Lessons on Lending and Borrowing in Hard Times

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Problem loans and highly leveraged transactions have brought home a truth about lending that is easily forgotten in good times: loans sometimes fail, with sad consequences for both borrower and lender. Many existing loans have soured, causing lenders to tighten credit terms on new lending. Meanwhile, borrowers have complained—and policymakers have openly worried—that lenders are refusing sound loans.

New theories about lending and about loan contracts emphasize the difficulties lenders face in ensuring repayment of their loans. According to these theories, the collateral for a loan is not just a back-up source of repayment if the borrower defaults; collateral is also crucial for inducing payments from borrowers who can make them.

Cash-strapped borrowers, when their businesses sour, will often try to put off lenders and keep paying their employees, suppliers, and landlords. In response, lenders will threaten to seize collateral and declare loans in default to ensure they get their fair share of a distressed borrower's cash flows.

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This threat is a blunt instrument that often harms the lender as much as the borrower. After all, the value of the borrower's collateral, particularly during a recession, may be insufficient to repay the loan. But there are other considerations, as well. A foreclosure causes valuable resources to be lost that would not be lost otherwise. Management may lose partial control over the firm because of bankruptcy rules, or spend too much time in court, struggling against creditors and other claimants, and too little time running the business. Customer relationships inevitably worsen as customers begin looking for alternative suppliers. And ultimately, if an otherwise viable borrower is liquidated, valuable relationships between management, employees, and customers are lost.

If a borrower's business is fundamentally sound, its longer-term profitability ought to be the best source to repay the loan. But if the lender forces the borrower out of business, this source of funds is lost.

THE DILEMMA OF FORECLOSURE

In the tale of the goose that laid the golden eggs, the owner foolishly tried to get the goose's prized eggs more quickly by killing it. Lenders are not so unwise; still, they might have to threaten foreclosure as a way to force borrowers to repay. When lenders must carry out their threats, they kill the golden goose—and this is the dilemma of foreclosure.

Unfortunately, standard economic theory had assumed away this dilemma, maintaining that the interests of borrowers and lenders could always be aligned through loan agreements. Consequently, economists believed that inefficiencies associated with loan default were small and that liquidation decisions were always sound. After all, wasn't it true that only firms having no value as going concerns were liquidated?

More recent theories offer less optimistic conclusions about lending. They show that firms having value as going concerns may well be liquidated and that inefficiencies associated with loan default can have important consequences for aggregate economic activity. In particular, the implication is that some loans that would ordinarily be made in good times would not be made in uncertain times. These newer theories are more realistic about the potential for conflicts between borrower and lender; accordingly, they are useful guides—to all parties—for anticipating, and thereby lessening, the pain associated with hard economic times.

Two theories in particular have emphasized the importance, and difficulty, of maintaining the borrower's incentive to repay. The idea is disarmingly simple: if given a choice of how much to repay, a borrower who wishes to maximize profits will always choose to repay the smallest amount. One theory, originated by Robert Townsend,[1] underscores the lender's ignorance, relative to the borrower, of the borrower's net worth. The other theory, originated by Oliver Hart and John Moore,[2] emphasizes the borrower's control over cash flows (the revenues that flow to the borrower from sales of products and services).

TOWNSEND: LOAN CONTRACTS REDUCE INFORMATION COSTS

Townsend's model stresses the cost to investors of obtaining financial information about borrowers. Before granting a loan, outside financial investors must first obtain detailed information about the firms seeking finance. This information extends to the firm's products and services, the customer base, marketing

[1]Robert M. Townsend, "Optimal Contracts and Competitive Markets With Costly State Verification," *Journal of Economic Theory* 21 (1979) pp. 265-93.

[2]Oliver Hart and John Moore, "Default and Renegotiation: A Dynamic Model of Debt," MIT Working Paper (August 1989).

data, advertising plans, management, alternative financial resources, plant and equipment, labor resources and costs—in short, a detailed financial analysis and forecast. And until the financing is actually in hand, the firm has a strong incentive to provide investors with satisfactory information.

