Credit Constraints, Collateral, and Lending to the Poor[*]

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In the development economics literature it is common to read that the poor cannot invest to escape their poverty because they are credit constrained, and that they are credit constrained because they lack collateral. These points have been repeated so often that they are now seen as self-evident truths. Or are they?

In this paper I deconstruct these often heard arguments and find them fundamentally flawed, so flawed that they obscure the issues more than they enlighten them. The approach I adopt is conceptual and logical more than theoretical. I do, however, illustrates some of the points I make with simple models, and I draw upon the empirical literature as much as is feasible given the space constraints imposed by the editor.

I argue that lack of collateral is not the reason why the poor often are credit constrained – lack of regular income is. I also argue that allowing unrestricted credit access for the poor often is a cure worse than the disease. Even if the poor manage to avoid falling into a debt trap, interest charges on consumption lending ultimately reduces their average consumption. While credit can be a way to save because it serves as self-commitment device, there exist other

institutional solutions, such as rotating savings and credit associations or ROSCAs, that are less taxing on the poor. I end this paper with suggestions for policy.

1. Collateral and securities

In developed economies, most credit to consumers finances the purchase of goods that become their own collateral: houses and cars. True, consumers need to come up with part of the funds themselves. But to borrow the rest they need not have pre-existing collateral. So it is misleading to argue that people cannot borrow when they do not have collateral. But it is correct to point out that when people borrow to purchase a house or a car, this does not make them net borrowers: their net worth – the value of the assets they own (e.g., the house) minus the debts they have (e.g., the mortgage) – typically remains positive.

The rest of consumer lending that occurs in developed economies is in the form of credit cards and overdraft facilities, and much of it is unsecured. Does this mean that lenders have no collateral? No: whatever asset the borrower owns can be seized, with a court order, in case of non-payment. Put differently, all the assets of a debtor serve as collateral for all their debts. What securities do is organize seniority between different debtors in case of bankruptcy: when the lender has a security – e.g., a mortgage on a house or a lien on a car – proceeds from the sale of the secured asset are first used to repay the secured lender before other lenders. In other words, securities – which are what economists typically refer to when they use the word 'collateral' – serve first and foremost to resolve disputes among creditors over the assets of delinquent borrowers. They are not primarily intended to resolve disputes between debtor and lender: if the debtor has a house and a single unsecured debt, the creditor will be able to foreclose on the house whether or not the house has been mortgaged to him.

Securities are not the only way to define the seniority of different debts. The law also defines

some debts as having precedence. For instance, it is common for debts to the government (e.g., unpaid taxes) to take precedence over all other creditors. For firms, contributions to social security and wages due to workers normally take precedence over other creditors, even if they have mortgages and other securities.

The only sense in which a security protects creditors against debtors is when there is a centralized ownership registry for the good, and the security is registered in it. The most common registries of this type include real estate, and vehicles.[1] Registering a security make it difficult for the debtor to resell the secured item to a third party – for instance to repay another debtor. There also exist unregistered securities – e.g., a chattels mortgage on inventories – in which case their sole purpose is debt seniority.

A creditor who has not earmarked a specific item for the service of his debt still has 'collateral' in the sense that all the assets of the debtor can be used to service his debts. This includes financial assets, durables, cars, works of art, etc. Thus as long as the debtor has assets, he has collateral. The difficulty for the creditor is that (1) the debtor can sell or give some of these assets away, possibly with the explicit purpose of avoiding to pay the debt; and (2) the debtor could continue adding to his debt, in which case the collateral will have bo be shared with other creditors. The debtor could even collude with a fake creditor by writing a large IOU to that person, thereby protecting a fraction of his assets from bona fide creditors. It is because assets can be diverted by unscrupulous debtors that securities provide protection.

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[1]In some countries, suppliers of machinery keep a registry for the equipment they sell, using tags or manufacturer id numbers to identify each machine individually. Such private registries offer some protection for lender – usually the supplier of the machinery himself – by allowing a lien to be put on a specific piece of equipment. Such registry does not offer complete protection against fraudulent resale by the debtor, however – although it could be used to demonstrate fraudulent bankruptcy and bring criminal charges against the debtor.

2. Unsecured lending

While much lending to individual households in developed economies are for goods that can serve as their own collateral, there is also unsecured lending to consumers with little or no assets to foreclose upon.[2] Yet most of them have at least one credit card. Are lenders insane?

