

Debt Relief for Households in Developing Economies^{*}

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Abstract

Households in developing economies have greater access to formal credit today than at any point in history, owing to the global expansion of microfinance and recent innovations in consumer finance such as digital lending. While this has improved the ability to smooth consumption and invest in productive activities, it has also raised concerns about overindebtedness. Against this background, this paper reviews and extends the literature on debt relief for households in developing countries. We begin by laying out a simple stylized model that illustrates the costs and benefits of debt relief and use the model to guide our review of the evidence on various relief policies, such as debt forbearance, debt forgiveness, and personal bankruptcy. We additionally present survey evidence from a population of microfinance and bank borrowers with recent exposure to debt relief. The results highlight that an important downside of discretionary debt relief policies, which are common in developing countries, is their potential to affect borrower expectations and create moral hazard. The development of legal bankruptcy institutions that offer a rules-based avenue to discharge unsustainable debts is a promising path to alleviate the credit market inefficiencies that have often accompanied debt relief initiatives in developing economies.

Keywords: Debt relief, debt forbearance, personal bankruptcy, moral hazard

JEL: G51, G18, G21, D15, H81

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1 Introduction

Households in developing economies have greater access to formal credit today than at any point in history, owing to the global expansion of microfinance and innovations in consumer credit such as digital lending (World Bank, 2021). While improved access to credit has clear benefits for consumption smoothing and the ability to invest in productive activities, it also means that households are saddled with higher levels of debt that they may be unable to repay in the event of an unanticipated economic shock.¹ The financial stability risks associated with elevated levels of household debt have become evident in recent crises that were accompanied by widespread microfinance and consumer loan defaults (Breza and Kinnan, 2021; Mian and Sufi, 2011; Mian et al., 2017), and have prompted an active debate about the need for debt relief and improved insolvency institutions — particularly in developing economies where formal mechanisms for debt resolution are often underdeveloped or entirely unavailable.

How can policymakers best design debt relief policies for households in developing countries? In this paper, we review and extend the available evidence on different forms of debt relief and their impacts on borrower behavior and the credit market as a whole. Throughout this paper, we use the term microfinance broadly to encompass microcredit as well as other increasingly important forms of consumer credit that have, in many cases, blurred the lines between individual liability microfinance and conventional consumer lending (Karlan and Zinman, 2009; de Quidt et al., 2018).

We start by introducing a simple conceptual framework that clarifies the costs and benefits of debt relief from the perspective of borrowers and lenders. We extend the basic model to explore two types of policy variations. First, we examine how the credit market reaction to debt relief policies is altered when the policy is rules-based rather than discretionary (e.g., legal bankruptcy institutions versus ad hoc debt relief). Second, we explore how the predicted credit market impacts of debt relief differ when the costs of debt relief are borne by governments versus creditors. The model highlights that one important mechanism through which debt relief policies can create inefficiencies is their potential effect on borrower and lender expectations.

Guided by this framework, we review the existing evidence on debt relief. In our review, we contrast evidence on institutionalized forms of debt relief, such as personal bankruptcy, with evidence on discretionary forms of debt relief, such as one-off debt forbearance, debt restructuring, and debt forgiveness programs, which are common in developing economies. We distinguish between temporary debt relief policies, such as forbearance, and permanent debt relief policies, such as debt restructuring or debt forgiveness. Beyond formal debt relief, we also consider *de facto* debt relief that can result from loan default or inflation. For each policy, we examine the impact of debt relief on borrowers' short-term and long-term debt repayment obligations and future access to credit, the costs of the policy to the lender, as well as potential effects of the policy on credit market expectations in light of our framework.

We conclude by presenting survey evidence that explores how debt relief shapes borrower expectations. We conduct a survey that takes advantage of a unique policy setting in India, where microfinance and bank borrowers were eligible for both debt forbearance and debt forgiveness programs in the

¹ Between 2008 and 2017, household debt-to-GDP in emerging economies increased from 15 to 21 percent (International Monetary Fund, 2017).

immediate aftermath of the Covid-19 crisis. We elicit first and second order beliefs about how debt relief affects future repayment, borrowing, and expectations of future relief. We compare responses for debt forgiveness and forbearance, as well as for beneficiaries and non-beneficiaries of debt relief.

Overall, a majority of respondents report that debt relief would make them more likely to repay, apply for, and be approved for future loans. This suggests anticipation of improved repayment capacity, and is contrary to widespread concerns about moral hazard in response to debt relief (see, for example, [Giné and Kanz 2018](#) and [Fiorin, Hall and Kanz 2023](#)). Interestingly, respondents are more likely to report anticipating applying and receiving credit when offered debt forbearance instead of debt forgiveness. This is consistent with borrowers associating less stigma with forbearance compared to forgiveness, perhaps because forbearance is seen as a chance to prove their creditworthiness. Non-beneficiaries report debt relief policies make future debt relief more likely while beneficiaries report such policies make future relief less likely.

Our exploration of debt relief in developing countries begins with the observation that there are several important differences in the economic environment that shape how households in advanced and developing economies accumulate and resolve debt. Households in developing economies differ in terms of the economic activities they are engaged in, the nature, frequency and seasonality of economic shocks they face, as well as the financial contracts that are available to them to mitigate risks and smooth consumption. Similar to low-income households in advanced economies, households in developing economies frequently engage in repeated formal and informal borrowing at high interest rates and are therefore especially vulnerable to persistent debt traps ([Banerjee and Duflo, 2007](#); [Karlan et al., 2019](#); [Badarinza et al., 2019](#)).² Because many households in developing economies are producers as well as consumers, barriers to the reduction of unsustainable debts affect not only consumption but also have consequences for investment incentives and productivity (see [Myers, 1977](#); [Krugman, 1988](#)).

There are also important differences in the institutions for debt resolution available to households in advanced and emerging economies. Many advanced economies offer some form of personal bankruptcy as a rules-based form of debt relief for households in financial distress. In the US, for example, households obtain more than \$450 billion in debt relief through the personal bankruptcy system each year, with nearly one in ten households having filed for bankruptcy at some point ([Keys, 2018](#); [Dobbie and Song, 2015](#)). Where personal bankruptcy is available, it functions as an important social safety net. When households lack insurance against adverse events such as job loss and illness, the option to discharge debt in bankruptcy acts as a de facto source of insurance. Estimates from the US find that the insurance value of bankruptcy is large, equaling 58.4% of annual consumption for the marginal bankruptcy filer ([Indarte, 2023](#)). In contrast, most developing economies lack an effective personal bankruptcy system. More than half of all emerging economies have no laws that provide for the discharge of an insolvent individual's debt and even where personal bankruptcy laws exist, overburdened courts often make it difficult for households and small businesses to obtain debt relief.

Newly available data on household balance sheets shows that despite these differences, there are nonetheless some striking similarities in the finances of households in advanced and emerging economies. Households in advanced and emerging economies are, for example, remarkably similar in

² See, for example, [Bertrand and Morse \(2011\)](#) and [Skiba and Tobacman \(2019\)](#) on debt traps and payday lending in the US.

their very limited ability to absorb income shocks. Approximately half of all households in emerging and advanced economies lack sufficient liquid assets to sustain consumption and debt payments for more than three months in the event of an income loss —40% in advanced economies, 50% in emerging economies (Badarinza et al., 2019).³ This figure is practically identical at the one-year mark and highlights the importance of effective debt resolution mechanisms, given the rapidly increasing participation of low-income households in the formal credit market.

Our conceptual framework explores how differences in the type and extent of debt relief available to households shape credit market outcomes and borrower expectations. In the model, we contrast the effects of rules-based debt relief with those of discretionary debt relief policies. Because personal bankruptcy institutions are largely absent in developing economies, most debt resolution occurs through *ad hoc* debt relief programs initiated by governments, regulators, or financial institutions, rather than rules-based relief through an established legal bankruptcy process. While such one-off policies may be preferable to the alternative of no debt relief, they have a number of drawbacks relative to an institutionalized bankruptcy process. When debt relief is governed by discretion rather than rules, debt relief policies can distort credit markets by altering expectations about the availability of relief in the future. Such expectations can create moral hazard, depending on who ultimately bears the cost of debt relief. When creditors anticipate compensation from the government for forgiving or restructuring debt, this weakens incentives to lend judiciously. Credit supply may increase in anticipation of future debt relief. These increases can be inefficient when creditors do not internalize costs borne by taxpayers who end up subsidizing risky lending. When anticipated debt relief instead reduces penalties for default, and creditors bear the costs of default, moral hazard on the part of borrowers can increase ex ante demand for credit and ex post default. However, anticipating more default motivates creditors to restrict lending ex ante, thus limiting access to credit. Our review of the literature explores to what extent the predictions of our simple model match the empirical evidence on debt relief, borrower expectations, and moral hazard.

The remainder of the paper proceeds as follows. Section 2 lays out a stylized model of debt relief and presents comparative statics describing the effects of debt forbearance and debt restructuring under alternative model assumptions. In section 3, we discuss the various types of debt relief programs implemented in practice and review the existing evidence on the effect of these programs. Section 4 presents evidence on the effects of debt relief on borrower expectations, using survey data from a population of microfinance borrowers with recent exposure to debt relief. Section 5 discusses promising directions for future research and concludes.

2 The Costs and Benefits of Debt Relief: Conceptual Framework

This section presents a simple model of consumer borrowing, default, and debt relief policies that builds on Indarte (2022, 2023). We use the model to highlight differences in the costs and benefits of different debt relief policies.

³ See also Badarinza et. al. “How has the pandemic affected household finances in developing economies?” Economics Observatory Blog, June 2021.

We first contrast ad hoc and institutionalized forms of debt relief. Ad hoc policies are relatively more common in developing economies. They are introduced unexpectedly and, when implemented, can lead households beliefs to change, and raise expectations that debt relief is likely to be offered again in the future. Institutionalized debt relief entails governments and regulators committing to a specific set of rules governing who bears the costs of default.⁴ For example, consumer bankruptcy systems in advanced economies typically outline what kinds of debt can be discharged and the extent to which filers must compensate creditors. The costs of default are therefore transparent and predictable for debtors and creditors alike.