But once the investment is made, the investors may not be well positioned to keep informed about a firm's net worth. Information gathering is a costly procedure, requiring, at a minimum, an audit of current assets and liabilities, an explanation of variances between planned income and expenses and the results achieved, and an evaluation of future profit prospects.

The loan contract, according to Townsend, minimizes this informational cost by specifying a fixed dollar amount that the borrower agrees to pay; as long as repayment is made, no further financial investigation is required. If the borrower fails to repay, however, the lender investigates the borrowing firm, learns of its net worth, and seizes its assets up to the value of the debt plus the cost of the investigation. A solvent borrower will have a strong incentive to repay, as long as the costly investigation following default makes a solvent borrower worse off. The loan contract thus minimizes the cost of post-investment financial investigation while preserving the incentive to repay.[3]

The Defaulting Borrower Pays a Penalty. In practice, a borrower who fails to make timely repayments faces the threat of loan foreclosure and seizure of collateral. (See the box on p. 16 for a discussion of collateral.) Although the borrowing firm can partially protect itself by seeking bankruptcy protection, its business and plans become subject to legal restrictions and scrutiny by the lender. Such constraints, not to mention the loss of reputation and goodwill that bankruptcy may entail, can hurt the firm. The key consequence of default, as required by Townsend's theory, is that the borrower pays a penalty:[4] a loss of asset value. The penalty can be imposed on borrowers through various methods—loan workouts, liquidation, takeover of the firm by an outside administrator acting on behalf of creditors, or seizure and selling of collateral. (The practical steps on the road to liquidation are briefly defined in the box on p. 17.)

Let's take, as an example, an investment in a fictitious computer chip manufacturer, Custom Chip. Custom Chip's value is only partially its factory and inventory of materials and chips; much of its value is its new *ideas* for chips. Only an expert in the computer chip business can know how much Custom Chip's value increased—or decreased—in a given period. One way to find out might be to auction off Custom Chip's patents, its chip-design department, and its manufacturing plant (as would happen in a liquidation). But doing that would destroy the firm.

If Custom Chip owes its lender $2 million, then as long as the firm's true value is greater than $2 million, the owners will have a strong incentive to repay the debt rather than risk having the firm thrust into bankruptcy. The

[3]Townsend's model can best be understood by comparing the loan contract with a venture-capital contract, whereby the investor expects to receive a share of the venture's net worth. This financing contract repays the investor an amount depending on the firm's net worth; if the investor is ignorant of the firm's position, the owner, in an effort to minimize the repayment, will likely claim that the firm has low net worth. As a result, this type of contract requires the investor to always know the firm's net worth—which is costly information to obtain—and is likely only when the investor takes a large stake in the firm and the venture shows potential for substantial returns. Venture capitalists invest relatively large stakes in small start-ups and follow them closely.

[4]For a precise specification of how the losses of collateral associated with liquidation relate to the optimal debt contract, see Jeffrey M. Lacker, "Collateralized Debt as the Optimal Contract," Federal Reserve Bank of Richmond Working Paper 90-3 (March 1990).

threat of foreclosure enforces the loan repayment and means that the lender need not pay computer consultants to analyze Custom Chip's value. However, if Custom Chip cannot or will not repay the $2 million, the lender may have to declare a default and thrust Custom Chip into bankruptcy.

The high cost of default is most obvious when the lender seizes collateral. The collateral is then no longer available to the borrower, who was actively using it, and it goes to a lender, for whom it has no direct use. The borrower loses by not having use of the collateral, which is often necessary to doing business. In addition, the lender incurs costs in seizing, storing, and selling the collateral. And as the lender has no special expertise with the collateral, its value may deteriorate further while in the lender's possession.

Lender Must Carry Out the Threat. In Townsend's model, the story ends there. Once default occurs, the lender must carry through the threat of foreclosure and seize the collateral. Thus, Townsend's theory predicts that costly bankruptcies will arise from the existence of debt contracts—and that firms having more value as going concerns than in liquidation may be liquidated solely because they cannot pay their debts. If lenders chose instead to renegotiate the terms of the loan, then borrowers would lose their incentive to repay. Unfortunately, by foreclosing on borrowers who are potentially viable, the lenders may lose their best

Are You Sure It's Collateral?