No. Appropriating the debtor's assets is not the only way a creditor can seek to recoup a debt. The creditor can also force the debtor to service the debt out of income – either formally, e.g., by obtaining a court order to garnish the debtor's wages, or informally by harassing the debtor. A lot consumer lending is best understood as unsecured lending backed by the prospect of the debtor's future income flows.

There is much profit to be made from unsecured consumption lending, as long as the borrower has a regular income. To illustrate, consider the following stylized scenario. Consumer i receives income M on the first day of each month, which i spends over the course of the month. Without lending, over the course of the month i's net worth falls monotonically from M to 0. This is illustrated in Figure 1, which shows cash balances over time. Debt remains 0 throughout since, by assumption, there is no borrowing.

Now imagine that, on the first day of the first period, i borrows $\frac{M}{1+r}$ to be repaid on the first day of the following month. In this first period i spends M, the funds that he had, plus the amount borrowed $\frac{M}{1+r}$. On the first day of the second period, i uses his income M to pay off his debt – only to discover that he now must borrow in order to finance his consumption in period 2. The lender again lends $\frac{M}{1+r}$, to be repaid on the first day of the next month – and so on. Figure 2 illustrates this case. A debt of M is incurred at the beginning of each month, to be paid off on payday – and replaced by a new equivalent debt. What happens to consumption? Consumer i

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[2]Wolf (1998), for instance, notes that 18.5% of Americans had zero or negative net worth in 1995, and 29% had zero or negative financial wealth with which to service debt.

was able to enjoy a one-off increase in consumption $\frac{M}{1+r}$ in period one, in exchange for which his consumption falls from M to $\frac{M}{1+r}$ in all subsequent periods. By enabling the consumer a one-off increase in consumption, the lender is able to extract a permanent revenue rM.

While this example is stylized, it illustrates the logic of such unsecured lending: by enticing the consumer to incur a one-off increase in consumption, the lender is able to extract a permanent 'tax' on the consumer's income. This is achieved by bringing the net worth of consumer i below zero, forcing him to borrow, each period, the funds he needs to consume. Even if i eventually experiences a fall in income M and is unable to pay his debt at some time in the future, chances are that the lender will have long recouped the loaned funds by charging a high interest r on 'unsecured lending'.

This example may be stylized, but it is a decent approximation of short-term consumer lending of the kind incurred by individuals with big balances on their credit card. It illustrates why the idea that borrowers need collateral to borrow is misleading at best, if not plain wrong. It also suggests that the reason why the poor in developing countries do not receive credit is not because they do not have collateral, but because they do not have a regular income M that the lender can 'tax' through lending. Why they do not have a regular income has to do with the fact that most people are either self-employed, or wage-employed on short-term contracts.

Is credit of this kind what the poor need? This depends on how badly a poor consumer i needs the funds $\frac{M}{1+r}$ in period 1. A rational consumer would not incur an unnecessary debt if it means permanently reducing future consumption. But a consumer succumbing to an impulse purchase or suffering from time inconsistency may well do. It follows that introducing insti-tutional innovations – such as micro-credit and group lending – that open consumer credit to the poor need not be welfare improving. One possible exception is when borrowed funds $\frac{M}{1+r}$ enable i to purchase a consumer durable that generates consumption services (or savings) worth

more than rM. The available evidence indeed suggests that micro-borrowers use the loans they receive predominantly to finance home improvements and consumer durables. To this we now turn.

3. Borrowing to save

Once we introduce quasi-hyperbolic discounting, we also have to allow for the possibility that some of the poor borrow in order to save. This would arise if individuals who are aware that they have a time inconsistency problem – i.e., so-called sophisticates – see borrowing as a commitment device helping them to save.

Sophisticates are willing to pay in order to tie their hands in the future. In the absence of alternative self-commitment device, they may turn to debt even though, strictly speaking, they are not seeking to speed up consumption but rather to delay it in the future. Ambec and Treich (2007) present a model of such behavior in which consumers use an external commitment to reorganize their cash-flow so as to bunch up financial resources in certain periods to finance 'worthy' expenditures. Rather than trying to smooth consumption, borrowers seek to concentrate financial resources at certain times to purchase durables or pay school fees for their children. As Ambec and Treich demonstrate, the time at which funds become available is not essential: sophisticates only seek to tie their hands to avoid wasteful expenditures. So why turn to debt then, why not enter into a binding savings contract?

