A Switch in State Bankruptcy Rules*

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Abstract

U.S. states are sovereigns and can't declare bankruptcy as cities and municipalities. This paper examines the impact of a switch in sovereign bankruptcy rules that allows declaring bankruptcy from a model point of view. Allowing bankruptcy increases ex-ante risks for the government to refuse repayment, but provide ex-post benefits of reducing default costs and federal bailouts. When ex-post benefits outweigh its ex-ante risks, allowing sovereign bankruptcy is desirable. This paper provides a formal framework to analyze this trade-off. Whether allowing bankruptcy increases or decreases the cost of government borrowing depends on the current debt level.

Keywords: U.S. state government, bankruptcy rules, sovereign bankruptcy

JEL classification: H7

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1 Introduction

The COVID-19 pandemic and the economic policies undertaken in response have caused large fiscal pressure on the states. Many states have been seeking help from the federal government. Instead of providing more federal aid, U.S. Senator Mitch McConnell suggested letting states file for bankruptcy. “I would certainly be in favor of allowing states to use the bankruptcy route,” said McConnell. “There’s not going to be any desire on the Republican side to bail out state pensions by borrowing money from future generations.” The comment by Mitch McConnell has rekindled the debate on whether states should be allowed to file bankruptcy. This paper analyzes a switch in state bankruptcy rules that allows declaring bankruptcy.

Under current rules, cities and municipalities can file bankruptcy but states can not. Cities and municipalities, under Chapter 9 of the bankruptcy code, can declare bankruptcy and earn protection from creditors and develop plans to reorganize their debt. For example, the city of Detroit filed bankruptcy in 2013.

The states, on the other hand, are not allowed to declare bankruptcy. States are sovereigns under the U.S. Constitution. Similar to other sovereigns, states can default on their debt. Defaults are violations of debt obligations outside of the bankruptcy process. Although rare, states have defaulted in history. In 1933, Arkansas defaulted on its bonds, approximately $146 million in total. After default, the state of Arkansas experienced severe austerity measures and could not invest in the desired infrastructure. Sovereign default also triggers financial exclusions: financial centers remained closed to Arkansas for many years.[1] 1933 Arkansas Default shows an anecdotal example how negotiation between creditors and a state as a sovereign entity took

[1]In New York and Pennsylvania, the banks and trusts did not invest in Arkansas bonds until 1944 and not until 1954 for investors in Massachusetts and Connecticut.

place and the painful aftermath of state default that the state and its residents had to endure (Ergungor [2017], Ergungor [2016]). Other than a few literature studying these historical episodes of the U.S. states' defaults, discussions mostly have been made in legal points of view regarding the pros and cons of allowing state bankruptcy (Skeel Jr [2012], Conti-Brown and Skeel [2012]) without formal economic analysis supporting the arguments. This paper fills the gap in the literature.

What happens if the states are allowed to declare bankruptcy? This paper models this switch in state bankruptcy rules. Under the current rule, states have two options with existing debt: repay or default. Whether to provide a bailout upon default depends on the federal government. After allowing for state bankruptcy, states choose between repayment and declaring bankruptcy.

Whether to allow state government bankruptcy is to trade-off between ex-ante incentives and ex-post costs. Allowing bankruptcy provides the government an option that is less painful than outright default, thus lowering the incentives of the governments to repay their debt, leading to a higher cost of future borrowing. On the other hand, not allowing bankruptcy strengthens incentives for state governments to repay ex-ante, but once defaulted, it comes with high default cost.

The remainder of the paper proceeds as follows. Section 2 presents a simple sovereign default model with the possibility of the federal government bailout. Section 3 describes a switch in state bankruptcy rules that allows the states to declare bankruptcy. Using a simplified two-period model, Section 4 explains the ex-ante risks and ex-post benefits of a switch in state bankruptcy rules analytically. Section 5 calibrates the model and plots the policy functions to visualize the ex-ante risks and ex-post benefits for a switch in bankruptcy rule. Section 6 concludes.