The second type of policy variation we consider is *who* bears the cost of default. We begin by focusing on policies where debt relief results in a transfer from creditors to borrowers. There are a variety of ways such policies can be implemented in practice, but for concreteness we formulate this first policy as debt forbearance. The second policy variety instead transfers resources from non-defaulting taxpayers to creditors and borrowers in the form of subsidized debt forgiveness. The crucial difference between these policies is how they impact creditor incentives to lend. When creditors bear the costs of debt relief, and if ad hoc relief increases expectations of future relief, creditors will restrict their lending to reduce future losses. In contrast, when creditors are compensated for their losses, this makes them more willing to lend.

Benchmark Model. A group of households live for two periods, $t \in \{1, 2\}$. They begin period 1 with legacy debt b_1 which has cumulative distribution function $\mathcal{B}_1(\cdot)$. At the beginning of each period, they learn their income y_t , which is i.i.d. and has distribution $\mathcal{Y}(\cdot)$.

Each period, households choose consumption, borrowing, and whether or not to default on their initial period 1 debt. Default in period t entails a utility cost $\sigma_t > 0$ and also precludes the household from accessing financial markets to borrow or save. When repaying in period 1, households are able to access financial markets and borrow or save using one-period bonds b_2 , with interest rate $R_2(b_2, y_1, E(\sigma_2)) = \frac{1}{q_2(b_2, y_1, E(\sigma_2))}$. We assume the interest rate is increasing in the amount borrowed (b_2), decreasing in income (y_1), and decreasing in the expected cost of default ($E(\sigma_2)$).⁵ We assume that all agents in the economy have the same beliefs about the expected cost of default. We denote consumption when repaying by c_t^r and, when defaulting, by c_t^d . Budget constraints when repaying and defaulting are given by

$$\begin{aligned} c_1^r &= y_1 - b_1 + q_2 b_2 & c_1^d &= y_1 \\ c_2^r &= y_2 - b_2 & c_2^d &= y_2. \end{aligned}$$

We model default similarly to [Bornstein and Indarte \(2023\)](#) in that default corresponds to missing a payment and the act of defaulting does not give the borrower a “fresh start” in the sense of erasing their debt. This makes default in our model more similar to delinquency than bankruptcy. After learning their period t income, each household chooses whether to repay or default in order to maximize their expected utility, subject to their budget constraint and taking the menu of interest rates as given.

⁴ We model differences between ad hoc and institutionalized policies similarly to [Auclert and Mitman \(2022\)](#).

⁵ One could microfound these assumptions using a setting similar to [Chatterjee et al. \(2007\)](#).

Utility from consumption in each period is $u(c_t)$, where $u(\cdot)$ is a strictly increasing and strictly concave function. Formally, households solve

$$V_t(y_t, b_t) = \max\{V_t^r(y_t, b_t), V_t^d(y_t, b_t)\}.$$

where their payoffs from repaying and defaulting each period are:

$$\begin{aligned} V_1^r(y_1, b_1) &= \max_{b_2, c_1^r} u(c_1^r) + E[V_2(y_2, b_2)] \\ V_2^r(y_2, b_2) &= u(c_2^r) \\ V_1^d(y_1, b_1) &= u(c_1^d) - \sigma_1 + E[V_2(y_2, b_1)] \\ V_2^d(y_2, b_2) &= u(c_2^d) - \sigma_2. \end{aligned}$$

The Household Default Decision. The household defaults when their expected payoff from doing so is higher than the payoff from repayment. In period 2, default happens when

$$V_2^d(y_2, b_2) \geq V_2^r(y_2, b_2),$$

which occurs when

$$u(y_2) - \sigma_2 \geq u(y_2 - b_2).$$

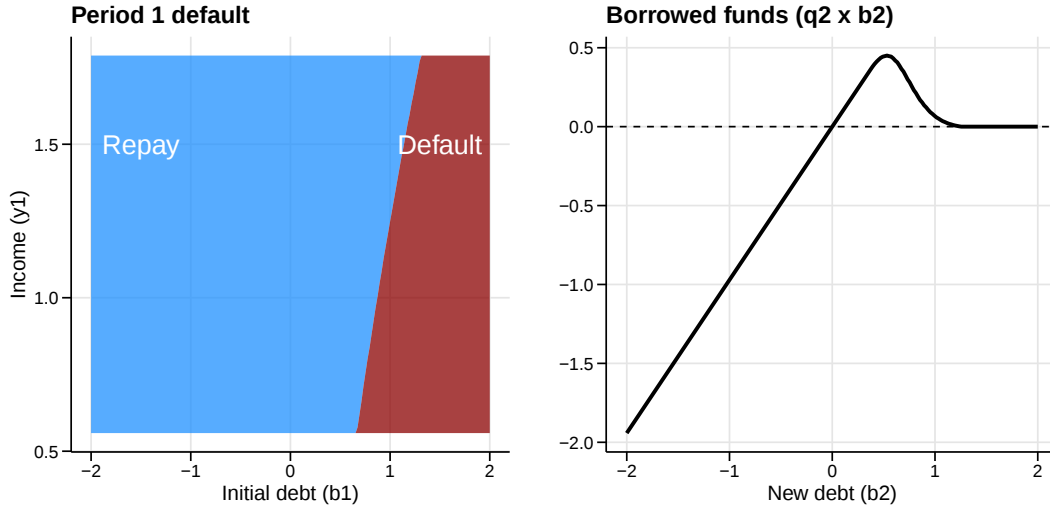
Default occurs when income falls below a threshold $y_2^*(b_2)$, which depends on the household's level of debt. More debt makes default more desirable at every level of income, so that the threshold is increasing in debt. The threshold is the value of income such that the above inequality holds with equality. Similarly, period 1 default is characterized by a threshold rule, where default occurs when income is below $y_1^*(b_1)$ where $y_1^*(b_1)$ satisfies

$$u(y_1^*) - \sigma_1 + E[V_2(y_2, b_1)] = \max_{b_2} u(y_1^* - b_1 + q_2 b_2) + E[V_2(y_2, b_2)]. \quad (1)$$

Figure 1 plots an example of period 1 default and borrowing behavior in equilibrium. The graph on the left hand side of the figure plots the regions in which the household opts to default as a function of debt and income. At low levels of debt, even low-income borrowers avoid default. But as debt rises, default becomes more likely at all levels of income. At high levels of debt, the income threshold at which households default rises.

The graph on the right hand side of Figure 1 illustrates how default risk limits equilibrium borrowing. The amount of new borrowing in period 1 ($q_2 b_2$) is initially increasing with the amount of debt promised to be repaid in the future (b_2). However, as future payments grow larger, creditors anticipate that default will be more likely in the future. Endogenously, the interest rate rises with new borrowing, as default risk grows. Borrowing begins to level off and eventually decreases to zero as the promised repayment b_2 grows. The rise of the endogenous interest rate in response to higher default risk means that household effectively face an endogenous borrowing constraint.

Figure 1: Equilibrium Properties



2.1 Debt Forbearance

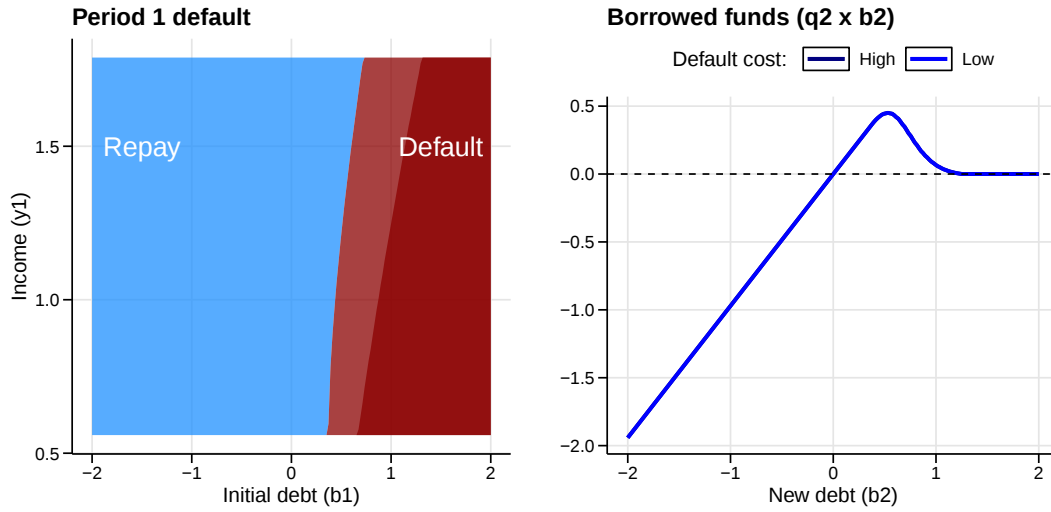
We first use the benchmark model to study the effects of debt forbearance. We model debt forbearance as a decrease in the cost of default. Intuitively, this reflects how forbearance enables households to pause payments, effectively defaulting, with reduced penalties. Specifically, we model ad hoc forbearance as a one-time, unexpected decrease in the period 1 default cost, σ_1 . Although we do not model the lender's problem explicitly, for simplicity, we interpret forbearance-induced decreases in default costs as being zero sum, resulting in lower creditor recoveries in default. This captures how forbearance transfers resources from creditors to borrowers by reducing nonpayment penalties as well as the creditor's expected net present value of loan repayments by delaying repayment.

We initially assume that changes in period 1 default costs (σ_1) do not affect beliefs about future default costs ($E(\sigma_2)$). We will later relax this assumption.

Figure 2 illustrates the effects of the debt forbearance policy on defaulting and borrowing. The left hand side graph shows that reduced period 1 default costs make period 1 default more likely, shifting the default region to the left. By holding constant initial debt b_0 , the change in period 1 costs are effectively a surprise to both borrowers and lenders. As such, there is no scope for initial debt b_0 to adjust in response to this ad hoc debt relief policy. If creditors knew prior to period 1 that default costs would decrease in period 1, they would prefer to lend less. However, the surprise element of this policy means that they do not curtail their lending in anticipation. Such an anticipatory credit contraction would limit ex post default, as lower debt weakens the incentive to default.

