is the following: Will lenders forgive loans when they are no longer monopolists and face competition from other lenders? As we show below, the historical evidence suggests that in the changed circumstances lenders stopped forgiving loans. This is consistent with our model. A lender will forgo the loan repayment R when, if he were to force loan repayment, the farmer sells his land and the lender's discounted value of future profits falls by an amount more than R . For this to be true, the lender must make positive expected profits from his current client in the future; if competition eliminates these rents, lenders will no longer have an incentive to forgive loans.

To see this, suppose that under competition a lender and farmer make the following agreement: a lender agrees to forgive the farmer's loans in bad times, and the farmer agrees to borrow from the lender in the future. However, neither of these terms is enforceable by the courts or by a lender's private enforcement capacity; exclusive dealing contracts were not enforceable in the Bombay Deccan.^{17,18}

¹⁷ In particular, a lender cannot use his informal enforcement capacity or the threat of violence to prevent a farmer from borrowing from another lender. As discussed above, the British made private coercion, *takaza*, illegal. More importantly, a lender's private coercive power operated only to the extent that it was socially sanctioned. The right to privately enforce socially-approved contracts was not a *carte blanche* to devise and enforce any contract. Elphinstone (1822) (p. 66) wrote, with respect to pre-colonial judicial institutions:

Thus some sort of justice was obtained, and it was less impure than might be expected, from the sources by which it was supplied, because *public opinion and the authority of the Magistrate set bounds to Takaza* and the institution of *Panchayats* was a restraint on patronage and bribery. [our emphasis]

To the best of our knowledge, at no time either before or during British rule could a lender use coercion to prevent a farmer from going to another lender.

¹⁸ Kahn and Mookherjee (1996) show that, in general in competitive environments, greater economic welfare can be obtained when agents can use exclusive contracts than when they cannot.

Is such an agreement is sustainable under competition? Recall our incentive constraint for loan forgiveness from above, Eq. (6). For loan forgiveness to occur under competition a similar condition, Eq. (9) below must hold, where $\bar{\pi}^C$ is the per period expected profit that can be earned from the replacement farmer under competition.

$$R \leq \frac{\delta}{1 - \delta} [(1 - p)R - L - \bar{\pi}^C] \quad (9)$$

For this inequality to hold, we must have $(1 - p)R - L > 0$, which will not be the case if competition reduces profits to zero.¹⁹

Proposition 2: When competition eliminates lenders' rents, they no longer have an incentive to forgive farmers' loans in bad times.

Section 3.2.3 compares welfare outcomes under formal and informal enforcement.

3.2.3. Welfare analysis

In this section we examine the farmer's net income and total economic welfare under the traditional system and the British court system as we have represented them in our model. We do not, as we discuss below, have sufficient historical data to determine the actual welfare effects of the legal reform. The exercise here, however, provides a framework within which to view the evidence available. We compare outcomes under competition with those under monopoly when the monopolist has an incentive to forgive the farmer's loan after a negative shock.

The monopolist forgives loans only if the loss involved is less than the reduction in future profits that would result from the farmer giving up cultivation, i.e., Eq. (8) must hold. We show that, given this condition, farmers' ex ante expected net income increases under competition. Because lenders no longer have monopoly power, farmers earn the rents from credit transactions. However, under competition, ex post, in the event of a negative shock, farmers earn lower net

¹⁹ There may be scenarios in which lenders earn profits under competition. However, as long as there are lenders who will lend to farmers at interest rate r , there is an upper bound to what a lender can earn. Under monopoly, a lender could charge a farmer a repayment rate up to the point that the farmer was indifferent between borrowing and selling his land. Now a lender can only charge a farmer a rate up to the point that he is indifferent between borrowing from him and borrowing from a new lender in every period. Our analysis shows that for p sufficiently small, a lender would be willing to forgive a loan in bad times when he is a monopolist but not when his client is able to borrow funds elsewhere at interest rate r . In any case, our evidence shows that lenders' incentives to forgive were reduced under competition.

income. The farmer is forced to repay his loan and must give up his asset (or not maintain it). For the same reason, total economic welfare falls under competition. While the asset is always maintained under monopoly, under competition the farmer does not maintain his asset in the event of a bad shock; therefore, total discounted expected output is lower.