2 The Model

Consider a state that receives a stochastic income stream y_t every period t. The state government borrows by issuing one-period bonds b_t which are not enforceable and the government can choose to default on its bonds. Let q_t be the price of a bond that promises to pay one unit of the consumption good next period. The lenders recognize that the governments may not repay and set the bond price q_t to break even in expectation. If the government defaults, it is temporarily excluded from the financial market. With probability λ, the government returns to the financial market. Outright defaults also incur direct output costs that reduces income: $y^d = h(y) \leq y$. There's a probability p of receiving bailouts from the federal government, in which case the federal government pays the lenders and the state government does not suffer financial exclusion and output loss.

I omit the time subscript t to simplify notation and use x' to denote variable x in the next period. The timing of the model is as follows. At the beginning of each period, income y is observed. The government decides whether to repay its debt or default. If the government repays its debt, it can issue new bonds b'. If the government defaults, with a probability p, the federal government provides bailouts and the debt b is written off; with a probability $1-p$, the federal government does not provide bailouts and the state government enters into financial autarky. With probability λ, the government comes back to the financial market.

A state government with access to financial markets chooses whether to default on its debt to maximize consumption:

$$V(y,b) = \max\{V^c(y,b), pV^d_{bailout}(y,b) + (1-p)V^d(y)\}, \tag{1}$$

where V^c denotes the repayment value. p is the probability of receiving bailouts from the federal government after default. $V^d_{bailout}(y,b)$ denotes the default value when the federal government provides bailouts and $V^d(y)$ denotes the default value without bailouts. Thus, $pV^d_{bailout}(y,b) + (1-p)V^d(y)$ is the expected defaulting value. If $V^c(y,b) < pV^d_{bailout}(y,b) + (1-p)V^d(y)$, the government chooses to default. Let $D(y,b) = 1$ denote default.

If the government chooses to repay, it can issue new bonds b' to maximize utility:

$$V^c(y,b) = \max_{\{c,b'\}} \quad u(c) + \beta\mathbb{E}\left[V(y',b')\right], \tag{2}$$

subject to the budget constraint:

$$c + b = y + q(y,b')b', \tag{3}$$

where c is consumption, b is debt repayment, $q(y,b')$ is the bond price, and $q(y,b')b'$ are thus the proceeds from issuing new bond.

If the federal government provides bailouts, the default value for the state government is given by:

$$V^d_{bailout}(y,b) = \max_{\{c,b'\}} \quad u(c) + \beta\mathbb{E}\left[V(y',b')\right], \tag{4}$$

subject to the budget constraint:

$$c = y + q(y,b')b'.$$

If the federal government does not provide bailouts, the default value for the state government is given by:

$$V^d(y) = \max_{\{c\}} \quad u(c) + \beta \mathbb{E}\left[\lambda V(y', 0) + (1-\lambda) V^d(y')\right], \tag{5}$$

subject to the budget constraint:

$$c = y^d.$$

The lenders are competitive and risk neutral. They face a fixed world interest rate of r and are willing to lend to the government as long as their expected value breaks even. The break-even condition implies that the bond price schedule $q(y, b')$ satisfies:

$$q(y, b') = \frac{1}{1+r} \mathbb{E}\left[1 - D(y', b') + pD(y', b')\right], \tag{6}$$

where p is the probability of the federal government providing a bailout. The bond price compensates the lenders for their losses when the state government defaults (and the federal government does not bailout). The government spread on its bond is defined as $sp(y, b') = 1/q(y, b') - (1 + r)$, where r is the risk-free interest rate.

Recursive equilibrium. The recursive equilibrium consists of policy functions for consumption $c(y, b)$, borrowing $b'(y, b))$, default set $D(y, b)$; the government value functions $V(y, b)$, $V^c(y, b)$, $V^d_{bailout}(y, b)$ and $V^d(y)$; and government bond price $q(y, b')$ such that:

1. Taking the bond price schedule $q(y, b')$ as given, the government's choices for borrowing $b'(y, b)$ and its default set $D(y, b)$, along with its value functions $V(y, b)$, $V^c(y, b)$, $V^d_{bailout}(y, b)$ and $V^d(y)$, solve the government's problem (1), where the repayment value $V^c(y, b)$ is given by (2), the default value when fed-

eral government provides bailouts $V^d_{bailout}(y,b)$ is given by (4), and the default value without bailouts $V^d(y)$ is given by (5).

2. The government bond price schedule (6) reflects the government's default probability and federal government bailout probability, and satisfies the lenders' break-even condition.