Equilibrium borrowing typically does not change or may slightly increase, depending on the persistence of income. The right hand side graph of figure 2 shows a scenario where income is not persistent, which results in borrowing limits ($q_2 b_2$) remaining unchanged as a function of new debt (b_2). Without income persistence, future default only depends on the amount borrowed and the cost of default. However, without beliefs about period 2 default costs changing, there is no anticipated change in period 2 default, and credit access in period 1 is unchanged.

Figure 2: Effect of Lower Default Costs on Default and Borrowing



However, if instead income were persistent, borrowing limits could *increase*. This comes from a reduction in adverse selection facing creditors. Only non-defaulting households may borrow, and when the lowest income non-defaulters switch to defaulting due to the decline in period 1 costs, average income among the pool of non-defaulters is higher. Persistent income means that these households are expected to have higher income in period 2 as well, and would thus be less likely to default.

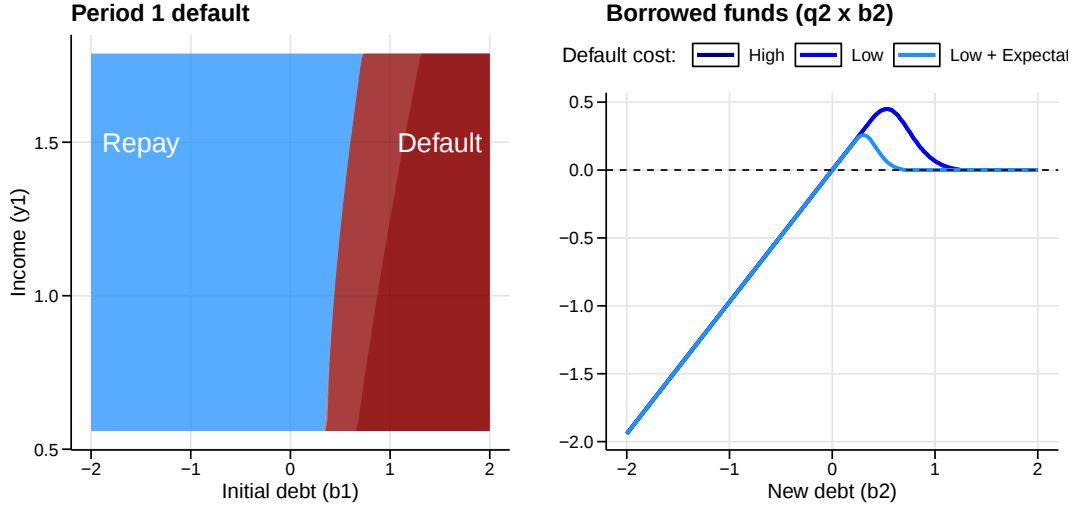
Debt Forbearance when Beliefs Change. Now, suppose that the unexpected decrease in period 1 default costs leads everyone to expect forbearance in period 2. Specifically, expected default costs in period 2 $E(\sigma_2)$ also decrease by the same amount when period 1 costs, σ_1 , decrease.

The expectation of future forbearance changes household and lender behavior in several ways. Lower future default costs make future default more likely, all else equal. Anticipating this, period 1 creditors require a higher interest rate to compensate for this increase in risk. In general, equilibrium borrowing may rise or fall. Demand for debt increases as its expected, effective cost falls when default is less costly and more likely. However, the supply of debt decreases as expected creditor losses grow.

Figure 3 plots how period 1 default and credit access react when forbearance also increases expectations of future forbearance. The left hand side graph shows that period 1 default increases slightly for low-income households. These are households that, absent the change in beliefs, would have avoided default and instead borrowed substantially. However, because credit access decreases (right graph), these households now prefer to default in period 1 instead of paying extremely high interest rates.

The primary social cost of expanded forbearance is this reduction in credit supply. Although the cost of this increase in default is borne directly by creditors, non-defaulting households ultimately bear much of these costs, as their cost of credit access rises. The more forbearance policies increase expectations of future forbearance, and the more sensitive credit supply is to default risk, the more costly forbearance becomes.

Figure 3: Effect of Lower Default Costs on Default and Borrowing when Beliefs Change



2.2 Debt Forgiveness

We next extend the model to examine the effects of debt forgiveness programs, a common type of debt relief extended to bank and microfinance borrowers in developing countries.

Model with Debt Forgiveness. We allow the government to forgive a portion of household debt, up to an amount $s_t > 0$ in each period. Here, we consider a one-time debt forgiveness policy. Those with debt below s have their entire debt forgiven. We denote the amount forgiven by

$$\tilde{s}_t = \begin{cases} 0 & : b_t > 0 \\ b_t & : b_t \in [0, s] \\ s_t & : b_t > s \end{cases}$$

We assume that debt forgiveness is funded by lump-sum taxes τ_t that are levied on non-defaulting households. In practice, the financing of debt relief could come from a variety of sources. Namely, these alternatives include government borrowing or cuts to other government-financed activities. Financing household debt relief with an increase in sovereign debt can have similar costs to taxation when households take into account expectations of higher future taxes to repay sovereign debt. Sovereign debt-financed household debt relief can have a milder impact than taxation on non-defaulting households if these households have a higher discount rate than the government. However higher sovereign debt may increase the risk of sovereign default, which can have significant real economic costs ([Hébert and Schreger, 2017](#)). When financed by cutting other government spending, the size and incidence of these costs will vary by context. For simplicity, we abstract away from explicitly modeling these additional costs and focus on taxation. What is important for our analysis below is that the cost is not directly borne by the lender.

The defaulting household's budget constraints remain unchanged, but repaying households now

pay taxes τ_t and receive debt forgiveness $\tilde{s}_t$. In this environment, households solve the following problem:

$$V_t(y_t, b_t) = \max\{V_t^r(y_t, b_t), V_t^d(y_t, b_t)\}.$$

where their payoffs from repaying and defaulting each period are:

$$\begin{aligned} V_1^r(y_1, b_1) &= \max_{b_2} u(y_1 - \tau_1 - b_1 + \tilde{s}_1 + q_2 b_2) + E[V_2(y_2, b_2)] \\ V_2^r(y_2, b_2) &= u(y_2 - \tau_2 - b_2 + \tilde{s}_2) \\ V_1^d(y_1, b_1) &= u(y_1) - \sigma_1 + E[V_2(y_2, b_1 - \tilde{s}_1)] \\ V_2^d(y_2, b_2) &= u(y_2) - \sigma_2. \end{aligned}$$

As before, the default decision follows a threshold-style rule each period. At the threshold, households are indifferent between defaulting and repaying. The period 1 and 2 thresholds, y_1^* and y_2^* , respectively, are now characterized by:

$$\begin{aligned} \max_{b_2} u(y_1^* - \tau_1 - b_1 + \tilde{s}_1 + q_2 b_2) + E[V_2(y_2, b_2)] &= u(y_1^*) - \sigma_1 + E[V_2(y_2, b_1 - \tilde{s}_1)] \\ u(y_2^* - \tau_2 - b_2 + \tilde{s}_2) &= u(y_2^*) - \sigma_2. \end{aligned}$$

We require the government balance its budget every period. This implies that, each period, total tax revenues equal total debt forgiveness payments, that is:

$$\tau_t \left\{ 1 - \int \mathcal{Y}[y_t^*(b_t)] d\mathcal{B}_t(b_t) \right\} = \int_0^{s_t} b_t d\mathcal{B}_t(b_t) + s_t [1 - \mathcal{B}_t(s_t)].$$

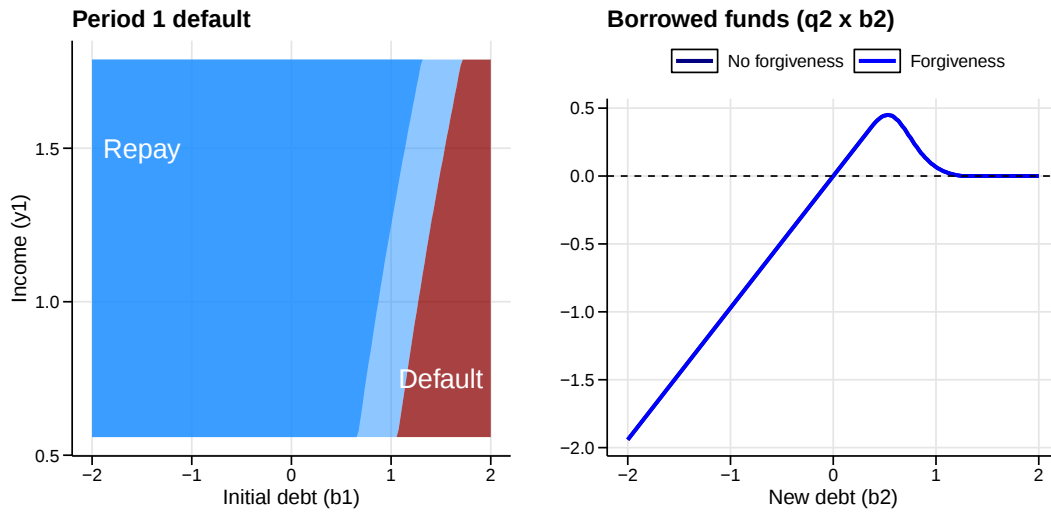
Analysis of Forgiveness Policy. We will now consider and contrast the effects of a one-time, unexpected increase in period 1 debt forgiveness s_1 . As before, we start by assuming that beliefs about future debt relief are unaffected, and will later relax this assumption.

Defaulting households, by definition, are already benefiting from reduced payments by opting not to make them. Instead, households that continue to default despite debt forgiveness primarily benefit from the reduction in their beginning period 2 debt. By reducing the benefits of default, debt forgiveness can reduce default in period 1. Figure 4 illustrates how default thresholds shift in response to debt forgiveness— defaulting after forgiveness requires a larger amount of debt at each level of income.

A possible offsetting channel can arise from the taxation externality. For households on the brink of default, higher taxes tip some of them over threshold and into default. This offsetting channel is even stronger when defaulting households do not pay taxes, as an additional benefit of default effectively becomes avoiding taxes. Generally, when the population receiving debt forgiveness is small relative to the population of taxpayers financing debt forgiveness, debt forgiveness will tend to overall reduce default in period 1.