One likely explanation is that financial institutions can more easily charge for debt than for savings. This is the logic of the canonical time preference model: rational economic agents are willing to pay to bring consumption forward but must be compensated by a return on their savings in order to accept to postpone consumption. Hence the standard economic logic is to charge interest on borrowing and pay interest on savings. This logic, however, does not apply

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to sophisticates, who are willing to pay for a commitment device that helps them save. This interpretation finds some support in the work of Dupas et al. (2013) who document the lack of interest among financial institutions for providing savings instruments to the poor: the high administrative costs associated, in standard banks, with small deposits and withdrawals simply makes helping the poor to save unprofitable. Phone banking can in principle overcome these difficulties because administrative costs are much lower. But lending to the poor is likely to remain more profitable for financial institutions than helping them save.

4. The end game

A complete understanding of credit constraints cannot be achieved without paying close attention to what happens when a debt has not been paid as contractually agreed. This is the focus of this section. It is worth noting that the principles discussed here apply to most unfulfilled contracts, not just credit. This is because in nearly all cases of contract non-compliance, contractual obligations turn into a debt for damages.

4.1. Nominal debt and secondary market

The first thing to realize is that, when a debt is not paid, contractually stipulated amounts and what the credit expects to receive diverge (Eichengreen and Portes 1986, 1989). This is best illustrated with an example. Imagine that i owes a debt D to j, but i can only pay $R < D$. What is the value of debt D to j? Simply R. Hence if we introduce a secondary market in which delinquent debts are traded, a debt with face value D will trade at a price R, that is, at less than its face value. For instance, banks will exchange sovereign debt from country i at 50% of its face value if they expect to only recoup half of the debt stipulated in the contract (Cohen 1990; see also Kelly et al 2012). This means that, in case of debt overhang, the face value of the

debt loses much of its significance. For instance, I could multiply D by any number $m > 1$ and the value of mD would remain unchanged – it would still be R.

Things change a little bit if the debtor's future ability to pay is unknown: perhaps the debtor will strike gold, or inherit a fortune. To illustrate how this affects the creditor's desire to increase the nominal value of the debt, imagine that with a 99% probability the debtor can repay R and with a 1% probability he can repay $G > D$. The expected value V of the debt to the creditor is:

$$V = 0.99R + 0.01 \min(G, mD)$$

which is maximized by setting $m = G/D$. This creates an incentive for the creditor to rapidly inflate the nominal or face value of the debt from D to G in order to raise its expected value V. The maximum value of the debt to the creditor is thus:

$$V^{\max} = 0.99R + 0.01G$$

Even if $mD = G$, it is still possible for the creditor to lose money on the loan in the sense that $V^{\max} < D$. So the creditor may feel entitled to pursue this approach in order to recoup some of their losses. This argument makes particular sense when the creditor faces many debtors and $V^{\max}$ averages out over many delinquent debtors: the creditor makes smaller profit on many debtors, but a large profit on some.

How can the creditor raise D to mD? This is done in various ways such as penalty fees, late payment fees, and high explicit and implicit interest rates on delinquent debt (e.g., think of credit card charges, or bank charges for going over an overdraft limit). When the debtor cannot service the debt, these charges often snowball rapidly.

Once the creditor has reached a face debt value of mD, any further increase in nominal debt

is unnecessary. Hence creditors may 'write off' or 'forgive' any nominal debt above G without affecting $V^{\max}$. This is in principle testable if debt is sold on a secondary market. Let S be the debt before forgiveness and let p_0 be the price of one unit of nominal debt S on the secondary market. The true value of S to the creditor is $p_0 S$. Imagine that the creditor forgives F of the nominal debt. The new unit price of the remaining debt $S - F$ on the secondary market is p_1. If $p_1(S - F) = p_0 S$ then the reduction of the nominal debt costs nothing to the creditor.

4.2. Debt overhang

Allowing the nominal debt to overshoot a debtor's ability to pay R is known as a 'debt overhang' (Krugman 1988). So far we have argued that it is in the creditor's interest. But there are cases in which building up the nominal debt all the way up to G is self-defeating because it blunts the debtor's incentive to invest and produce.

To illustrate this, imagine that in order to have a chance of finding gold and earning G the debtor must invest P in prospecting (Fafchamps 1996). When $P = 0$ then the probability of finding gold is 0. If the debtor is already 'maxed out', i.e., if $mD = G$, then any cash flow the debtor has after finding gold goes to service the debt. As a result, he may not be able to raise equity funding for P. To illustrate, let us assume that the debtor is not maxed out, i.e., that $V^{\max} > mD$. The difference between $V^{\max}$ and mD is the money left over to the debtor after paying the debt mD if gold is discovered. Assume that this difference is such that $V^{\max} - mD >> P/0.01$. It is then possible to write an equity contract that covers the investor's risk and still creates a gain for a debtor to encourage prospecting.[3]

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[3]For expositional simplicity, I have assumed that the debtor is risk neutral. Introducing risk aversion would not change the gist of the argument, although it would reduce the level of debt mD above which debt overhang discourages investment.