The probability of the federal government providing bailouts is exogenous to the state governments. Let's consider two extreme cases.

Case I ($p = 1$). In this case, the federal government provides bailouts with certainty. A state government's maximization problem is

$$V(y,b) = \max\{V^c(y,b), V^d_{bailout}(y,b)\},$$

where the repayment value is

$$V^c(y,b) = \max_{\{c,b'\}}\{u(c) + \beta\mathbb{E}\left[V(y',b')\right]\}, \text{subject to } c + b = y + q(y,b')b',$$

and the default value is

$$V^d_{bailout}(y,b) = \max_{\{c,b'\}}\{u(c) + \beta\mathbb{E}\left[V(y',b')\right]\}, \text{subject to } c = y + q(y,b')b'.$$

The state government will default with certainty because $V^d_{bailout}(y,b) \geq V^c(y,b)$. Under this case, the bond price is a constant $\frac{1}{1+r}$ and the federal government bears the repayment burden.

Case II ($p = 0$). In this case, the federal government commits to no bailout. A state government's maximization problem collapses to a standard quantitative sovereign default model à la Arellano [2008]. The government maximizes payoff

$$V(y,b) = \max\{V^c(y,b), V^d(y)\},$$

where

$$V^c(y,b) = \max_{\{c,b'\}}\{u(c) + \beta\mathbb{E}\left[V(y',b')\right]\}, \text{subject to } c + b = y + q(y,b')b'$$

and

$$V^d(y) = \max_{\{c\}}\{u(c) + \beta\mathbb{E}\left[\lambda V(y',0) + (1-\lambda)V^d(y')\right]\}, \text{subject to } c = y^d.$$

With probability $\mathbb{E}(D(y',b'))$, the state government defaults and the bond price is given by:

$$q(y,b') = \frac{1}{1+r}\mathbb{E}\left[1 - D(y',b')\right].$$

For $0 < p < 1$, the state government defaults with probability larger than $\mathbb{E}(D(y',b'))$ in *Case II*, but smaller than 1.

3 A Switch in State Bankruptcy Rules

Suppose now the state government is allowed to declare bankruptcy. After declaring bankruptcy, the lenders get recovery value $R(y,b) = \alpha y/b$ for each dollar of debt, where $0 < \alpha < 1$. The state government can still borrow for the next period. The timing is as follows. At the beginning of each period, income y is observed. The government decides whether to repay its debt or declare bankruptcy. If the government declares bankruptcy, the debt b is written off and the lenders get the recovery value from the bankruptcy process. The government issues new bonds b' for the next period.

A state government chooses whether to repay or declare bankruptcy on its debt to maximize consumption:

$$\hat{V}(y, b) = \max\{\hat{V}^c(y, b), \hat{V}^b(y, b)\}, \tag{7}$$

where $\hat{V}^c$ denotes the repayment value and $\hat{V}^b$ denotes the bankruptcy value. If $\hat{V}^c(y, b) < \hat{V}^b(y, b)$, the government chooses to declare bankruptcy. Let $B(y, b) = 1$ denote bankruptcy.

If the government chooses to repay, it can issue new bonds b' to maximize utility:

$$\hat{V}^c(y, b) = \max_{\{c, b'\}} \quad u(c) + \beta \mathbb{E}\left[\hat{V}(y', b')\right], \tag{8}$$

subject to the budget constraint:

$$c + b = y + \hat{q}(y, b')b', \tag{9}$$

where c is consumption, b is debt repayment, $\hat{q}(y, b')$ is the bond price under the case where the state government is allowed to declare bankruptcy, and $\hat{q}(y, b')b'$ are thus the proceeds from issuing new bonds.

The bankruptcy value for the state government is given by:

$$\hat{V}^b(y, b) = \max_{\{c, b'\}} \quad u(c) + \beta \mathbb{E}\left[\hat{V}(y', b')\right], \tag{10}$$

subject to the budget constraint:

$$c = (1 - \alpha)y + \hat{q}(y, b')b'.$$

The lenders are aware that the government may declare bankruptcy and they have claims for bond holding. The break-even condition implies that the bond price schedule $\hat{q}(y, b')$ satisfies:

$$\hat{q}(y, b') = \frac{1}{1+r}\mathbb{E}\left[1 - B(y', b') + B(y', b')R(y', b')\right], \tag{11}$$

where $R(y', b') = \alpha y'/b'$ is the recovery value the lenders can claim during bankruptcy process. The bond prices reflect the future bankruptcy probabilities and the recovery value in bankruptcy. The government spread on its bond is defined as $\hat{spread}(y, b') = 1/\hat{q}(y, b') - (1 + r)$, where r is the risk-free interest rate.