Collateral may be any asset of the borrower. Physical assets would be land, plant, equipment, and inventory. Financial assets would include receivables (customers' promises to pay) and financial securities (stocks and bonds).

However, collateral is of value only to the extent that the lender can actually claim, seize, and dispose of it in the event of default. For most borrowers, collateral is property that is a functional part of the business, and its value varies with the business's ups and down. Then there are other important assets—customer goodwill and other future profit opportunities, for example—that are intangible and cannot be used as collateral because the lender cannot seize and sell them.

Establishing a clear claim to collateral is not always easy. Lenders must follow procedures, set forth in the Uniform Commercial Code, to ensure that their claim is valid. In essence, this requires clearly identifying the collateral, making sure that no one else has a prior claim to it, and making public the lender's claim. This process is called securing and perfecting collateral. If not crucial to the borrower's business, the collateral may actually be held by the lender. However, very often the collateral is integral to the borrower's business and cannot conveniently be held by the lender.

Numerous anecdotes attest to the problems that can arise with collateral. In one instance, the collateral was salad oil, held in vats. When default occurred, the vats turned out to contain water with a thin film of oil on top. In another instance, collateral was mineral rights and a car. But the borrower, it turned out, had never bought the mineral rights, and when the lender came to collect the car, he found that it had already been sold.

A cattle rancher pledged five steers as collateral for a loan, but none of the steers was specifically identified as such. Just before the rancher defaulted, five steers left the herd and, caught in a lightning storm, sought shelter under a tree. The tree was struck by lightning and the five steers died. The rancher was able to argue successfully that the bank's claim was to the five dead steers.

Collateral often deteriorates in value when the firm's lines of business deteriorate. When oil prices slumped in 1986, drilling rigs fell in value. When retail sales slumped in 1990, the value of unsold merchandise declined along with them. If a firm's sales falter because its customers are in financial straits, the firm's receivables will turn out to have little value.

source of repayment: the borrower's value as an ongoing business.

A partial parallel for the lender's dilemma can be found in the famous Bible story about King Solomon. The wise king was able to discern which of two women claiming to be a baby's mother was telling the truth when he threatened to cut the child in two. Similarly, the lender must threaten to destroy the firm in order to learn the owners' true assessment of its worth. In both cases, the threat must be made in order to learn information. King Solomon, at least, had the advantage of knowing that his threat was only a threat. But in Townsend's model, the lender may discover that the firm cannot repay and that the threat will have to be carried out. And so, a temporary cash shortage can result in business failure when the lender cannot verify that the borrower's problems are indeed temporary.

HART AND MOORE: COLLATERAL MAKES RENEGOTIATION POSSIBLE

A more recent model, by Hart and Moore, explores loan renegotiation as an alternative to liquidating the firm. But unlike Townsend's model, this one assumes that investors have no difficulty maintaining good information about borrowers—only trouble controlling them contractually.

Hart and Moore assume that investors and entrepreneurs begin with the same information and that they always learn new information simultaneously. However, entrepreneurs control cash flows and can always divert them from investors by, say, using cash to pay workers and suppliers instead.

The only commitment entrepreneurs can make is collateral—and lenders can seize collateral if fixed payments are not made. This

The Road to Liquidation: Some Terminology

Bankruptcy - A debtor is afforded relief from its debt under the provisions of the Bankruptcy Code either through a liquidation (Chapter 7 of the Code) or rehabilitation (Chapter 11 for commercial enterprises and Chapter 13 for individuals). In a liquidation proceeding, the assets are collected and distributed by a trustee. In a bankruptcy, lenders cannot seize assets or attempt to collect payments; secured lenders are entitled, eventually, to payments equal in value to their collateral, but unsecured lenders often receive little. Rehabilitation and emergence from bankruptcy proceedings typically involve the consent of creditors and equity holders.

Collateral - Any property of the borrower that secures the debt to a lender. In the event of default, a lender may seize the borrower's collateral; in bankruptcy proceedings, a secured lender has first claim to proceeds from collateral.