To demonstrate, consider an equity contract E^P of the following form offered to a prospector:

$$E^P = -P \text{ if no gold is found}$$

$$= G - mD - \varepsilon - P \text{ if gold is found}$$

$$E^P = 0.99 \times 0 + 0.01(G - mD - \varepsilon) - P$$

where ε is a small amount of revenue left to the debtor. It is immediately clear that $E^P > 0$ whenever $G - mD - \varepsilon > P/0.01$. If $E^P > 0$ it is possible for the debtor to find a (risk neutral) prospector (or to undertake prospecting himself).

Now consider what happens for the debtor and the creditor. Without prospecting the expected payoff to the debtor is 0: since $mD > R$, the creditor takes all his income R, and part of the nominal debt remains unpaid. The value of this to the creditor is R. With prospecting, the payoff to the debtor is still 0 if prospecting is unsuccessful but it is ε if prospecting is successful. Hence the debtor has an incentive to prospect. If the debtor prospects, the value of the debt to the creditor increases to $0.99R + 0.01mD$ which is larger than R. Hence the creditor is better off by keeping mD sufficiently below G so as to incentivize the debtor to prospect.

It is possible to generalize this example to a continuous investment case. The literature on sovereign debt has proposed a so-called Laffer curve concept to capture the debt overhang idea: the value of the debt to the creditor initially increases in m but eventually falls as disincentives to invest and prospect kick in. This argument has been used to clarify the conditions under which debt forgiveness to delinquent sovereign debtors is in the interest of international creditors.

Similar ideas are commonly used in private debt cases. For instance, creditors may agree to reduce a debtor's nominal debt so as to allow the debtor to continue operation – and thus to continue servicing the debt. Here the Laffer curve kicks in because forcing the debtor to close

down or go bankrupt means that the creditor only gets the salvage value of the debtor's assets. These same assets may be worth more if the debtor is allowed to continue production.

4.3. Multiple creditors

Things are different when there are multiple creditors (Eichengreen and Lindert 1989). To illustrate, let us go back to the simple case of a debtor i with total debt D and repayment capacity $R < D$. Now imagine that there are two creditors, j and k, with claims D_j and D_k on i, such that $D_j + D_k = D$. Further imagine that, as is common in legal proceedings, debtor payments are pro-rated so that the two creditors receive:

$$R_j = \frac{D_j}{D} R$$
$$R_k = \frac{D_k}{D} R$$

Given the above rule, creditors realize they can capture a larger share of R by increasing their nominal debt on i as rapidly as possible. For instance, imagine that j is a commercial bank while k is a government lender. Creditor j rapidly increases the nominal value of their debt to mD_j while the government lender k does not. The commercial lender now receives:

$$R'_j = \frac{mD_j}{mD_j + D_k} R$$
$$R'_k = \frac{D_k}{mD_j + D_k} R$$

Total repayment has not changed, but creditor j now receives a larger share of it.

In extreme cases, it is even possible that j benefits absolutely from the debtor being unable to pay. Let me illustrate with a numerical example. Let $D = 200$, $R = 168$, $D_j = 100 = D_k$. If j does not inflate his nominal debt, both creditors receive half of R, that is, $R_j = R_k = 84$. Now

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imagine that j inflates his nominal debt by adding penalty fees and the like. Suppose $m = 2$. We now have $R_j = 112 = 2R_k = 56$. What has happened is that inflating the face value of the debt is a strategy for creditors to receive a larger share of fixed payment R. Debt inflation, in this example, has *no* effect on the debtor – it only takes away from the other creditor.

Creditor k may realize what j is doing, and that it is thus in his interest to do the same. In this case a race to the bottom leads rapidly to $mD = V^{\max}$: competition among lenders for a larger share of the limited pie leads to debt overhang. In international sovereign debt negotiations, this concern often comes up in the form of a call for 'commercial banks to participate to debt forgiveness together with government lenders' – as it did recently during the Greek financial crisis.