Recursive equilibrium. The recursive equilibrium consists of policy functions for consumption $c(y, b)$, borrowing $b'(y, b))$, bankruptcy set $B(y, b)$; the government value functions $\hat{V}(y, b)$, $\hat{V}^c(y, b)$, and $\hat{V}^b(y)$; and government bond price $\hat{q}(y, b')$ such that:

1. Taking the bond price schedule $\hat{q}(y, b')$ as given, the government's choices for borrowing $b'(y, b)$ and its bankruptcy set $B(y, b)$, along with its value functions $\hat{V}(y, b)$, $\hat{V}^c(y, b)$ and $\hat{V}^b(y, b)$, solve the government's problem (7), where the repayment value $\hat{V}^c(y, b)$ is given by (8) and the bankruptcy value $\hat{V}^b(y, b)$ is given by (10).

2. The government bond price schedule (11) reflects the government's bankruptcy

probability and recovery value during the bankruptcy process, and satisfies the lenders' break-even condition.

4 Ex-ante Risks and Ex-post Benefits

What happens when the state government is allowed to go bankrupt? It increases ex-ante risks for the government not to repay its debt. Intuitively, with the existence of a bankruptcy rule, a state government obtains a less painful outcome when not repaying, thus increasing their incentives to not repaying. A bankruptcy rule also brings ex-post benefit which prevents a large cost of potential default for the state government.[2]

To illustrate the trade-off analytically, here I present a simplified two-period model with analytical and numerical solutions under some parameter values. The economy receive income y_1 and y_2 in periods 1 and 2, respectively. The government payoff is $u(c_1) + \beta u(c_2)$, where c_1 is consumption in period 1, c_2 is consumption in period 2 and β is the discount factor. The initial bond holding is b_0. At the beginning of period 1, the government decides whether to repay its debt b_0. The federal government commits to no bailout.

Repayment value. If repays, the government can choose a non-defaultable bond b_1 with proceeds $\frac{b_1}{1+r}$ in period 1. The period-1 budget constraint is $c_1 + b_0 = y_1 + \frac{b_1}{1+r}$ and the period-2 budget constraint is $c_2 + b_1 = y_2$. Because it's a two-period model, bond holdings must be nil at the end of period 2, that is, $b_2 = 0$. Combining the per-period budget constraint and the transversality condition $b_2 = 0$ yields the

[2] Back to Arkansas default event, the state experienced severe austerity measures, financial exclusions, and could not invest in the desired infrastructure for years.

intertemporal budget constraint:

$$c_1 + \frac{c_2}{1+r} = y_1 + \frac{y_2}{1+r} - b_0.$$

Formally, the government's problem under repayment is

$$v^c = \max_{\{c_1, c_2\}} u(c_1) + \beta u(c_2),$$

subject to

$$c_1 + \frac{c_2}{1+r} = y_1 + \frac{y_2}{1+r} - b_0.$$

The government takes as given all objects on the right-hand side of the intertemporal budget constraint. Therefore, to save notation, let's call the right-hand side $\bar{Y}$:

$$\bar{Y} = y_1 + \frac{y_2}{1+r} - b_0.$$

Assume that preferences are logarithmic and there is no discounting $(\beta = 1)$. Then the lifetime utility is given by $u(c_1) + \beta u(c_2) = \ln c_1 + \ln c_2$. The intertemporal budget constraint is $c_1 + \frac{c_2}{1+r} = \bar{Y}$. Solving the intertemporal budget constraint for c_2 and using the result to eliminate c_2 from the lifetime utility function, the government's optimization problem reduces to choosing c_1 to maximize $\ln(c_1) + \ln((1+r)(\bar{Y} - c_1))$ The first order condition associated with this problem is $\frac{1}{c_1} - \frac{1}{\bar{Y} - c_1} = 0$. Thus we have

$$c_1 = \frac{1}{2}(y_1 + \frac{y_2}{1+r} - b_0), \qquad c_2 = \frac{1}{2}(y_1 + \frac{y_2}{1+r} - b_0)(1+r),$$

and the government payoff under repayment is

$$v^c = 2\ln\left(y_1 + \frac{y_2}{1+r} - b_0\right) + \ln\left(\frac{1+r}{4}\right).$$

It shows that, with more outstanding debt b_0, the government's payoff v^c is lower.