3.2.3.1. The farmer's income ex ante. Here we show that, ex ante, the farmer is better off under competition. Under monopoly, given the lender will forgive the loan in case of a negative shock, the farmer's per period expected income from borrowing is $Q - pM - (1 - p)R$. The lender sets R so that the farmer earns exactly the same income as his 'outside option' of not borrowing and giving up his asset, for which the per period equivalent payoff is $(1 - \delta)\bar{U}$.²⁰ So we have $Q - pM - (1 - p)R^* = (1 - \delta)\bar{U}$. Also note that $(1 - p)R^* > L$ because we have assumed that Eq. (8) holds and the lender earns positive profits.

Now consider the competitive case. Assume that the farmer's outside option, i.e., his expected discounted income if he sells the land, is the same under monopoly and competition.²¹ Under competition, the farmer pays the competitive interest rates for his loan, that is, his repayment is simply L . Suppose the farmer retains his asset at the beginning of the first period and borrows l . His first period expected income is $Q - pM - L$. Recall that with a 'forgiving monopolist,' his first period income would have been $Q - pM - (1 - p)R^*$ and $(1 - p)R^* > L$. Therefore, the farmer's first period expected income is higher under competition. Since he makes at least $(1 - \delta)\bar{U}$ in subsequent periods, he is strictly better off under competition.

We can calculate the farmer's actual expected discounted income under competition, V , as follows. With probability $(1 - p)$ the farmer will continue to farm in the next period, but with probability p he must repay his loan and is forced to sell his asset.²² Thus, we have

$$V = (1 - p)(Q - L + \delta V) + p(Q - L - M + \delta \bar{U})$$

²⁰ The present value of an infinite stream of per period returns of $(1 - \delta)\bar{U}$ is simply \bar{U} .

²¹ The result of this section obviously holds even if the farmer's outside option is better under competition, since under the forgiving monopoly the farmer gets no more than his outside option. However the result in Section 3.2.3.2, where we argue that, ex post, the farmer can be worse off under competition, may not hold if the farmer's outside option is significantly higher under competition.

²² Here we assume that, in the case of a negative shock, the farmer cannot borrow to finance repayment of his loan. This assumption is a variant of the 'no-Ponzi-game' conditions which are standard in intertemporal macroeconomic models with borrowing. The condition here need not be so restrictive for our welfare results below. As long as there is a positive probability in finite time that the farmer cannot borrow and must repay his loans(s) in full, there is a positive probability that he will not be able to maintain his asset.

which yields

$$V = \frac{1}{1 - (1 - p)\delta} [Q - L - pM + \delta p\bar{U}].$$

3.2.3.2. The farmer's income ex post. While a farmer is better off under competition *ex ante*, he is worse off *ex post* in the case of a negative productivity shock, assuming the outside options are the same under the two regimes. Under monopoly his loan is forgiven and he maintains his asset; his discounted net income is $Q - M + \delta\bar{U}$. Under competition, on the other hand, he must pay back his loan. To avoid falling below a subsistence level of income, he sells his asset (or does not maintain his asset at the current level of productivity). His discounted net income is then $Q - M - L + \delta\bar{U}$.

3.2.3.3. Total welfare ex ante. Under monopoly, *ex ante* discounted expected welfare, W^M , is discounted expected surplus from the farmer maintaining the land/asset

$$W^M = \frac{1}{1 - \delta} [Q - L - pM]$$

(which is also the sum of the farmer's income and the lender's profits).

We have assumed throughout that the asset is not as productive after its sale (or after the reduction in maintenance). Because of this, it is clear that discounted expected income is higher under monopoly. Under competition, with probability p the farmer will not maintain his asset (or must sell his asset) because he must repay his loan. Future expected output falls. Under monopoly, this never occurs. The asset is always maintained at its current level of productivity.

Informed by the model, Section 4 examines the historical experience of the Bombay Deccan.