It nevertheless remains in the interest of individual commercial banks to dissociate themselves from such deals, and to free ride on other banks' debt reduction.[4] To illustrate, consider our earlier example but imagine that both j and k double their nominal debt to 200. In this case, they both receive 84. Now imagine that k is convinced to reduce his nominal debt to 100 instead, but j refuses to do so. It follows that j is the *sole* beneficiary of the debt reduction, at the expense of the other creditor. Since the nominal debt remains above the debtor's ability to pay R, the debtor derives no benefit from debt reduction – except if the reduction is sufficient to reduce debt overhang. It is worth keeping this reality in mind when using data on official development assistance. Some donors include debt forgiveness as part of development aid even though, in many cases, it benefits primarily if not solely banks – often commercial banks in their own country.

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[4] A recent court case in Ghana is an interesting illustration of the kind of issues raised by these debt renegotiations. A bank that refused to join a 2001 debt foregiveness deal with Argentina recently convinced a Ghanaian court to seize an airplane belonging to the Argentinian government to service its original nominal debt. The airplane was eventually released, but after having been immobilized for several weeks in Accra during which debt negotiations, no doubt, were conducted behind the scene.

4.4. Time and debt peonage

So far we have assumed that a debt is paid in a single installment. In practice, debt payments are typically divided in installments staggered over time. How does this possibility affect our model? Imagine that the debtor can pay R each period. Let the lender's opportunity cost of funds be ρ. To keep the example simple, imagine that the debt takes the form of an annuity. The value to the lender of an infinite stream of R payments is:

$$V^\rho = \frac{R}{\rho}$$

For instance, if $R = 100$ and $\rho = 5\%$, then $V^\rho = 2000$. This is the value of the debt to the creditor. It follows that if nominal value of the debt $D > V^\rho$, then the price of this debt on the secondary market should be V^ρ/D. For instance, in our example if the face value of the debt is 5000, then the price p of one unit of this nominal debt should be 0.4.

The same reasoning as before can be applied if the value of R varies stochastically with the success of certain enterprises, e.g., the discovery of gold. What we have said earlier holds. The present discounted value of the debt is:

$$\widetilde{V}^\rho = E_0 \left[\sum_{t=1}^{\infty} \frac{1}{1+\rho} \widetilde{R}_t \right]$$

where $\widetilde{R}_t$ is the stochastic payment in period t, and the expectation E_0 is taken based on all information available at time 0. From this observation, a researcher who has information about D and p is able to calculate $\widetilde{V}^\rho$ and thus what lenders expect the future stream of payment from the debtor to be. Eichengreen and Portes (1986) for instance shows that, historically, lenders made a positive profit on defaulted sovereign debt in the 19th century.

One of the side-effects of imposing penalty fees and additional interest charges on delinquent

debt is to not only increase the nominal debt but also the length of time that the debtor will have to service the debt. Without some form of legal protection, a delinquent debtor can easily fall into a debt trap, that is, accumulate a level of nominal debt so large that the probability that it will ever be paid in full is extremely remote. In development economics, this situation is sometimes called 'debt peonage' or 'labor bonding' (e.g., Platteau 1995, de Janvry 1981). In debt peonage, the debtor is a tenant who has borrowed from a landlord, and finds himself unable to ever leave his landlord because of excessive debt. In labor bonding, the debtor is a worker who finds himself or herself forced to work for the creditor to pay off a large debt. Contemporary examples of labor bonding include migrant workers who are forced into sweat shops or prostitution to repay the debt they have incurred to international gangs.

Labor bonding and debt peonage work basically in the same way. Let $c_{\min}$ be the minimum consumption the debtor needs to survive and let y be the labor income that the debtor can generate. If the creditor pushes the debtor's consumption below $c_{\min}$, the debtor will not survive. Hence it is in the interest of the creditor to give $c_{\min}$ to the debtor, and keep $y - c_{\min}$. The 'value' of the debtor to the creditor is thus:

$$V^D = \frac{y - c_{\min}}{\rho}$$

This is the maximum amount of credit the creditor is willing, ex ante, to lend to the debtor. In practice, however, the creditor often lends much less than that. By manipulating the debt repayment schedule (e.g., no grace period) and the fees and penalties, the creditor can inflate the face value of the debt in order to force the debtor into labor bonding. This could be done with the consent of the debtor – who perhaps has no alternative, or has unrealistic expectations about his or her future income – or by cheating the debtor about the contract terms.

5. Policy implications

From the above discussion, it is fairly obvious that credit opens the door to a lot of abuse. For this reason, most societies seek to protect debtors from this kind of abuse, with a special focus on the poor.

Usury, that is, interest rates were banned by the Catholic Church during Medieval times. A similar approach is adopted today in Islamic banking. When interest is not charged, it is difficult for debt to snowball, and hence debt peonage is much less likely to arise. Fafchamps and Gubert (2007) present evidence of how a traditional society in rural Philippines achieved the same result. They also note the absence of interest compounding, another practice that speeds up the rate at which debt accumulates.