Default value. At the beginning of period 1, if the state government chooses to default on its debt b_0, the state government can't borrow and suffers default cost. The state government period-1 budget constraint is $c_1 = y_1$ and the period-2 budget constraint is $c_2 = y_2^d$, where $y_2^d = y_2 - \Delta$ reflects the default punishment on income when government defaults. Formally, the government's problem is

$$v^d = \max_{\{c_1, c_2\}} u(c_1) + \beta u(c_2),$$

subject to the intertemporal budget constraint:

$$c_1 + c_2 = y_1 + y_2 - \Delta,$$

where $\Delta = y_2 - y_2^d > 0$ indicates default cost. Assume logarithmic preference and $\beta = 1$, the first order conditions give

$$c_1 = \frac{1}{2}(y_1 + y_2 - \Delta), \qquad c_2 = \frac{1}{2}(y_1 + y_2 - \Delta),$$

and the government payoff under default is

$$v^d = 2 \ln (y_1 + y_2 - \Delta) + \ln \left(\frac{1}{4} \right).$$

With higher default punishment, the government payoff under default v^d is lower.

Bankruptcy value. Now, suppose the state government is allowed to go bankrupt. At the beginning of period 1, the state government can also choose to declare bankruptcy on its debt b_0. The lenders get a fraction of state government endowment

αy_1 as recovery value. After the bankruptcy process, the state government can still borrow the non-defaultable bond b_1. Thus, the state government period-1 budget constraint is $c_1 = (1-\alpha)y_1 + \frac{b_1}{1+r}$ and the period-2 budget constraint is $c_2 + b_1 = y_2$. Formally, the state government's problem is

$$v^b = \max_{\{c_1, c_2\}} u(c_1) + \beta u(c_2),$$

subject to the intertemporal budget constraint:

$$c_1 + \frac{c_2}{(1+r)} = (1-\alpha)y_1 + \frac{y_2}{(1+r)},$$

Assume logarithmic preference and $\beta = 1$, the first order conditions give

$$c_1 = \frac{1}{2}\left((1-\alpha)y_1 + \frac{y_2}{1+r}\right), \qquad c_2 = \frac{1}{2}\left((1-\alpha)y_1 + \frac{y_2}{1+r}\right)(1+r),$$

and the government payoff is

$$v^b = 2\ln\left((1-\alpha)y_1 + \frac{y_2}{1+r}\right) + \ln\left(\frac{1+r}{4}\right).$$

Collecting the government payoff under repayment v^c, payoff under default v^d, and payoff under bankruptcy v^b as follows:

$$v^c = 2\ln\left(y_1 + \frac{y_2}{1+r} - b_0\right) + \ln\left(\frac{1+r}{4}\right).$$

$$v^d = 2\ln(y_1 + y_2 - \Delta) + \ln\left(\frac{1}{4}\right).$$

$$v^b = 2\ln\left((1-\alpha)y_1 + \frac{y_2}{1+r}\right) + \ln\left(\frac{1+r}{4}\right).$$

When default punishment Δ is high, the government will likely repay because v^d is small. After allowing for bankruptcy, the government will refuse to repay (and declare bankruptcy) as long as $b_0 > \alpha y_1$. Thus, a switch in bankruptcy rule features a larger *ex-ante* probability of not repaying debt but a less painful *ex-post* outcome without high default punishment.

5 Quantitative Analysis

Back to the infinite-horizon model, I calibrate the model and plot the policy functions to visualize the risks and gains of a switch in bankruptcy rule. The model is calibrated at an annual frequency. Income y follows an AR(1) process: $\log(y_t) = \rho \log(y_{t-1}) + \varepsilon_t$, where ε_t follows a normal distribution with mean zero and a standard deviation of σ_y. If the government defaults, the economy suffers an income loss: $y^d = h(y) = \min\{y, \gamma \mathbb{E} y\}$, where γ is a parameter. The utility function is $u(c_t) = \frac{c_t^{1-\sigma}}{1-\sigma}$, where σ is the risk aversion parameter.