Default - A borrower's violation of the loan's terms. Failure to make timely payments or to fulfill other terms, such as providing timely and accurate financial data, constitutes a default. The lender's response—foreclosure of the loan—typically includes the right to demand full loan repayment and the right to seize any collateral specified in the loan contract.

Loan workout - A business plan by which a borrower tries to resolve a problem loan. The business plan is typically an agreement arrived at by the lender and the borrower in an effort to avoid bankruptcy proceedings. Renegotiation of loan payments is often a part of a loan workout.

Liquidation - The collection and disposal of a borrower's assets.

Renegotiation - Resetting the terms of a loan contract, typically involving a delay of payments and often a reduction in interest or principal.

collateral, however, is worth more when left in the hands of the entrepreneur. And if collateral falls in value, as often happens in recessions, the lenders' ability to collect payment decreases.

This theory rests on the idea that the variety of possible events that can affect a business is simply too large and complex to be captured in a contract. Moreover, as contract provisions become more complicated, both writing and interpreting the contract become increasingly expensive. Lenders thus keep financial contracts in a form as simple as possible in order to enforce them at low cost. This allows them control over specific types of collateral, but not over details about cash flows.

By Hart and Moore's reasoning, the owner of Custom Chip will repay the loan as long as the manufacturing plant and inventory of computer chips (as distinct from anticipated future profits) remain valuable. However, if the plant and inventory fall in value, the owner can divert cash and ideas to start up a new firm, defaulting on the original loan, even if current cash flows would suffice to repay it.

Threat of Loss Enforces Repayment. Another example of the role collateral plays in enforcing payment can be found in the mortgage market. Consider Robin House, who is buying a $200,000 house with a 10 percent down payment of $20,000; her debt is therefore $180,000. Initially, the value of the collateral—the house—exceeds the value of the debt by $20,000. The threatened loss of home easily enforces Robin's mortgage payments. But suppose the housing market deteriorates and the home falls in value to $150,000. If Robin values her credit reputation (including assets the mortgage lender might be able to seize) at only $20,000, she has an economic incentive to default on the mortgage: her debt exceeds the value of the collateral plus bankruptcy cost. She may refuse to make mortgage payments even though she can afford them.

Borrowers who lose their incentive to repay when their collateral falls in value frequently do default. It is also true that when borrowers are unable to repay, their collateral is often low in value—and both situations occur for the same reason: a weak economic environment. Consider inventory as collateral. When a firm fails, its inventory will consist of those goods it could not sell at close to the original price. Loans that are overcollateralized when made may be severely undercollateralized when foreclosed on. Yet, this does not mean that the collateral serves no purpose; indeed, it helps ensure repayment during periods in which the borrower *can* repay.

While lenders would prefer collateral with an unshakable value, it is extremely hard to find. Indeed, it is not always easy to put the proper value on collateral in the first place. Collateral may not be as difficult to evaluate as the value of an ongoing concern, but it still may not be straightforward. (See the box at right for difficulties in determining how much the home underlying a mortgage is worth.)

Collateral Is Key to Renegotiation. In Hart and Moore's model, lenders can renegotiate a loan instead of seizing collateral. In a renegotiation, lenders may allow payments to be stretched out or even reduced so as to avoid the losses from seizing collateral. But since only collateral can enforce repayment, the lender will be willing to do this only if the borrower can offer immediate cash and future collateral that are at least as good as what the lender can gain through immediate seizure. If future collateral is inadequate, the lender will foreclose and a viable firm may be lost. Thus, renegotiation only partially solves the dilemma.

Suppose Custom Chip is unable to repay a loan during a period in which profit margins decline because of a recession in the computer industry. The lender has two options. One, it could seize the plant and its inventory of chips. Or two, it could renegotiate—permit Custom Chip to stay in business, accept an incomplete payment of the loan, accept the owner's beach condo, say, for additional collateral, and agree

Who Assumes the Risk in Offers to Pay Closing Costs?

Real estate ads sometimes include the come-on "Seller will pay closing costs." This practice creates the innocent appearance of a generous home seller helping the prospective buyer who otherwise would have trouble making the down payment on the house. But is this practice innocent from the perspective of the mortgage lender? No, because the seller is really being generous with the lender's money.