4. Historical evidence from the Bombay Deccan

As mentioned earlier, we draw most of our information from the Deccan Riots Commission (DRC) report. First, we present evidence that indicates that the British legal reforms increased competition in the credit market. Second, we relate testimony that moneylender incentives changed as predicted by the model. There is no evidence available regarding changes in welfare; however, we indicate where the historical record is consistent with farmers being worse off after the reforms when negative shocks occur due to the changed behavior of lenders. Third, we consider whether distress sales could have been avoided by using an alternative contractual arrangement. Finally, we discuss the experience of the Bombay Deccan in a wider Indian context.

4.1. Legal reform and competition in the credit market

A reader who is familiar with contemporary rural credit markets in developing countries might suspect that the courts would be largely irrelevant because of difficulties or high costs of using them.²³ This was certainly not the case in the Bombay Deccan. The laws concerning credit transactions were systematically laid out in Elphinstone's Code of 1827; within a decade the courts were being used extensively to recover loans. The collector of Sholapur reported in 1840 that courts forced payments of debt and often all of debtors' properties, including his clothes, were sold. [Guha, 1987a, p. A130] The use of courts was especially extensive in areas such as Ahmednagar where there were many immigrant lenders, according to Guha (1987a) (p. A130). By 1835, there were a large number of suits filed in Ahmednagar courts. In 1850, 15,633 civil suits were filed (for debts and for other reasons); this number had increased to 25,136 in 1859.

Many of the courts' rulings were *ex parte*, indicating the rigor with which they operated. For example, in 1872, 71% of civil cases in Ahmednagar courts and 64% of civil cases in Poona courts were decided *ex parte*. Lenders obtained these rulings by presenting loan documents to the court; these were 'bonds' which farmers had signed, often with their thumbprint. When the Deccan Riots occurred, the rioters were mainly concerned with obtaining and destroying these written records of their debts [Deccan Riots Commission, 1876, p. 2]. The peasants feared the courts, which some referred to as *courta chi upadrao* or 'court pest.'

The ability to use courts led to an increase in the number of lenders. By 1850 it was evident to observers that new lenders had entered the market, emboldened by the fact that the courts would help them recover their loans. Captain Wingate, Revenue Commissioner of Bombay, wrote in 1852:

The facilities which the law affords for the realization of debt have expanded credit to a most hurtful extent... In addition to ordinary village bankers, a class of low usurers is fast springing up... [Deccan Riots Commission, 1876, p. 31]

The DRC also concluded that the relatively free movement of capital was due to the confidence created by the legal system. Prior to British rule, they claimed: "The creditor received little assistance from the state in recovering debts but had great license in private methods of compulsion" [Deccan Riots Commission, 1876, p. 27]. Now, however, since the courts would recover the money, even lenders who operated on a small scale had entered the market [Deccan Riots Commission, 1876, p.39]. In the same vein, a government official testified that "...the lands having been made personal property and made saleable, the

²³ For example, the recent account of Aleem (1993) of an informal credit market in Pakistan, which focuses heavily on enforcement issues, contains virtually no mention of the courts at all.

sowkars feel greater confidence in lending'' [Deccan Riots Commission, 1876, Supplementary minutes, p. 4].

Other testimony before the DRC indicates that lenders moved easily between areas, and that they did so to expand their operations. One lender, Hariram Bhuban, testified that he moved from Panodi to Parner requiring, as he put it, 'a larger sphere' [Deccan Riots Commission, 1876, cited by Banaji (1977), p. 134].

There is also quantitative evidence that the credit markets became more competitive. The DRC collated data on the number of landowning households and the number of Marwari lenders who owned land in eighteen villages in Poona in 1855–75. We use these numbers as a lower bound of the number of lenders operating in each village. (It should be noted that the lenders rarely cultivated the land they seized. They typically sought to sell it and lease it in the interim. We elaborate this point below.) For the sake of brevity, we present data on only six villages in Table 1a. The data show that numerous lenders were entering and leaving these villages. For example, in 1855 in Bhowri village fifteen Marwari lenders owned land. By 1865 this number had declined to ten and by 1875 it had again increased to eighteen. For the 18 villages surveyed by the DRC there were approximately 10 Marwari lenders owning land per village in 1855. This works out to an average lender–farmer ratio of 1:20. By 1875 approximately fifteen lenders owned land in each village, which gives a lender–farmer ratio of 1:14.