Similar to the forbearance policy, when expectations about future debt relief are unchanged, households experience no change in credit access. This effectively limits the social cost of the debt

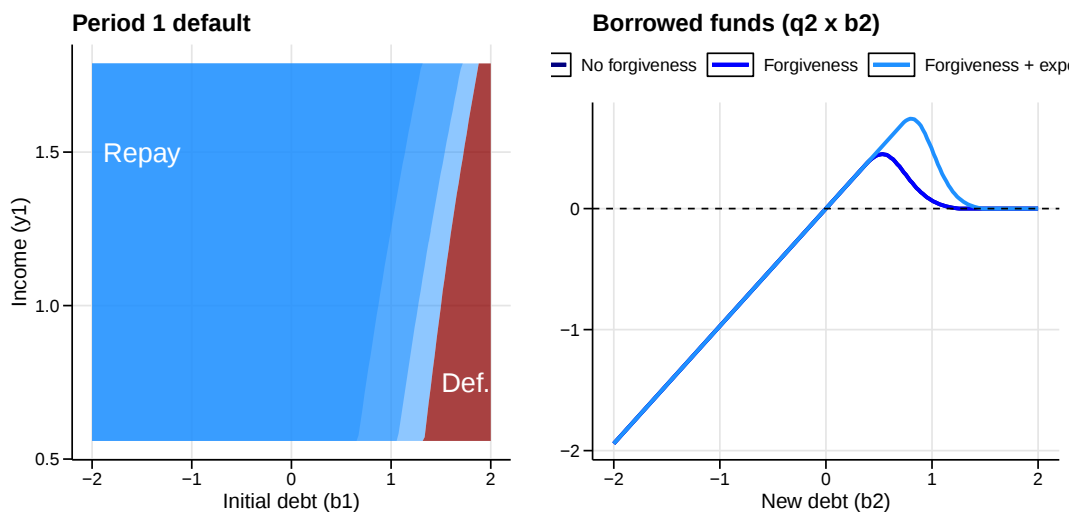
Figure 4: Effect of Debt Forgiveness on Default and Borrowing



forgiveness policy.

Debt Forgiveness when Beliefs Change. Now suppose that debt forgiveness in period 1 increases expectations of debt forgiveness in period 2, $E(s_2)$. Figure 5 shows how this alters the effects of the policy. The right hand side plot shows that credit access *increases* when borrowers and creditors expect future debt forgiveness. Because we consider debt forgiveness where creditors are compensated for writing off loans, creditors are effectively being subsidized when they would otherwise face losses. This results in a moral hazard effect among creditors that expands access to credit in period 1, because taxpayers, rather than creditors, bear the costs of future default.

Figure 5: Effect of Debt Forgiveness on Default and Borrowing when Beliefs Change



This expansion of credit access leads to a further reduction in default, as shown in figure 5. Households that would have defaulted, even with debt forgiveness, now can instead borrow more

and avoid default in period 1.

In our model, such debt forgiveness policies can lead to inefficiently *high* levels lending, stemming from the taxation externality. When creditors losses are subsidized, they fail to internalize the costs of risky lending which, in our model, are instead imposed on taxpayers. Additionally, externalities, not modeled here, can further increase the social costs of creditor moral hazard. For example, recent work shows that expansions of household debt predict and may *cause* economic crises ([Jordà et al., 2016](#); [Mian et al., 2017](#); [Gomes et al., 2018](#)). This line of research has argued that leverage increases financial fragilities and make the default decisions of households more sensitive to economic shocks. Through this channel, higher levels of household debt can amplify initial shocks and make crises more likely and more severe.

2.3 Weighing the Benefits of Debt Relief Against its Costs

The analysis above emphasizes the moral hazard costs of debt relief. If households were perfectly insured against all risks (changes in income, unexpected expenses, declines in asset values, etc.) debt relief policies would have *zero* economic benefits and be purely inefficient and distortionary. Debt relief distorts incentives to repay, and subsidizing creditor losses distorts incentives to allocate credit to its most productive use. Depending on who bears the costs of default, debt relief can cause lending to be either excessively restrictive or excessively available, deviating from the socially optimal level of debt. Restricted credit access reduces welfare by making it harder for households to smooth consumption over time. Excessive credit access, on the other hand, can impose costs on taxpayers who finance debt relief and thus effectively subsidize risky lending. In a world with perfect insurance markets, all forms of debt relief policy discussed here would be inefficient and decrease social welfare on net.

Alternatively, when households face incomplete insurance markets, lacking protection against aggregate and idiosyncratic shocks, debt relief provides an implicit form of insurance that can increase social welfare. Allowing households to avoid making debt payments helps smooth their consumption across different states of the world. It is incomplete insurance markets that make it possible for debt relief to be welfare enhancing. [Bolton and Rosenthal \(2002\)](#) show theoretically that, when macroeconomic shocks are rare, state-contingent debt moratoria improve ex ante efficiency by completing incomplete debt contracts. In the US context, [Indarte \(2023\)](#) estimates that bankruptcy has significant insurance value and limited moral hazard costs. Using a revealed preference analysis, she estimates that households at the margin of filing for bankruptcy anticipate that their consumption would be 58% lower if they did not file for bankruptcy.

Our conceptual framework offers several important insights for designing debt relief policy. First, when countries rely on ad hoc debt relief such as impromptu debt moratoria, as opposed to institutionalized debt relief systems such as bankruptcy, this can entail substantial costs through the distortionary effects of such policies on borrower expectations. Importantly, when countries *transition* to adopting a bankruptcy-like system to facilitate household debt relief, the short-run costs of such policies will have similar costs to ad hoc policies to the extent that they may lead to a change in borrower beliefs. In the long-run, a rules-based system limits the extent to which beliefs fluctuate and impose economic costs.

Second, who bears the costs of default matters because it can distort incentives to provide credit.

Policies that subsidize creditors may be more desirable if policymakers believe that, due to other inefficiencies, lending is excessively restrictive. On the other hand, if policymakers suspect that credit is excessively available, imposing costs on creditors may be desirable to discourage excessive risk-taking.

Third, the welfare benefits of debt relief are larger when households are less well-insured against economic shocks. In particular, the more limited a country's social safety net, the higher the insurance value of household debt relief. This suggests that the returns of extending debt relief are especially high in developing countries, and among microfinance clients and other borrower populations that may have limited access to formal social safety nets.

Finally, since many households in developing countries are engaged in agricultural production or micro entrepreneurship, it has also been argued that debt relief can remove disincentives to productive investment arising from high debt levels (see [Kanz, 2016](#); [Giné and Kanz, 2018](#)). Our model abstracts from this productivity channel, which is especially relevant in rural finance and settings where microcredit is used to finance entrepreneurship ([Banerjee et al., 2019](#)).

2.4 Model Extensions and Directions for Future Research

The framework we present here is highly stylized in order to illustrate the fundamental trade-offs of debt relief policies as transparently as possible. There are many abstractions from reality that we make, some of which have clear implications and others that are less clear and potentially useful directions for future research.

In a quantitative analysis, it would be important to take into account general equilibrium channels that are absent in our partial equilibrium model. In reality, debt relief policy can have important equilibrium effects on output (e.g., [Auclert, Dobbie and Goldsmith-Pinkham, 2019](#); [Auclert and Mitman, 2022](#)). In general equilibrium, declines in consumption become amplified, as reduced demand lowers output and ultimately lowers income.

In practice, it would also be important to take into account differences between advanced and developing economies that may affect key parameters of the model. For example, households' discount rates may be higher in developing economies. This could be due to higher mortality or greater present bias. These higher discount rates could make debt relief more costly in developing economies. All else equal, a stronger preference for present consumption over future consumption increases demand for borrowing and reduces sensitivity to future costs of default, both of which can make default more likely. Therefore, the moral hazard costs of debt relief may be higher.

Another important parameter that may vary with culture is the stigma cost of default. In terms of our model, higher stigma would manifest as a larger σ . Greater stigma makes default more costly, reducing both demand for debt and default risk. More reluctance to default can also result in higher credit supply in equilibrium. With reduced moral hazard, debt relief is less costly. For future research seeking to quantitatively evaluate debt relief policies, context-specific estimates of model parameters would be important for correctly quantifying these trade-offs.

Lastly, differences in behavioral biases across economies may also alter the trade-offs of debt relief. Biases, such as present bias, that result in over-borrowing, may mean that reduced credit access is not always inefficient.

3 Types of Debt Relief and their Effects

This section reviews the different types of debt relief available to households, and the existing evidence on their effects on borrower behavior and access to finance. There are many different forms of debt relief that can be grouped into *de facto* and *de jure* debt relief, as well as temporary and permanent debt relief measures. These policies are not mutually exclusive and are often available concurrently, especially in a crisis. We focus on describing the broad features of each type of debt relief policy as well as evidence from studies measuring the effect of specific policies. International comparisons of debt relief programs and their effects are notoriously difficult because of idiosyncracies in program design and the lack of internationally comparable outcome measures.⁶

3.1 Loan Default

The simplest form of debt relief is loan default or delinquency, which occurs when a borrower makes zero or less than the minimum required payment on a loan.

While default can provide *de facto* debt relief, it can have significant costs in terms of future access to credit. In recent years, many jurisdictions have expanded their credit reporting systems to include smaller personal loans and microloans in individual credit records. In most cases, non-repayment of any formal loan will therefore trigger a negative credit bureau entry and reduce a borrower's future access to formal credit. By making it easier for creditors to learn about past defaults, the presence of credit registries can increase the costs of default, thus reducing the moral hazard costs of debt relief.

It is unclear, however, to what extent borrowers internalize this cost. In a study of Indonesian credit card borrowers, for example, [Bursztyn et al. \(2019\)](#) find that nearly half of all respondents are not aware of the existence of a credit bureau or the consequences of non-repayment. When consumers do not fully internalize these costs, this can increase the moral hazard costs of debt relief policies.