In private debt court cases, it common for judges to reduce fees and penalties charged by creditors. In many countries the law sets an upper limit on interest charged on delinquent debt. Others prohibit interest compounding, that is, the charging of interest on unpaid interest. The purpose is always the same: to avoid snowballing debt, especially when multiple creditors seek to grab a larger share of R.

Some countries (e.g., the US) have personal bankruptcy laws that serve to free the debtor from debt peonage. In countries without personal bankruptcy (e.g., France), there typically is a large proportion of the population in permanent debt overhang, that is, that have accumulated debts they will never be able to pay.[5] Allowing personal bankruptcy is not without problems, however, because it can be abused by debtors – US statistics for instance document a steady increase in the number of cases of personal bankruptcy over the last decades, a development

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[5] In a recent INSEE report Lamarche and Salembier (2013) write that, in France, "9 % des ménages doivent rembourser des sommes plus importantes que la valeur totale de leurs actifs. Ils sont endettés plutôt pour un motif de consommation, plus jeunes que les ménages endettés pour l'achat d'un bien immobilier, et possèdent un patrimoine bien moindre." Elsewhere it has been reported that, in France alone, there are around 200,000 heavily endebted households that they will never be able to repay their debts in full.

that is often interpreted as a sign of increased opportunism (Garrett 2007).[6]

In many countries, debts are not inherited unless the heirs choose to accept them. This was not true in Roman times, when debts were automatically inherited by heirs. Many developing countries today de facto applies a similar system, especially in rural areas. The rationale is typically to protect the elderly from neglect from their progeny. If children refuse to take care of them, parents can borrow to cover the cost of elderly care, and are able to do so because creditors know that their children will have to pay. This in turn induces children to look after their elderly parents. Of course, this also leaves room for abuse by irresponsible parents.

Slavery is illegal in all countries – although the laws are not always successfully enforced. The UK has recently found it convenient to vote a new law explicitly banning slavery. The law has been used to prosecute a number of cases of young women from developing countries forced into domestic slavery in the UK. There are today millions of people in quasi-slavery of this kind across the world. They tend to be young illegal migrants, often underage, working in domestic service or in the sex industry.

Following a reasoning similar to the ban on slavery, many developing countries have a legal, customary, or de facto ban on the distress sales of land by indebted farmers. This is true in sub-Saharan Africa where customary law often precludes land foreclosure (Platteau 2000). This is also true in South Asia where banks hardly ever foreclose on agricultural land for fear of riots and political backlash. In both cases the rationale is the same: to protect poor farmers against losing their productive assets to lenders. In countries with active land markets, e.g., Latin America (de Janvry et al. 2001), redistributive land reforms have often been followed by a rapid unequalization of land ownership. Some believe that this unequalization arises because smallholders sell land to meet loan payments and other expenses (Carter and Zimmerman 2000).

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[6]Garrett (2007) notes that "Personal bankrutpcy filings in the United States increased, per capita, nearly 350 percent between 1980 and 2005."

Bans on slavery and land foreclosure protect the poor against rapacious lenders, but they also restrict access to credit – the mirror effect of not assigning a collateral value to an asset (Srinivasan 1989, Genicot 2002). Historically, long term compulsory employment contracts, called indenture contracts, were used by many Europeans to finance their move to North America. Similar contracts are still used today by many migrants but because forced labor contracts are now illegal, enforcement must rely on (the threat of) the illegitimate use of force. This leaves workers unprotected from abuse.

Indenture contracts need not be exploitative, however, and they can open the door to investment by the poor. One contemporary example of the use of forced labor contracts to enable poor people to borrow are the student loans offered by the US military in exchange for a binding legal commitment to work for a number of years. Such contracts are enforceable because the military is an employer who can force workers to work, i.e., desertion is a crime. This is not true of other employers who cannot stop workers from resigning – even if employers in some countries (e.g., Japan) have resorted to student loans similar to the US military, but enforced through social pressure rather than legal means. Because student loans by the US military are legally binding contracts, they can be regulated to ensure the employer does not take undue advantage.

Unsecured student loans are another form of lending secured by future earnings. Student loans are easiest to enforce as government programs recouped directly from wage earnings, in the same way as taxes and social security contributions are. By removing much of the voluntary element from repayment, the cost of enforcing such loans is greatly reduced. This is the system currently in place in the UK. Student loans have been one of the fastest growing form of consumer lending, so much so that pundits are already predicting a student-loan-driven financial crisis is already looming on the horizon.