Similar evidence from Ahmednagar district, presented in Table 1b, shows that there were a large number of moneylenders operating in each village. Especially striking is the case of Parner village, in which out of 297 landowning households as many as 52 were moneylenders.

Beyond the number of lenders resident in each village, the DRC report contains information on farmers' indebtedness. From this information, we have determined that a substantial fraction of farmers borrowed from more than one lender. Table 2 considers farmers in the Ahmednagar district. More than 41% of farmers had borrowed from more than one lender. Approximately 25% had borrowed from more than two, and 13% had borrowed from more than three. An extreme example of this phenomenon was in Ghurgaon village where the forty-four indebted farmers surveyed were each on average indebted to four lenders.

4.2. The impact of increased competition on lenders' incentives

In our model, if a lender has market power, he has an incentive to maintain his client's productivity. This rationale is evident from the comments of Shambhuprasad Laxmilal, a government official who testified before the DRC. He argued that lenders often viewed their relationships with farmers like long-term financial investments and would sometimes give loans which they know would not be returned:

Cultivators are like government promissory notes to the *sowkars*, because they do not lend money with a view to get them repaid in due course of time

Table 1

(a) Immigrant lenders in the Deccan, Poona district, 1855–75

| Village name | Number of landowning households | Number of Marwari immigrant lenders owning land 1855 | Number of Marwari immigrant lenders owning land 1865 | Number of Marwari immigrant lenders owning land 1875 |
|----------------|---------------------------------|--|--|--|
| Indapur | 386 | 5 | 22 | 36 |
| Bhowri | 336 | 15 | 10 | 18 |
| Nimgaon Khedki | 186 | 3 | 2 | 1 |
| Kullus | 177 | 1 | 2 | 3 |
| Lasume | 127 | 0 | 0 | 0 |
| Palasdeo | 178 | 5 | 5 | 11 |

Source: Deccan Riots Commission, 1876, Appendix C, p. 201.

(b) Immigrant lenders in the Deccan, Ahmednagar district, 1875

| Village | Number of landowning households | Number of professional moneylenders owning land |
|-----------------|---------------------------------|---|
| Ghospuri | 133 | 6 |
| Ranjangaon | 129 | 9 |
| Parner | 297 | 52 |
| Kadas | 52 | 3 |
| Pimpalgaon Pisa | 70 | 15 |
| Kolgaon | 285 | 11 |

Source: Deccan Riots Commission, 1876, Appendix C, p. 198.

Table 2

Proportions of borrowers indebted to one or more lenders, Ahmednagar district

| No. of persons from whom farmer has borrowed | No. of farmers | Percentage of farmers |
|--|----------------|-----------------------|
| 1 | 266 | 58.59 |
| 2 | 77 | 16.96 |
| 3 | 55 | 12.11 |
| 4 | 23 | 5.06 |
| 5 | 14 | 3.08 |
| 6 | 11 | 2.42 |
| 7 | 5 | 1.10 |
| 8 | 2 | 0.44 |
| 9 | 0 | 0 |
| 10 | 1 | 0.22 |
| Total | 454 | 100 |

Source: Deccan Riots Commission, 1876, Appendix C, pp. 96–178.

by the cultivators but to get something in the shape of a dividend annually. [...] The sowkars therefore *assist them to maintain their occupations* as far as possible. [our italics]^{24,25}

As discussed earlier, many observers had pointed out that such traditional moneylender–peasant relationships changed after the introduction of courts. The resulting tensions eventually led to violent encounters and attacks, often to obtain the written records of debt. The Deccan Riots were a dramatic example, but violence against moneylenders was endemic.²⁶

The DRC's explanation for why moneylenders' behavior changed is consistent with ours: increased competition undermined moneylenders' incentives to prevent disinvestment by their clients, since they had less to gain from their clients' future demand for credit. The Commission found that as competition in the credit market increased, lenders began to recover their loans regardless of the debtor's state:

The enquiries of the Commission have made it clear that the smaller class of *sowkars*, who are also the most unscrupulous, have increased very considerably during the last ten years, and that it has been common practice for the

²⁴ Deccan Riots Commission, 1876, Supplementary minutes, memorandum by Mr. Shambhuprasad Laxmilal, p. 16.