In microfinance, one factor that works against the widespread use of default as *de facto* debt relief is the loss of social capital that occurs when non-repayment is publicly observable ([Banerjee, 2013](#); [Gine and Karlan, 2014](#); [Diep-Nguyen and Dang, 2020](#)). In the context of our model, this would correspond to a higher non-pecuniary cost (σ) of default. For this reason, even microfinance lenders that have moved away from traditional group lending in favor of individual liability loans often still retain regular community meetings to raise the perceived cost of default.

3.2 Debt Forbearance

Debt forbearance refers to policies that allow borrowers to postpone loan repayments for a given period of time without incurring penalties or a negative entry on their credit record, while leaving the amount of debt outstanding unchanged. Historically, forbearance has often been employed on an ad hoc basis in response to economic downturns in which a large number of borrowers face liquidity constraints and the nature of the underlying shock is thought to be transitory.

⁶ There is also a lack of comprehensive cross-country data on debt relief programs. One notable exception is the World Bank "[Covid-19 Finance Sector Policy Responses Database](#)", which contains information on financial support programs worldwide and includes information on debt relief programs.

Debt forbearance can either be mandated by a regulator or extended voluntarily by banks and microfinance institutions. Much forbearance is in fact granted voluntarily by private lenders. In the United States, forbearance under the Coronavirus Aid, Relief, and Economic Security (CARES) act was, for instance, mandated only for federal student loans, housing loans, and other loans backed by the federal government. Nonetheless, private lenders offered forbearance on many types of loans for which payment deferrals were optional, such as auto loans, personal loans, and mortgages without government backing. In total, approximately 20 percent of the \$2.3 trillion pandemic debt forbearance granted in the United States was provided voluntarily by private lenders ([Cherry et al., 2021](#)). The same pattern holds in developing economies where governments and regulators incentivized banks and microfinance institutions to offer forbearance, but allowed them to exercise significant discretion over the terms of forbearance as well as the targeting of forbearance offers to specific customers.

When forbearance is targeted, banks and regulators face the challenge of distinguishing between borrowers who are merely facing temporary liquidity constraints and borrowers whose incomes have been permanently impacted, leaving them insolvent. One argument in favor of delegating the targeting of forbearance to lenders as opposed to mandating payment deferrals across the board is that lenders typically have access to relationship-specific information that is not available to the regulator and can therefore target relief more effectively.

An additional rationale for allowing banks and microfinance lenders to target forbearance is the role of relational contracting in the credit market. If lenders indeed have private information about their borrowers, they can deploy forbearance strategically in a downturn to preserve their most valuable lending relationships. [Bolton et al. \(2016\)](#) propose a model of loan renegotiation and provide suggestive evidence that in a crisis, lenders indeed offer more flexible loan terms to their best customers in an effort to maintain profitable lending relationships. Using a nationwide field experiment in India, [Fiorin et al. \(2023\)](#) show that consumer loan borrowers who are offered a debt moratorium by their lender are less likely to default and more likely to do future business with the lender that offered them forbearance. Hence, lender-initiated forbearance may result in lower moral hazard costs of debt relief.

In microfinance, there have been efforts to build forbearance-like repayment flexibility into credit contracts ex ante to reduce default due to temporary liquidity shocks. The ex ante nature of this form of debt relief makes it more rules-based and less discretionary, which our model shows can avoid subsequent moral hazard costs due to changes in beliefs. [Field et al. \(2013\)](#) study microfinance contracts that defer loan payments for the first two months of the contract and find that this feature improves investment and long-run profits of microentrepreneurs but comes at the expense of higher default rates. [Barboni and Agarwal \(2023\)](#) conduct a field experiment in which microfinance borrowers are offered a contract that allows them to opt into a repayment holiday. They find no difference in delinquency rates, but an improvement in business outcomes among borrowers who can opt into forbearance. [Battaglia et al. \(2023\)](#) study flexible microfinance contracts that allow borrowers to defer two monthly payments over the duration of the contract. They find that borrowers value the option to defer payments, have lower default rates and improved business outcomes, consistent with repayment flexibility providing insurance against adverse liquidity shocks.

In contrast to other debt relief policies, participation in debt moratoria is typically optional and

intended to allow borrowers to self-select into forbearance. This has advantages and disadvantages. On the positive side, allowing borrowers to opt into forbearance improves the targeting of benefits to liquidity constrained households, who can use forbearance like a line of credit that they can draw on when necessary to avoid debt distress. The available evidence suggests that this is in fact how forbearance is used in practice: households that select into forbearance are, on average, more financially constrained but no more likely to default based on observables than borrowers who do not opt into forbearance ([Cherry et al., 2021](#); [Battaglia et al., 2023](#); [Fiorin et al., 2023](#)).

On the other hand, selection into forbearance has important distributional effects and makes the benefits of forbearance more regressive, given that borrowers with larger loans have a higher incentive to select into forbearance. [Cherry et al. \(2021\)](#), examine the characteristics of households that selected into forbearance under the CARES act in the United States and find that forbearance benefits are indeed skewed towards wealthier households – 55 percent of the total dollar amount of forbearance accrued to borrowers with above median incomes. The regressive impact of forbearance is an even more important concern in emerging economies, where access to credit is highly unequal so that qualifying for forbearance requires an even higher income cutoff.

Another channel through which debt moratoria can have distributional effects is their potential impact on credit scores. When forbearance is mandated, it is typically accompanied by a freeze on credit reporting. However, in many cases where forbearance is voluntary, selection into forbearance has the potential to damage a borrower's credit score. This may add as a deterrent to take up forbearance or disproportionately reduce access to finance for borrowers with a thinner credit file. This is especially relevant for low-income households and microfinance borrowers whose loans are increasingly likely to be included in conventional credit bureau data, and who are less likely to be informed about the consequences of a debt moratorium on their credit score and future access to finance ([de Janvry et al., 2010](#); [de Roux, 2021](#)). This affects not only access to finance, but may also adversely impact labor market outcomes ([Bos et al., 2018](#)).

Finally, because mandated debt forbearance is a temporary policy, an important consideration is how to optimize the time horizon of debt moratoria and how to unwind forbearance without triggering financial distress. To reduce moral hazard, banks and policymakers need to clearly communicate the extent and duration of forbearance. Because the amount of deferred debt payments is often substantial, borrowers need clarity about the repayment schedule after forbearance as well as the treatment of accrued interest. It is generally in the interest of the lender to extend the term of the loan by the number of deferred payments to avoid forcing borrowers whose incomes have not fully recovered into default.

3.3 Debt Restructuring

Debt restructuring refers to a modification of a loan contract intended to reduce loan payments and avert default. Like debt forbearance, debt restructuring can be mandated by a regulator or offered voluntarily by banks and microfinance institutions. Voluntary restructuring typically occurs when a borrower's income and ability to repay have permanently changed and temporary forbearance is not sufficient to ensure loan repayment.

Debt restructuring can modify different aspects of a debt contract. It can extend the maturity of

the loan, reduce the interest rate, or include a debt reduction component to make debt service more manageable for the borrower. In some cases, loan modifications can combine elements of forbearance and debt forgiveness. To what extent the predictions of our conceptual framework extend to debt restructuring will therefore depend on the design of a given restructuring program. Namely, whether the cost of these modifications are borne by lenders or subsidized by the government.

How effective is debt restructuring at improving the ability of borrowers to repay their debt? The answer to this question depends on the extent of restructuring and type of credit. In a sample of delinquent credit card borrowers in the US, [Dobbie and Song \(2020\)](#) find that loan modifications that reduce interest payments lead to a substantial reduction in short-term default even when they are deferred and do not immediately affect liquidity. [Aydin \(2023\)](#) uses a randomized experiment with consumer loan borrowers in Turkey to compare how alternative debt relief policies affect loan payments and the probability of default and shows that the effects of forbearance are short-lived, while rate reductions, which lower the net present value of future payments, persistently reduce the probability of default.

In contrast to these findings, [Ganong and Noel \(2020\)](#) compare the effect of debt reduction and temporary forbearance in a sample of mortgage borrowers and find that debt writedowns that do not increase short-term liquidity have no effect on loan defaults and consumption. Instead, the authors find that restructuring payments, which can alleviate liquidity constraints, lead to large reductions in loan default and increase consumption. This suggests that designing debt relief to address short-term liquidity, rather than longer-term wealth, can better prevent defaults and create substantial gains for borrowers, lenders, and taxpayers.

Like any discretionary debt relief policy, unanticipated loan modifications can affect not only the ability but also the willingness to repay through their effect on borrower expectations. When loan modifications are offered voluntarily by a bank or microfinance lender, this may lead borrowers to update their expectations about the availability of debt relief and the leniency of credit enforcement in the future. This can generate both ex ante and ex post moral hazard.

Loan modifications can also affect access to credit. On the one hand, a successful loan modification can restore a borrower's solvency and preserve access to formal credit; it is therefore typically in the borrower's interest to renegotiate a loan when the option is available. However, a debt restructuring is typically reported to the credit bureau by the lender and may therefore negatively affect a borrower's ability to obtain credit at least in the short term.

Loan modifications may also affect access to credit through their effect on credit supply. When loan modifications are mandated by a government or regulator, one important choice variable is whether lenders are forced to absorb credit losses or compensated for writedowns. If banks and microfinance lenders are recapitalized in proportion to their losses, it is likely to encourage more lending to beneficiaries. If, on the other hand, lenders are forced to absorb losses from mandated debt restructuring, this is likely to reduce credit supply and access to credit for beneficiaries of the policy.

One limitation of debt restructuring programs as a policy to address widespread financial distress is that loan modifications are administratively taxing. [Agarwal et al. \(2017\)](#) and [Kim et al. \(2022\)](#) study mortgage loan modifications in the United States and show that the overall impacts of these programs

were muted by capacity constraints among financial intermediaries.

The high fixed cost of debt renegotiation poses an even larger obstacle for the modification of consumer loans and individual liability microfinance credit, which generally have smaller principal amounts, shorter lending cycles, and are increasingly originated using non-relationship intensive lending models. Banks and microfinance institutions often lack the administrative capacity to restructure large numbers of these loans. Moreover, for many small loans, the fixed cost of loan renegotiation exceeds the benefit of improved repayment, so that loan modifications are either not offered, or limited to blanket modifications that are not tailored to the borrower's specific financial situation and thus less effective at alleviating financial distress.