I parameterize the model to the average of 50 U.S. states. There are two groups of parameters. The first group of parameters is assigned, and those in the second group are jointly chosen to match relevant empirical moments. The first group includes $\{\rho, \sigma_y, r, \sigma, \lambda, p, \alpha\}$. The parameters for the income process $\{\rho, \sigma_y\}$ are estimated using state-level GDP data in 1960-2020, which generates $\rho = 0.98$ and $\sigma_y = 0.04$. The annual risk-free rate r is 2%. The risk aversion parameter σ is set to 2, a commonly used value in literature. The return parameter λ after default is 0.25 following Gelos et al. [2011]. This implies that a defaulting government is excluded from financial markets for four years on average. The bailout probability p is 0.25 and the fraction of income the lenders can recover in the bankruptcy process is $\alpha = 0.5$. The second group is $\{\beta, \gamma\}$. I choose them to jointly target average spread (0.86%) and average debt-to-GDP ratio (0.16) from 2000 to 2019 in 50 states. I use the global method to solve the model. Given the model policy functions, I perform simulations to obtain the model-implied moments. I jointly choose $\{\beta, \gamma\}$ to minimize the sum of the distance between the moments in the model and their corresponding counterparts in the data, which generates $\beta = 0.979$ and $\gamma = 0.55$.

To show the ex-ante risks of allowing bankruptcy, Figure 1 plots the repayment probability for the government under no bankruptcy (blue dashed lines) and after allowing for bankruptcy (solid red lines). The left panel, middle panel and right panel show the repayment probabilities under different income levels, where $y_1 < y_2 < y_3$. After allowing for bankruptcy (solid red lines), the probability of the government repaying its debt is lower. It shows that the ex-ante risk of not repaying debt is higher after allowing for bankruptcy. This is because allowing for bankruptcy provides a less painful result for not repaying debt, thus reducing government's incentives to repay its debt.

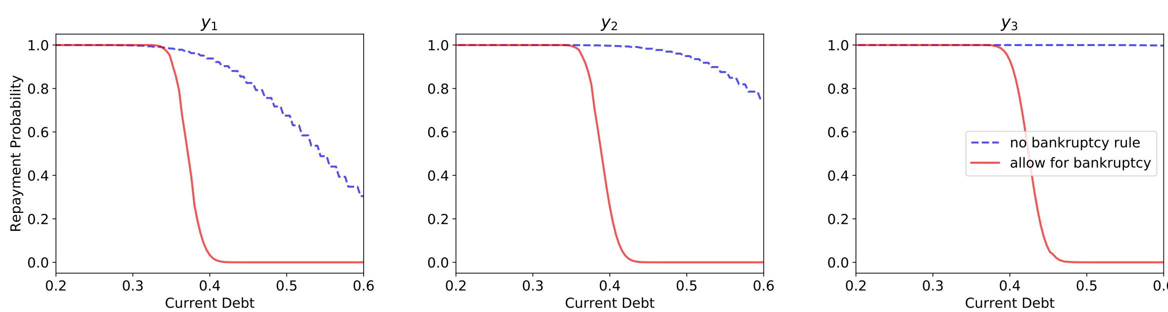

Figure 1: Ex-ante risk of allowing bankruptcy

Notes: Repayment probabilities as a function of current debt for different levels of income, where $y_1 < y_2 < y_3$. The blue dashed lines plot the case when bankruptcy is not allowed. The solid red lines plot the case where bankruptcy is allowed. Lower red lines show the larger ex-ante risk of not repaying debt after allowing bankruptcy.

Allowing bankruptcy provides ex-post benefits because the government suffers less under bankruptcy rules if debts are not repaid. Figure 2 plots the payoffs when the government chooses not to repay its debt. Higher red solid lines show the ex-post benefit of allowing bankruptcy. The left panel plots the government payoffs as a function of income under the case without bankruptcy rule (dashed blue line) and the case allowing for bankruptcy (solid red line) after the government does not repay its debt. The right panel plots the consumption equivalence under two cases. Almost at every level of income, after not repaying its debt, the government has higher value and consumption equivalence under the case that bankruptcy is allowed.