²⁵ Walker and Ryan (1990), p. 205, indicate that moneylenders have similar incentives in a group of Indian villages which were intensively surveyed during the 1970s and 1980s by the International Crop Research Institute for the Semi-Arid Tropics (ICRISAT).

²⁶ See Charlesworth (1985), p. 98. In 1874–75, of the 164 murder cases in the Bombay Presidency, seven were the result of enmity against moneylenders. The 1870s also saw the emergence of the bandit Honya Kenglia, the Deccan's equivalent of Robin Hood, who robbed moneylenders, burnt their houses, and sometimes cut off their noses. See Hardiman (1995).

ryot [farmer] to borrow from one sowcar to pay another, or to borrow from two or three at the same time. A result of this is that in competition with inferior members of their class even respectable sowcars are obliged more and more to resort to methods of swelling their debt and coercing their debtor practiced by them. [Deccan Riots Commission, 1876, p. 45]

The DRC later elaborates this point explicitly contrasting, as we do, lenders' incentives under competition and monopoly. When the lender had monopoly power he would typically not seize his debtor's land even if the farmer defaulted on his loan. There was more to be gained from his future borrowing. Once his monopoly was undermined by the legal reforms, the lender would seize the land:

The sowcar's object, as we have seen, is to get hold of the produce. [...] he does not desire to obtain the land [...] unless owing to the competition of other creditors the return to be made out of his debtor is less than that recoverable from the land. So long as the sowcar has a monopoly of the debtor he can secure not only the profits of agriculture, but also somewhat of his labor; when his monopoly is infringed he takes the land and reluctantly abandons the rest. [Deccan Riots Commission, 1876, p. 67]²⁷

The outcome described above is consistent with the scenario discussed in Section 3.2.3, wherein, under competition, when negative shocks occur, the borrower does not obtain loan forgiveness, leading to lower welfare for him and reduction of total welfare, due to transfer of the asset to a less productive user. Of course, this evidence is only suggestive, and we cannot come to any firm conclusion as to the overall welfare impacts of the reform. We discuss this further in Section 5.

4.3. An alternative contractual arrangement?

If agricultural productivity was reduced by poor farmers selling or failing to maintain assets in crisis times, why did not lenders take over cultivation? Presumably the relatively wealthy lenders would be in a better position to absorb shocks and would not need to engage in distress sales; they might make higher profits by buying land and hiring the farmers as wage-laborers or tenants.

There is, however, ample evidence that the typical moneylender in the Bombay Deccan specialized in lending and trade. They maintained this occupation and had no affinity for managing land or farming by themselves. They preferred to 'sweat'

²⁷ Rural moneylenders are often not willing to lend to someone who is in debt to another lender. In the study of 14 Pakistani moneylenders conducted by Aleem (1993), 10 said that they would not be willing to lend money to someone who was already in debt to another lender. The study of rural Thailand by Siamwalla et al. (1993) reports that 72% of borrowers had borrowed from only one lender over the previous 3 years.

the peasant who owned the land. Charlesworth (1985) argues this point at length. He quotes Auckland Colvin, a witness before the DRC:

The Marwaris do not, as a rule, desire to possess themselves of land. [...] They usually prefer to keep the nominal occupier on and sweat him. It is only, as I understand, when a Kunbi has to resort to a second moneylender, or is from any cause unable to cultivate or has exceptionally good lands, that the Marwari steps in and causes a transfer of proprietary title to his own name. [Memorandum of Auckland to the Deccan Riots Commission, 1876, pp. 20–21]

Raymond West, a Bombay judge active in the debate on the merits of British property law argued in the 1880s that the lenders did not have a ‘taste’ for agriculture:

The purchase of land by sowkars and capitalists generally by no means implies retention of it by them [...]. The sowkars as a rule have no taste for agriculture and prefer turning over their capital when they can sell their land at a profit [Guha, 1985, p. 230].