An offer to pay closing costs actually inflates the house's selling price. To see this, consider a house priced by its owner at $100,000 but whose true market value has fallen to $92,000. In method 1, the standard method, the owner straightforwardly lowers the price by $8,000, to $92,000. In method 2, the owner offers to pay the borrower $8,000 up front by paying the buyer's closing costs.

	Method 1	Method 2
House price	$92,000	$100,000
Down payment	$9,200	$10,000
Mortgage loan	$82,800	$90,000
Closing costs	$8,000	$8,000
Buyer puts up	$17,200	$10,000
Seller gets	$92,000	$92,000

The only difference in the bottom line is that the lender has loaned $7,200 more to the borrower; in both cases, the seller winds up with exactly the same amount of money. But suppose the house falls in value by 10 percent, to $82,800. In the first case, the lender is fully protected, and the borrower has no incentive to default on the mortgage. But in the second case, the lender is likely to take a substantial loss if the borrower defaults on the mortgage—and now the borrower may have an incentive to default because the collateral that the borrower loses is less than the debt the borrower would otherwise have to pay.

to a partial write-down of the remaining debt. However, if Custom Chip cannot come up with some combination of current cash and future collateral that is more valuable than existing collateral, the lender will go with the first option and seize the collateral. So, in this case, although Custom Chip might have a good chance of substantial future earnings, it is unable to realize them because it cannot promise the lender an adequate share of future earnings.

Renegotiations preserve the firm's value. And loans that make renegotiation more possible by preserving repayment incentives are attractive to borrowers as well as lenders. In renegotiation, loans in which borrowers have uncommitted resources to offer the lender are preferable to loans in which borrowers have no negotiating room. In the Custom Chip example, the fact that the owner's beach condo can be put up as collateral helps keep the firm alive. If the owner lacked this resource, renegotiation would be less attractive to the lender.

In 1989, Michael Jensen[5] argued that highly leveraged transactions would not result in bankruptcies because lenders would always be better off renegotiating. In retrospect, Jensen's argument appears incorrect. One reason may be that, in many highly leveraged transactions, the borrowers had very little cash margin, or extra collateral, with which to renegotiate.

LENDING DURING A RECESSION

Lenders' most difficult decisions are made during recessions. For the prospective borrower, access to additional financing may be

[5]Michael Jensen, "Is Leverage an Invitation to Bankruptcy? On the Contrary—It Keeps Shaky Firms Out of Court," *Wall Street Journal*, February 1, 1989.

crucial to survival. But for the lender, recession financing is treacherous. In recessions, the probability of bad economic outcomes is higher than at other times, and inefficient, costly bankruptcies and liquidation are more likely.

Unless lenders have established procedures for commanding cash flows from troubled borrowers, they will be unable to lend profitably during recessions, when cash flows become more questionable. Collateral is crucial—both as an ultimate source of repayment and as a threat to command repayment. But in recessions, collateral—unfortunately—becomes less reliable.

Loan Contracts Are Less Efficient in Recessions. According to both of the models just discussed, firms with going-concern value may be shut down if loan repayments cannot be made. This is more likely to occur during recessions, when demand falls and cash flows dry up. As a consequence, loan contracts are more likely to lead to inefficiency during bad times than in good times, since bankruptcies and liquidations are more likely. Thus, the practice of making fewer loans in a weak economy is consistent with these theories.

Several other points about lending during a recession fall out of these models:

1. *More collateral will be required to further ensure repayment, although this makes borrowing more difficult.* During a recession, the increased risk that collateral will fall in value means that lenders will need larger amounts of it to maintain the borrower's incentive to repay. Inevitably, more potential borrowers will find that they lack the collateral necessary for the loan they're seeking.

2. *More documentation will be presented, and past lender-borrower relationships will be more important.* Lenders should attempt to know more about borrowers during recessions because default is more likely—and more expensive—when lenders are relatively ignorant. This makes it doubly hard on borrowers whose normal lenders themselves become cash constrained; for borrowers to exchange a lender who knows them well for one who does not will be expensive, if not impossible. Detailed and accurate record-keeping may make the difference in whether new financing is obtained.