3.4 Debt Forgiveness

Debt forgiveness can be thought of as a special case of debt restructuring that either substantially reduces or entirely erases a borrower's outstanding debt. Debt forgiveness programs are common in developing economies that lack formal insolvency institutions, and are often targeted at politically important constituencies, such as rural households and microfinance borrowers. Similar to political cycles in credit, which have been documented in many emerging economies (see [Cole, 2009](#)), relief provision through writedowns tends to be highly time-inconsistent and frequently tracks the electoral cycle.⁷

One common argument in favor of debt forgiveness is the observation that many households in emerging economies are both producers and consumers, who accumulate unsustainable debts because they are imperfectly insured against income shocks (see, for example, [Townsend, 1994](#); [Udry, 1994](#); [Morduch, 1995](#)). In this setting, debt forgiveness can be efficient because it provides insurance against otherwise uninsurable events and resolves debt overhang problems that distort households' investment and labor supply decisions ([Bolton and Rosenthal, 2002](#)). Standard models of debt overhang suggest that high levels of household debt create large deadweight losses in the economy ([Myers, 1977](#); [Krugman, 1988](#)). This may occur because household income net of debt service is insufficient to support investments in human or physical capital ([Mookherjee and Ray, 2003](#); [Banerjee, 2004](#)), or because of distortions in investment and labor supply decisions that result from high levels of household debt. Households that have to direct a large share of their income to debt service will, for instance, have weaker incentives to invest in productive activities. Remedying such incentive distortions has often been cited as an important motivation for debt forgiveness programs.

While debt forgiveness may alleviate some inefficiencies stemming from high levels of accumulated debt, it requires a substantial intervention into private loan contracts that may severely distort the incentives of borrowers and lenders. The available evidence shows that debt forgiveness programs have often been associated with severe moral hazard in loan repayment and an overall deterioration in credit discipline that often goes beyond beneficiaries of the program. This is not particularly surprising, given that blanket debt forgiveness programs are often overtly politically motivated and politicians

⁷ While we focus on debts owed to formal financial institutions, including microfinance lenders, it is worth noting that households in developing economies often owe substantial debts to non-financial institutions in the form of utility payments or tax arrears. It is not uncommon for these debts to be restructured or forgiven in a similarly time-inconsistent manner, for example ahead of elections.

cannot credibly commit to abstain from offering debt reductions in the future. For this reason, it is rational for borrowers to expect additional debt relief in the future, causing ex post moral hazard in loan repayment. Debt forgiveness can also give rise to ex ante moral hazard: borrowers may take on more debt than they can afford in anticipation of obtaining debt reductions in the future.

These concerns are illustrated by several recent debt forgiveness programs. [Breza \(2012\)](#) and [Breza and Kinnan \(2021\)](#) study the consequences of politically motivated debt forgiveness initiatives in microfinance and describe the important role of peer effects in generating moral hazard and loan defaults that extend beyond borrowers immediately affected by the program. [Kanz \(2016\)](#) examines the impacts of the Indian Agricultural Debt Waiver and Debt Relief Program, one of the largest debt forgiveness initiatives in history, and finds no positive effect of debt relief on productivity and investment. Instead, households that benefit from debt forgiveness are more reliant on informal credit, invest less, and are less productive after the bailout. [Giné and Kanz \(2018\)](#) examine the effects of the same debt forgiveness program on post-program loan performance and access to credit and find that debt forgiveness led to a sharp increase in loan defaults with no offsetting positive effects on productivity, wages, or consumption in areas with higher exposure to the program. The bailout moreover reduced access to credit for program beneficiaries, as banks reallocated credit away from areas with a high share of bailout beneficiaries.

Like other loan modifications that can imply a cost for lenders, debt forgiveness can also affect the supply of credit. When debt forgiveness is mandated by the government, the policymaker can choose whether banks will be forced to absorb credit losses or are recapitalized in proportion to the debt that is written off. When banks are compensated for their credit losses, this can encourage excessive risk-taking and moral hazard in credit allocation, as banks are not forced to internalize the cost of bad lending decisions. When lenders have to absorb the cost of debt forgiveness, on the other hand, this shrinks their balance sheet and can reduce lending and access to credit, especially for beneficiaries of debt relief.

3.5 Bankruptcy

Personal bankruptcy is a major source of debt relief in advanced economies. Among high-income economies, the US is notable for its widespread use of bankruptcy—one in ten US adults file at some point in their life ([Keys, 2018](#)). Because highly developed insolvency institutions are so rare in other countries, we focus our discussion of bankruptcy in this section primarily on personal bankruptcy in the US and then discuss efforts in emerging economies to develop alternative out-of-court mechanisms that can partly compensate for the absence of efficient insolvency institutions.

Bankruptcy is a legal institution that enables borrowers to seek debt forgiveness. Personal bankruptcy is mainly used to discharge unsecured debt, as it does not erase creditor liens on collateral. In order to be granted a debt discharge, filers are required to make partial payments to creditors. The size of payments depends on the amount and type of filer assets, and asset protection laws differ significantly across states ([Mitman, 2016](#); [Indarte, 2022](#)).

Two forms of bankruptcy are available to consumers in the US: Chapters 7 and Chapter 13. Around 70% of filers opt for Chapter 7, which has several advantages ([Argyle et al., 2023](#)). Chapter 7 is a much

faster process, typically taking several months, and succeeds (i.e., results in a debt discharge) in 97% of cases. Chapter 13, on the other hand, instead requires filers to complete a five-year-long repayment plan and results in a successful debt discharge in only 40% of cases ([Argyle et al., 2023](#)). Additionally, US bankruptcy law requires that partial payments to creditors in Chapter 13 be at least as high as what they would otherwise receive in Chapter 7.

Who has access to the generally more desirable Chapter 7? Eligibility to file for Chapter 7 requires having income below state median income, which may force some households to file instead under Chapter 13. Additionally, legal and court fees in Chapter 7 must be paid up front. In contrast, Chapter 13 allows filers to include legal fees in their repayment plan. [Gross et al. \(2014\)](#) argue that these upfront costs may limit access to Chapter 7 for liquidity constrained households. It may also explain why low-income Black filers in the US are *overrepresented* in Chapter 13, filing at a rate of 44% versus 25% compared to White filers ([Argyle et al., 2023](#)).

Personal bankruptcy has several micro and macro-level benefits. At the individual level, bankruptcy provides households with a de facto form of insurance. The option to discharge debt allows households to alleviate their financial burdens in the wake of experiencing adverse events like job loss and illness. [Indarte \(2023\)](#) estimates that the insurance value of bankruptcy is large for the marginal filer, on the order of 58% of annual consumption. Additionally, bankruptcy in the US results in an automatic stay that pauses creditor collection efforts. The offers households relief from debt collectors and wage garnishment, which can reach around 30% of earnings in some US states.

At the macro level, these consumption-smoothing benefits mean that access to bankruptcy during recessions can function as an automatic stabilizer. By avoiding larger drops in consumption, bankruptcy can limit the amplification of macroeconomic shocks ([Auclert et al., 2019](#)). All forms of debt relief have some element of insurance, but especially those that result in higher consumption offer similar benefits to those described here for bankruptcy.

Bankruptcy also poses costs at both the micro and macro level. In the US, filers receive a flag on their credit report that remains visible to creditors for seven to ten years. This flag lowers credit scores and limits credit access. The removal of these flags typically results in a large increase in credit access ([Musto, 2004](#)). However, households at the margin of filing for bankruptcy may not face a substantial loss in credit access. Comparing delinquent debtors that differ in whether they file for bankruptcy, [Albanesi and Nosal \(2018\)](#) find that filers typically fare better in terms of credit scores and credit access within several years of filing for bankruptcy.

Another micro cost filers may face is worse labor market outcomes. Credit reports are commonly used to screen potential hires in the US ([Corbae and Glover, 2018](#)). In Sweden, [Bos et al. \(2018\)](#) find that bankruptcy flags reduce earnings and employment. However, in the US, [Dobbie et al. \(2020\)](#) find a precise null effect of bankruptcy flags on employment outcomes. Moreover, [Dobbie and Song \(2015\)](#) find that a successful Chapter 13 filing has *positive* effects on employment. While bankruptcy flags may on average have negative effects on employment outcomes, the marginal bankruptcy filer may not have fared much better in terms of employment without filing.

[Indarte \(2023\)](#) argues that if credit access and employment costs of filing are small for the *marginal* bankruptcy filer, then it must be non-pecuniary costs like stigma that discourage filing. A marginal filer

on the brink of bankruptcy is indifferent between filing and not filing. Given the large insurance value of bankruptcy estimated for marginal filers, it must be the case that the perceived costs of bankruptcy must also be large. Together, this suggests that social stigma or a moral aversion to bankruptcy is a significant cost to US filers.

At the macro level, access to personal bankruptcy can cost filers access to credit. Bankruptcy facilitates a transfer from creditors to borrowers. And, as illustrated in our conceptual framework, when creditors bear the costs of debt relief, this disincentivizes future lending. Indeed, [Gropp et al. \(1997\)](#) show that more lenient bankruptcy provisions worsen the credit access of low-income borrowers. [Indarte \(2022\)](#) and [Mitman \(2016\)](#) show that states with the most generous bankruptcy laws tend to have the *lowest* filing rates. The authors argue that this is because credit access is very sensitive to the incentive to file and is so restricted that a lack of debt limits filing in equilibrium. One force limiting this cost is a lack of moral hazard on the part of borrowers; [Indarte \(2023\)](#) finds that filing responds weakly to the financial benefit of bankruptcy. An important consideration for other countries potentially adopting personal bankruptcy institutions is whether stigma and micro-level credit access and employment costs will also limit moral hazard costs and ultimately the macro-level credit access costs of bankruptcy.