6. Conclusion

What have we learned from this rapid overview of the literature on lending to the poor?

First, if the poor are credit constrained, it is unlikely to be for lack of collateral but rather for lack of regular income with which to service a debt. The lack of collateral is an impediment only for those who use the equity they have in a home to make a business investment. In developed economies this represents only a small proportion of the population, because most people – especially the poor – have zero or negative net worth, and thus no equity to use as collateral for investment.

Second, even though credit constraints make it difficult for the poor to invest in physical and human capital, removing these constraints can lead to serious poverty traps in the form of debt peonage and labor bonding. Even for those who avoid extreme indebtedness of this kind, it remains that much consumer lending to the poor ultimately operates as a tax on their consumption, and thus only serves to exacerbate poverty.

Third, micro-credit is best understood as a savings instrument. Micro-credit is typically not designed to enable the poor to make productive investment because the repayment structure of the loan is not tailored to the timing of the cash-flow of any meaningful investment (e.g., no grace period, repayment in small installments). Loans are usually used to finance the purchase of consumer durables or the payment of school fees. It follows that only those with a regular income can successfully repay micro-loans.

If micro-credit helps the poor to save, why does it take the form of credit? We have argued that, on the demand side, the obligation to pay a debt through regular installments operates as a commitment device that the sophisticates among the poor rely on in order to save. This explains why there is consumer demand for micro-credit. On the supply side, calling this kind of savings plan 'credit' allows the service provider to charge interest. This is what generates enough

income to cover (at least partly) the high administrative costs of micro-finance interventions, and hence what attracts entry into the sector. The downside is that, while saving-as-credit often is beneficial for the poor, the high interest charges make it an unlikely instrument to help them escape their poverty.

What policy conclusions can we draw from the above observations regarding lending to the poor? The first observation is that lending to the poor is not necessarily a good idea, unless serious safeguards are provided. It is natural to expect unrestricted lending to the poor to be mostly allocated to consumption, given that their immediate consumption needs often trump whatever limited investment opportunities they have. We have shown that such lending often is against the long-term interest of the poor because interest charges reduce their long-term consumption. Even when micro-credit enables the poor to save for purchasing durables, other financial instruments exist that would do so at lower cost for the poor.

So what forms of credit can be promoted to help the poor? Here are some ideas:

1. Offering simple savings instruments at low administrative costs (Dupas and Robinson 2013a). The ancestor of such instruments is the savings passbook – and before that, the still relevant piggy bank (Dupas and Robinson 2013b). Recent technological advances in mobile telephony and personal identification open the door to savings instruments based on mobile banking. Banks are typically uninterested in offering such services because of their high administrative costs and low return, so this is a sector where non-profit and government intervention is needed.

2. Offering small, zero-interest savings plans tailored on ROSCAs through financial intermediaries, the purpose of which is to offer the poor with a self-commitment device. Same comment about the need for non-profit and government intervention to keep the cost low for the poor.

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3. Forced saving. While sophisticates may voluntarily sign up for ROSCAs, many others will not. A case can therefore be made to force the poor to save, e.g., for their retirement or as protection against future shocks. In practice, this is only implementable for those in regular wage employment – and thus is unsuitable for the mass of farmers and self-employed urban workers.

4. Student loans guaranteed by future employment contracts. The experience of some countries suggest that this is an effective way of financing human capital investment by the poor. What will be difficult is to protect borrowers against abuse while at the same time ensuring that those who can repay do not abscond by fleeing the country.

5. Restricted/conditional investment lending. Unrestricted lending to the poor is not a good idea. Most lending anywhere is restricted to a specific purpose: a house loan is to purchase a house, a car loan to buy a car, a student loan to pay tuition and living expenses, etc. The same principle can be applied to small business loans, which should be disbursed directly to the equipment or raw material supplier, not to the borrower. Experimental results from Fafchamps et al. (2013) suggest that, even if the equipment and raw material are fungible, they tend to 'stick' in the enterprise through a flypaper effect.

6. Titling urban land. While allowing loan foreclosures on agricultural land is unlikely to benefit the poor as a whole, a case can be made for titling urban land so as to facilitate the development of a house mortgage market. For many people, buying a house is de facto a self-commitment device to save for their retirement. Self-commitment comes from the fact that people get attached to their home and neighborhood and are reluctant to leave. This intervention is unlikely to provide direct assistance to the poorest members of society. But it may encourage private investment in the construction sector, which employs a large

proportion of the urban poor.