3. *Noncredit terms on loans will tighten.* Tightening noncredit terms for borrowers may make it harder for them to qualify for loans, but at least lenders will be able to continue making profitable loans in hard times. For example, in a weak real estate market, lenders should require higher down payments on mortgages and be particularly wary of techniques home sellers may use to foist greater risk on the lender.

In addition, lenders may demand more *covenants* to their loans. Loan covenants are legal conditions added to the loan contract that permit the lenders to declare loans in default. Some covenants constrain managerial discretion; others specify standards of continued creditworthiness. Covenants increase the lender's ability to seize collateral while it retains much of its value.

RENEGOTIATION IN RECESSION

Hart and Moore's model also has implications for what borrowers and lenders can expect from loan renegotiations during a recession. The lender's purpose in renegotiating a loan is to achieve new combinations of cash and collateral that leave the lender better off than under the previous agreement.[6] For example, a lender will write down an unsecured loan,

[6]This article assumes that a firm's lenders are acting in concert. A natural tension between lenders often emerges in loan renegotiations, and the presence of many independent lenders may complicate renegotiation outside the framework of bankruptcy court. A lender acting independently should be cautious about infringing on the rights of other lenders; indeed, obtaining a preference over other lenders can be reversed if bankruptcy actually occurs. Worse yet, if the borrower is viewed as being in a lender's control, that lender may become liable to other lenders for the borrower's debts.

forgiving part of the debt to obtain collateral and immediate cash under a new agreement.

Conversely, borrowers should realize that in times of a weak economy, failure to repay a loan is likelier to have serious consequences—collateral may be seized, for example. In assessing their possibilities for a successful renegotiation, borrowers should review those assets that may be used for cash and collateral.

Lenders are best off pushing for low-risk operation of the firm. A debt-burdened borrower has a strong incentive to divert funds at the lender's expense.[7] To counter this, the lender will—in what is called a "loan workout"—actively negotiate the borrower's business plan to maximize the probability of receiving cash flows. In the loan workout, the lender should push to err on the side of safety and carefully monitor the borrower's expenses and receipts to see whether the borrower is adhering to plan. (A bank that handles a borrower's transactions is often well positioned to conduct a loan workout because it can best observe the borrower's behavior.) Cutting costs to conserve cash should almost always be part of a workout plan. A borrower who must give up something during renegotiation is less likely to default frivolously.

Both parties to the renegotiation should recognize the fundamental importance of good information. A strong relationship between lender and borrower and full, open communication are crucial to sound loan renegotiations. In a renegotiation, lenders often demand more information than in the initial loan process. Borrowers should recognize that, lacking good information, lenders ought not to make concessions in a renegotiation.

[7]See Leonard I. Nakamura, "Loan Workouts and Commercial Bank Information: Why Banks Are Special," Federal Reserve Bank of Philadelphia Working Paper 89-11 (February 1989).

A final but crucial point following from the logic of Hart and Moore's model is one more pertinent to planning for the next recession than surviving the current one. When embarking on a relationship with a lender, borrowers too often care only about the short term, believing that all will be fine if only the lender grants the loan request. But borrowers ought to be forward-thinking, too, and ask themselves whether the lender will be helpful in hard times or force them to turn elsewhere when loan funds tighten generally. Just as lenders must look for sound borrowers, so should borrowers seek out sound lenders.

CONCLUSION

Recent theories on lending and the loan contract build on the idea that borrowers may lack adequate incentives to repay lenders. One conclusion they share is that loan defaults can have important economic consequences and lead to the failure of otherwise viable businesses. Another conclusion is that noncredit terms of loans can be expected to tighten in recessions.

In a downturn, credit terms to new borrowers normally tighten. The models attribute this tightening to the inherent conflicts that intensify between lender and borrower during recessions. Consequently, lending becomes less efficient and is more likely to lead to foreclosures and real economic losses. By tightening up lending practices, lenders may be able to increase their confidence in repayment and perhaps avoid being excessively conservative in hard times. And by anticipating potential credit problems, borrowers may be better able to minimize them.

Tighter credit terms are unpleasant for the borrower and may reduce the borrower's activity from the original plan. But they may be crucial for borrowing to continue in a tough economic environment.