The absence of efficient bankruptcy institutions in developing countries has motivated numerous efforts to institute alternative out-of-court mechanisms that allow households and firms to discharge unsustainable debts. As one of the first jurisdictions, India established “Debt Recovery Tribunals” as a new out-of-court institution to facilitate the resolution of nonperforming business loans. [Visaria \(2009\)](#) shows that this reform significantly expedited debt resolution and lowered the equilibrium cost of credit in the economy.⁸ Many countries have introduced similar out-of-court insolvency procedures, often aimed at small businesses and low-income households. Colombia, for example, instituted an expedited out-of-court debt resolution process for small and micro-enterprises in response to the Covid-19 pandemic ([World Bank, 2022](#)). The program is administered by the chamber of commerce, rather than the courts, and has been effective at enabling small and microenterprises to resolve debts and resume operations quickly.

3.6 Inflation

Lastly, another form of *de facto* debt relief is unanticipated inflation. Inflation erodes the real value of fixed debt payments, benefiting borrowers at the expense of lenders. By effectively transferring wealth from creditors to debtors, inflation mitigates incomplete markets, similarly to the *de jure* types of debt relief policies discussed above. Inflation provides an especially relevant form of debt relief in developing economies, where a significant share of household debt is informal, and households are often also indebted to the state – for example through utility payments and tax arrears. In contrast to *de jure* debt relief, which typically applies only to debts owed to formal financial institutions, inflation reduces the real value of all types of debt and may therefore provide more comprehensive debt relief

⁸ However, [Lilienfeld-Toal et al. \(2012\)](#) show that, under some circumstances, improvements in the ability to enforce debt through formal or informal insolvency institutions can have adverse distributional implications through a reallocation in credit from smaller to larger borrowers.

than formal debt relief programs. However, similarly to ad hoc debt relief policies, allowing higher inflation in the present may increase expectations of future inflation. Such expectations discourage lending in the present, reducing credit access.

Moreover, attempts to provide debt relief through inflation have severe distributional implications. Inflation is a regressive tax that places a disproportionate burden on low-income households that spend a larger share of their income on consumption. The benefits of inflation as a form of debt relief are similarly regressive and accrue primarily to debtors with larger loans that have longer maturities. Given that access to finance is limited and long-term financing is scarce and only available to households at the top of the income distribution in most developing economies, inflation is an extremely unattractive instrument to provide debt relief in these settings.

4 Debt Relief and Borrower Expectations: Survey Evidence

The effect of debt relief on borrower expectations is an important channel through which relief programs can affect credit market outcomes. However, there is still little empirical evidence on how beneficiaries update their expectations in response to debt relief.

To shed light on the link between debt relief and borrower expectations, this section presents evidence from a survey of microfinance and agricultural credit borrowers in India. Our survey takes advantage of a unique policy setting that exposed borrowers in two Indian states to both debt forbearance and forgiveness programs. Specifically, borrowers across India were eligible for a six-month *debt forbearance* program covering both microfinance and bank loans as a result of the Covid-19 crisis. Additionally, the Indian states of Assam and Maharashtra enacted *debt forgiveness* programs for microfinance and agricultural credit borrowers, respectively, after the end of the national Covid-19 debt moratorium.⁹

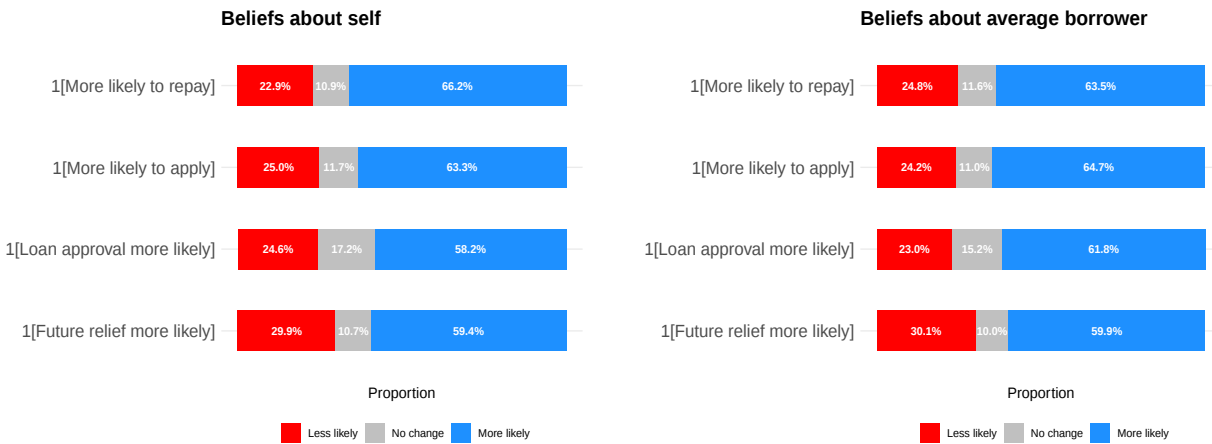
We surveyed a total of 1,630 borrowers who had either benefited from debt forbearance, debt forgiveness, or neither of these programs. The sample consists of 810 microfinance borrowers and 820 agricultural loan borrowers residing in states of India that had offered debt forgiveness for microfinance and agricultural loans, respectively. The survey was administered after the conclusion of these debt relief programs and asked beneficiaries and non-beneficiaries how they would expect debt relief to change their own credit market behavior as well as the credit market behavior of the average borrower. The survey elicits first and second order beliefs about the effects of debt relief. We compare beliefs regarding debt forbearance and forgiveness, as well as the beliefs reported by beneficiaries and non-beneficiaries.¹⁰ We emphasize that all results we present are descriptive and should not be given a causal interpretation, given that exposure to debt relief was not randomly assigned.

We begin by describing borrowers' overall beliefs about the impact of debt relief, pooling across all types of debt relief. We first asked respondents whether they thought debt relief would damage or improve credit discipline. Only 23% of borrowers believe that debt relief will have a negative

⁹ Specifically, we interviewed borrowers who could have qualified for the *Mahatma Jyotirao Phule Loan Waiver Scheme*, which offered debt forgiveness of up to Rs 200,000 to rural households in Maharashtra and the *Government of Assam Micro Finance Incentive and Relief Scheme (AMFIRS)*, which offered debt forgiveness of up to Rs 25,000 to microfinance borrowers.

¹⁰ We report additional descriptive statistics and results in the supplementary online appendix.

Figure 6: Debt Relief and Borrower Expectations



Note: The figure summarizes responses to the debt relief survey administered to 1,630 microfinance and bank borrowers with recent exposure to debt relief. Respondents were randomly assigned to answer questions about themselves ($N=813$) or the average borrower ($N=817$).

impact on their own loan repayment, while 66% believe that debt relief will *improve* their future loan repayment. Interestingly, the responses are not very different when borrowers are asked whether they expect debt relief to worsen credit discipline in the population. Only 25% of respondents expect the loan repayment of the average borrower to suffer as a result of debt relief, while 64% believe that the average borrower will in fact be more likely to repay their loans. However, in line with the widespread concern that debt relief may generate expectations of future relief, 59% of respondents are more likely to expect debt relief in the future, and 60% believe that debt relief has also made the average borrower more likely to expect further debt relief in the future.

The belief that borrowers will, on average, be more likely to repay their loans after debt relief contradicts the predictions of a simple model of debt relief where heightened expectations of relief would, all else equal, lead to a lower probability of repayment. It is also contrary to evidence showing severe moral hazard in the aftermath of debt forgiveness programs (see [Giné and Kanz, 2018](#)). The expectation that debt relief improves loan repayment could be consistent with a model like ours if borrowers expect debt relief to alleviate liquidity constraints and improve borrowers' ability to repay without changing expectations about the leniency of credit enforcement or the availability of debt relief in the future. However, answering that debt relief will improve loan repayment could also be consistent with strategic responses if, for instance, borrowers understand that moral hazard will limit access to future credit or debt relief. In the case of debt forbearance, the responses we observe are also consistent with the view that temporary repayment flexibility effectively addresses liquidity constraints without imposing significant costs on creditors.

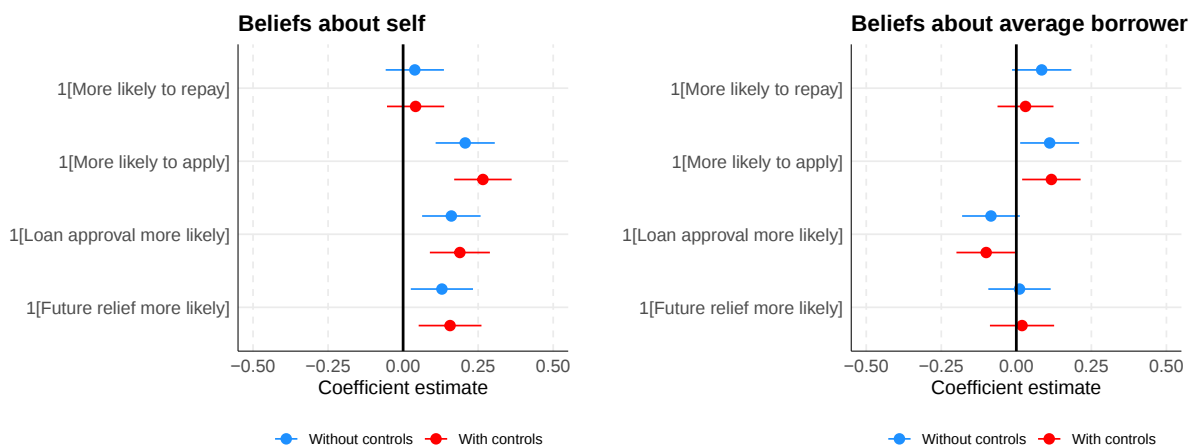
Borrowers in our sample also believe that debt relief will affect credit demand and access to credit. The majority of respondents expect that debt relief will increase their own likelihood of applying for a loan (63%) as well the likelihood that the average borrower will apply for a new loan (65%). Interestingly, the majority of respondents also believe that debt relief will *improve* their own chances

of being approved for a future loan (58%) as well as the probability of loan approval for the average borrower (62%). In terms of our model, expectations of improved credit access after debt relief are consistent with expecting debt relief to improve future ability to repay, which may improve credit access. It is also consistent with beliefs that lenders are shielded from the costs of debt relief. This is plausible in the context of our survey, where lenders were indeed compensated for their losses in past debt relief programs.