7. Trade credit and equity finance for small entrepreneurs. I started this paper with the often heard claims that the poor cannot invest to escape their poverty because they are credit constrained, and they are credit constrained because they lack of collateral. The truth is that most of the poor have limited wealth but also limited skills. Investing in small businesses operated by individuals with limited skills is bound to be both very risky and not very profitable on average. It is therefore unsurprising to find that no widely applicable institutional solution exists anywhere to provide investment lending for poor. Perhaps what small entrepreneurs need is other forms of funding, such as supplier credit for equipment and materials, hire-purchase for vehicles, and equity finance through partners and angels for capital needs – see for instance Fafchamps (2002, 2004) for discussion.

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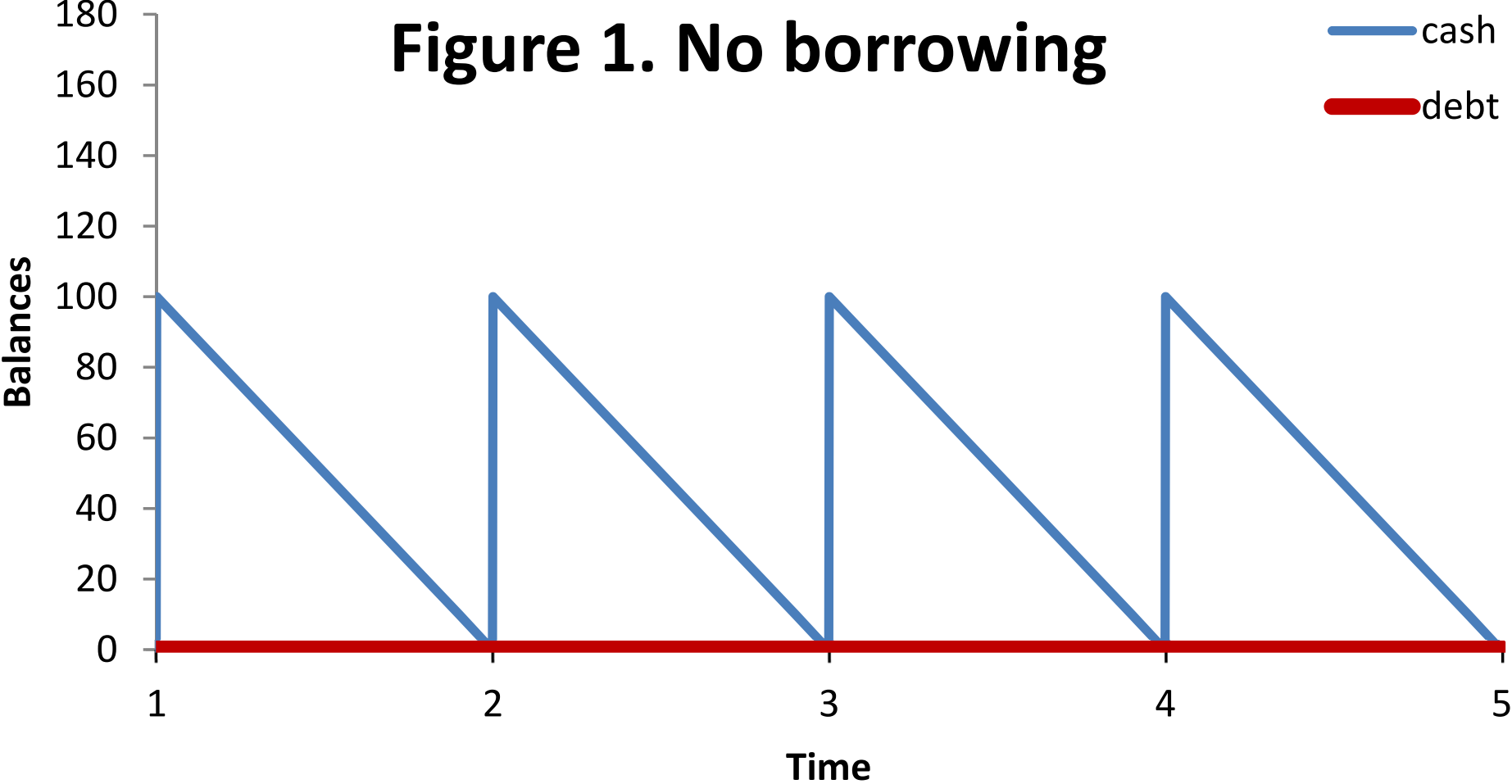
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Figure 1. No borrowing

Figure 2. With borrowing