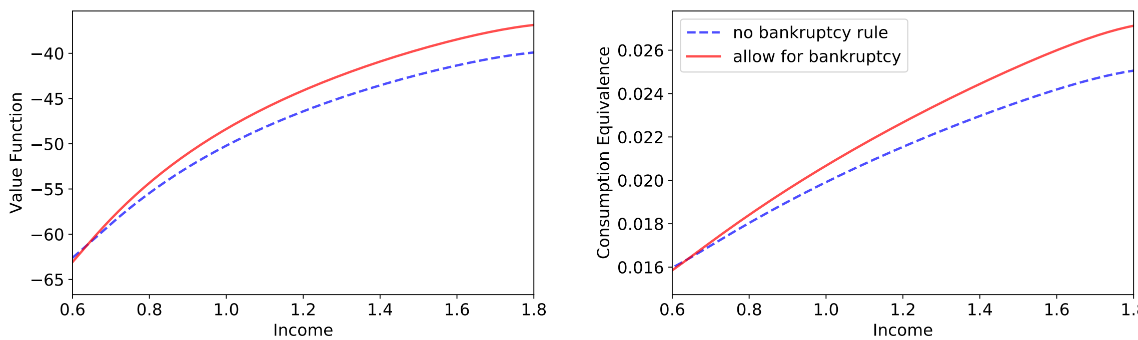

Figure 2: Ex-post benefit of allowing bankruptcy

Notes: Government payoffs and consumption equivalence after not repaying its debt. The dashed blue lines plot the case when bankruptcy is not allowed. The solid red lines plot the case where bankruptcy is allowed. Higher red lines show the ex-post benefit of allowing bankruptcy.

Figure 1 and 2 show the ex-ante risks and ex-post benefits of a switch in bankruptcy rule that allows declaring bankruptcy. What about the impact of a switch in state bankruptcy rule on government borrowing cost? Figure 3 plots bond spreads before and after the switch in state bankruptcy rules. It shows that whether allowing for bankruptcy increase or decrease borrowing cost depend on current income and debt level.

When income is high and debt is relatively low, allowing for bankruptcy increases government bond spread. As the debt burden increases, allowing for bankruptcy reduces government bond spread. This implies that an unexpected switch in bankruptcy rules that allow for bankruptcy can reduce government bond spread if the government has a heavy debt burden, and increases government bond spread otherwise.

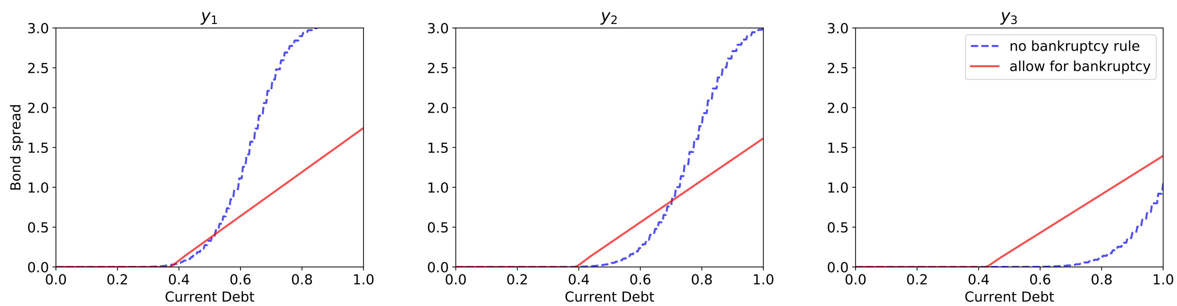

Figure 3: Bond spread

Notes: Bond spread as a function of current debt for different levels of income, where $y_1 < y_2 < y_3$. The dashed blue lines plot the case when bankruptcy is not allowed. The solid red lines plot the case where bankruptcy is allowed.

6 Conclusion

This paper provides a formal framework to analyze the impacts of a switch in bankruptcy rule from not allowing bankruptcy to allowing bankruptcy for a state government. Allowing for bankruptcy increases ex-ante risks for the state government to refuse repayment, but reduces ex-post cost from outright default. When ex-post benefits outweigh its ex-ante risks, allowing sovereign bankruptcy is desirable. This paper explains this trade-off analytically and quantitatively.

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