Both with respect to loan repayment and access to credit, we find that respondents' beliefs about themselves are quite similar to their beliefs about others. Overall, the responses are in line with the belief that debt relief strengthens household balance sheets without causing significant costs to lenders or widespread moral hazard that could offset positive effects on credit supply.

How do expectations differ when borrowers are asked about debt forbearance versus debt forgiveness? In Figure 7, we report estimates of the difference in expectations between respondents of the debt forbearance and debt forgiveness surveys. When asked about forbearance, respondents are no more likely to expect that their repayment will suffer than respondents asked about forgiveness. However, they believe that they will be more likely to apply and be approved for future loans if they receive forbearance, rather than debt forgiveness. One possible explanation is that borrowers anticipate experiencing less stigma from forbearance than a debt writedown because it gives the borrower a chance to prove their creditworthiness. Another possibility is that respondents assume temporary forbearance to be less costly to the creditor than a permanent writedown. Respondents who are asked about forbearance are also more likely to expect future debt relief, compared to borrowers asked about debt forgiveness. This could reflect the belief that forbearance programs are politically less costly than debt forgiveness, or that governments are more willing to impose costs on banks than on the taxpayer.

Figure 7: Expectations: Debt Forbearance versus Debt Forgiveness



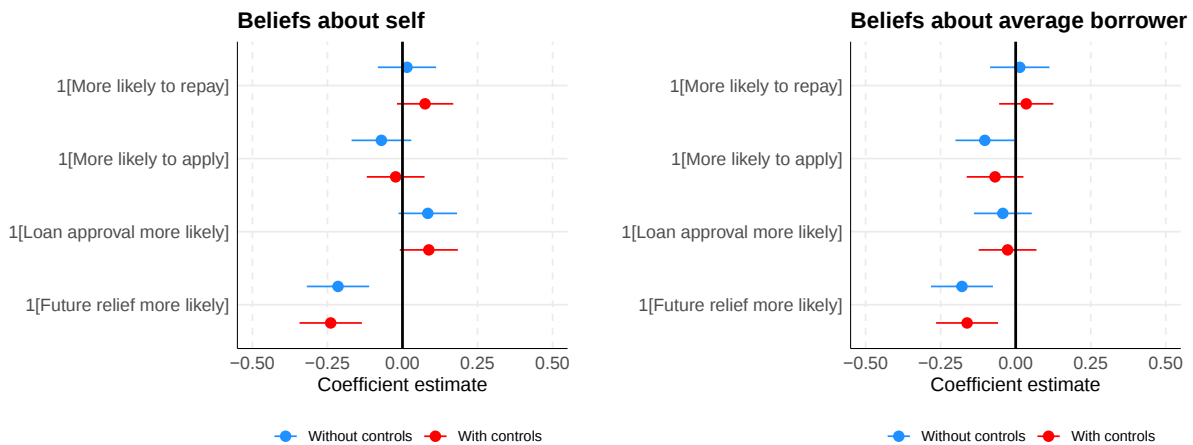
Note: The figure estimates the difference in responses between survey participants asked about debt forbearance and debt forgiveness. Coefficient estimates and 90% confidence intervals are obtained from regressions of each response on an indicator equal to 1 if a respondent was asked about forbearance and zero otherwise. Controls include age, type of loan, log income, log loan amount outstanding, and number of loans outstanding.

Taken together, the results show that borrowers indeed perceive debt forbearance and forgiveness

differently, but possibly for reasons outside the scope of standard models. Exploring these channels, which include the perceived social stigma and reputational costs attached to different forms of debt relief, would be a promising direction to explore in future research.

Finally, we examine how expectations differ between beneficiaries and non-beneficiaries of debt relief. Figure 8 present the results by beneficiary status. One result that stands out is that debt relief beneficiaries think that debt relief today makes debt relief tomorrow less likely, and that they similarly think that observing debt relief today will make others less likely to expect debt relief in the future. This could be because the political debate surrounding relief is more salient to recipients so that they are more aware of the political cost of enacting large debt relief programs. However, lower reported expectations of future relief among beneficiaries could also be strategic if, for example, beneficiaries do not want the interviewer to infer that debt relief creates moral hazard. These findings are consistent with experience effects, where having experienced debt relief affects beliefs about future debt relief. An important direction for future research is to better understand the role of such experiences in shaping recipient beliefs.

Figure 8: Expectations: Beneficiaries versus Non-Beneficiaries



Note: The figure estimates the difference in responses between beneficiaries and non-beneficiaries of debt relief. Coefficient estimates and 90% confidence intervals are obtained from regressions of each response on an indicator equal to 1 if a respondent obtained debt relief and zero otherwise. Controls include age, type of loan, log income, log loan amount outstanding, and number of loans outstanding.

In summary, the pattern of responses suggests a link between debt relief and borrower expectations and points to several interesting directions for future research. In particular, it would be useful to understand how the effect of debt relief on borrower expectations depends on the salience of a given debt relief program. Another interesting question is whether the effects on expectations and moral hazard depend on beliefs about fairness or equity in access to debt relief, which is another channel through which rules-based programs could mitigate the distortionary effects of debt relief. Finally, the observation that debt relief may shift credit demand and beliefs about future access to credit suggests potentially important aggregate effects of large debt relief initiatives.

5 Conclusion

Over the last two decades, households around the world have gained unprecedented access to credit as a result of the global growth of microfinance and innovations in consumer credit. While this has brought great benefits to millions of households, it has also created a source of new financial fragilities at the macro and micro level that have become apparent in recent crises.

In this paper, we have used a simple theoretical framework to highlight the costs and benefits of alternative debt relief policies and guide our review of the empirical literature on debt relief. Our model highlights that the absence of effective institutions for debt resolution creates several inefficiencies for individuals and the economy as a whole. On the creditor side, uncertainty about the ability to recover non-performing loans through an orderly legal process creates disincentives to provide credit. On the borrower side, the inability to discharge unsustainable debts excludes borrowers from the formal credit market and creates disincentives for productive investment.

Well-designed debt relief policies can reduce these inefficiencies by providing insurance against otherwise uninsurable economic shocks. If borrowers were perfectly insured, debt relief would deliver no net welfare gains and would be purely distortionary. Instead, when households face incomplete insurance markets, debt relief facilitates consumption smoothing. However, as our model illustrates, the design of debt relief policies matters. On the borrower side, debt relief can alter borrower expectations and distort repayment incentives and credit demand. On the lender side, debt relief can affect incentives to provide credit. When relief policies force lenders to absorb losses, this can lead to a reduction in credit supply and reduced access to finance. When, on the other hand, lenders are compensated for their losses, this can lead to inefficiently high lending and credit misallocation. The optimal design of debt relief policies is therefore context-dependent. In situations where access to credit at baseline is low, the policymaker may want to compensate lenders for losses from debt relief to prevent credit rationing. In situations where there is ample credit supply prior to debt relief, it may instead be preferable to force creditors to absorb the costs of debt relief to prevent excessive risk-taking.

As our review of the literature highlights, evidence from recent crises offers important lessons on how to design more effective debt relief interventions. First, where the first-best solution of a rules-based bankruptcy system is not available, the overarching goal should be to design debt relief policies so that will have the smallest possible impact on borrower expectations – a key channel through which debt relief causes moral hazard. The large debt relief initiatives enacted globally in response to the Covid-19 pandemic have shown that temporary forbearance policies with simple eligibility rules and a clear timeline significantly reduce moral hazard relative to debt forgiveness programs that have been common in many developing economies. Another important consideration in the design of debt relief policies is the targeting of benefits. Evidence from large debt forgiveness programs shows that capacity constraints among financial institutions often prevent borrowers from accessing relief. This underscores the need for simple eligibility criteria. In addition, recent research highlights the benefits of giving financial institutions discretion in the targeting of debt relief, as they typically have private information about the creditworthiness of borrowers that is not available to the regulator.

The model we have used to structure our discussion suggest several avenues for future research. First, it would be important to more systematically account for factors that may generate differences in

the response to debt relief in advanced versus developing economies. One such factor is the discount rate, which is likely to be higher among households in developing economies. In terms of our model, a stronger preference for present versus future consumption would increase borrowing and reduce borrowers' sensitivity to the future cost of default, increasing the moral hazard costs of debt relief.

Another important parameter that is not captured in our model is the social stigma associated with loan default. In developing countries—and especially among microfinance borrowers—the perceived social stigma cost of loan default is likely to be much higher than among borrowers in advanced economies. Social stigma makes default more costly, reduces moral hazard in response to debt relief, and could also result in higher credit supply.

Similarly, there may also be systematic differences in the prevalence of various behavioral biases across economies may alter the trade-offs of debt relief. Biases, such as present bias, that result in over-borrowing, may mean that reduced credit access is not always inefficient. Research on poverty and decision making has also highlighted that poverty can create psychological stress that hinders cognitive performance ([Mani, Mullainathan, Shafir and Zhao, 2013](#); [Mullainathan and Shafir, 2013](#)). This can result in sub-optimal financial planning, which can affect debt accumulation as well as the response to debt relief ([Sergeyev, Lian and Gorodnichenko, 2023](#)). In addition, differences in financial literacy may lead to higher rates of financial mistakes [Lusardi \(2008\)](#). Debt relief, in particular when creditors bear the costs, may be less socially costly if mistakes make households more prone to over-borrowing, as reduced credit access may be less of a downside. The benefits of debt relief may also be larger if debt relief helps to offset the costs borne by households from over-borrowing.

Last but not least, it is important to keep in mind that in most developing economies borrowers with access to formal credit tend to be at the very top of the income distribution, whereas in advanced economies debt relief benefits predominantly middle and low-income households. This has important distributional implications that should inform the targeting and overall design of debt relief policies. For example, policies that provide liquidity to microfinance borrowers and low-income households are more effective as a stimulus policy because of low-income households' higher marginal propensity to consume. More empirical and theoretical work is needed to understand how each of these factors alter the trade-offs involved in designing optimal debt relief policies.

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