What explains this reluctance of Marwaris to retain land and manage cultivation? The answer to this question must inevitably be speculative, but there are two plausible hypotheses in the literature. Charlesworth (1985) has argued that in the Bombay Deccan a Marwari who took over land would likely face resentment from the village community; he might find it hard to hire labor, and the original owner might refuse to work as a tenant. On the other hand, Musgrave (1979) (pp. 276–277) argues, with respect to the *bania* trader-lenders of the United Provinces, that they placed a premium on liquidity and did not want their capital ‘tied up’ in land. The same hypothesis has also been advanced to explain the reluctance of Chettiar²⁸ lenders in Burma to take over land (Schrader, 1989, p. 19).

4.4. *The Bombay Deccan vs. other regions in India*

The experience of the Bombay Deccan was not unique. Deterioration in moneylender–farmer relations following the introduction of civil courts was noted in many parts of British India. Debates on the benefits of the British law occurred in Punjab, the North–west Provinces, the Central Provinces, and other regions. Attacks on moneylenders were an important feature of the ‘Mutiny,’ a large-scale insurrection against British rule in North India in 1857. As in the Bombay Deccan, officials questioned the impact of the civil courts. Some observers of the events, in fact, explicitly suggested that debt contracts should not be enforced [Robertson,

²⁸ The Chettiars were a prominent South Indian trading–lending community operating in South India as well Singapore, Burma, Malaya, and Ceylon.

1859, p. 135]. A similar debate emerged in the Punjab. Captain Wingate's remarks regarding the role of the legal system in undermining moneylender–peasant relations in the Bombay Deccan were extensively quoted verbatim in a well-known critique of British legal institutions in the Punjab, Thorburn's *Mussalmans and Moneylenders in the Punjab*:

If for the words 'Marwari' and 'ryot' [farmer], 'Bunniah' [trading–lending castes in the Punjab] and 'peasant' be substituted, Captain Wingate might have been writing the facts of the Punjab in 1872 instead of the Deccan in 1852. [Thorburn, 1885, p. 62]

5. Discussion and conclusion

This paper studies a possible adverse effect of institutional reform. When the British occupied the Bombay Deccan, they introduced civil courts that enforced (only) simple debt contracts. They did not enforce exclusive dealing contracts, or state-contingent contracts. In a model of the credit market, we show that this incremental reform could have reduced lenders' incentives to maintain the productivity of individual farmers in case of a negative shock. Because lenders could earn no more than the competitive interest rate, they could not capture the future rewards of subsidizing farmers' investments. The idea that more competitive markets could actually make less funds available for investment may seem counter-intuitive. However, this is precisely what Petersen and Rajan (1995) found in their recent study of small businesses in the United States. As for the Bombay Deccan, the historical evidence we examine is largely consistent with the results of our model. When lenders faced competition, they were more likely to force loan repayment when negative shocks occurred despite the possible losses in productivity.

This consistency of the evidence with the model, however, does not negate the positive effects of introducing formal contract enforcement. In the Bombay Deccan there was an expansion of cultivation starting in the 1840s, which was substantially financed by immigrant lenders. It is likely that in the absence of the courts, the supply of capital would have been lower and interest rates would have been higher, perhaps slowing the expansion. It is also true that shocks such as the decline in cotton prices after the Civil War and other agricultural commodity prices after 1870 were exogenous events which would have hurt the farmers whether or not the courts had been introduced.

Our central point, then, is not to deny that low-cost contract enforcement can improve the functioning of credit markets. Rather this paper points out that institutional reform takes place in the world of the 'second best.' When not all contracts are enforced, and there does not exist a complete set of markets, institutional reforms can have negative as well as positive effects. In particular, in

a competitive environment resulting from such reforms, while the poor may be better off *ex ante*, their incomes and assets may be more vulnerable when negative shocks occur.

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