

Financial Crises and Political Crises*

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Abstract

The simultaneous determination of financial default and political crises is studied in an open economy model. Political crises accompany default in equilibrium because of an information transmission conflict between the government and the public. Multiple equilibria are possible: if foreign lenders are pessimistic about the country's stability, they demand a high interest on the debt, exacerbating distortions and possibly leading to political crisis; but if lenders are optimistic, the cost of the debt falls and political crises disappear. In such a case, international liquidity packages can select the best equilibrium and rule out political crises at negligible cost.

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1. Introduction

That financial crises are often associated with political instability is undisputable. In two recent and spectacular episodes, Indonesia 1998 and Argentina 2001, economic and financial difficulties were followed by massive popular revolts, which ultimately toppled the incumbent governments. In spite of the notoriety of these and other cases, our understanding of them and, more generally, of the links between financial turmoil and political crises remains rather poor. Yet such an understanding may be crucial, most significantly for the formulation and evaluation of public policy.

Indeed, some observers of Indonesia and Argentina reached the conclusion that those crashes were driven primarily by social, institutional, and political degeneration. One logical implication of that position is that international assistance, in terms of advice or resources, to countries in such circumstances is not advisable, as it is bound to be wasted in the absence of deep institutional and political reform.¹ That analysis, therefore, denies the relevance of existing theories of financial crises, in particular those which emphasize liquidity, self fulfilling panics, and the desirability of an international lender of last resort, in situations in which political instability seems to be the dominant force.

But the view that crises like those of Indonesia and Argentina are just the manifestation of underlying political forces relies upon the implicit assumption that the political equilibrium is largely exogenous with respect to economic and financial events. That assumption is itself questionable. The popular uprisings in Indonesia and Argentina appeared to be caused by widespread anger about the economic adjustment measures proposed by the incumbent governments as the best way to overcome ongoing financial difficulties.² So it is not too hard

¹See Caballero and Dornbusch (2002), for instance.

²In Indonesia, the proximate detonant for the popular revolt of May 1998 was an increase in the cost of fuel, electricity, and public transportation, which itself was one condition of the April 1998 IMF package (Globalmacro 1998, Haggard 2000). In Argentina, the political crisis of December 2001 appears to have been a response to fiscal austerity packages (such as the July 2001 zero deficit law) and, specially, controls to limit the withdrawals of bank deposits (*corralito*) and the exhaustion of foreign reserves.

to argue that political instability is an endogenous response to the economic environment.³

The only satisfactory solution may be to admit that financial crises and political crises affect each other. But such a view presents us with substantial challenges: If political turbulence is not to invalidate existing economic theories of crises, can the latter be amended so as to account for such turbulence? And, if the necessary amendments are feasible, what are their implications for policy analysis? To start tackling these and other associated questions, this paper develops a very stylized model of a country that has a foreign debt which can be repudiated. In the presence of political distortions, large amounts of debt lead to default and, more to the point, to costly political crisis. But conversely, since financial markets are forward looking, the cost of credit and the magnitude of the debt depend on expectations about political stability.

The main innovation of the model is, therefore, to allow for the simultaneous determination of financial crises and political crises. This view has significant implications for the analysis of crises and yields significant policy lessons. In particular, we obtain the novel result that self fulfilling changes in the expectations of foreign lenders can lead not only to a financial crisis but also to the collapse of the government. Under some conditions, when lenders are pessimistic about politico economic stability, they demand a high interest rate on loans, exacerbating political distortions and leading to political crises and default. But if lenders are optimistic, the cost of the debt goes down, alleviating political conflict and ruling out political crises.

The political side of the model is built upon an information transmission problem between the government and the public. The debt repayment/default decision is made by a policymaker that has better information than the public about the social cost of default.

³Accordingly, for example, Haggard (2000), argued that for Indonesia: "...the causal arrows also work in reverse. Economic circumstances contributed to Suharto's fall..." More recently, the empirical work of Frankel (2005) indicates that, in developing countries, currency crashes are associated with a significant increase in the probability that an incumbent government loses office.

To control the policymaker's behavior, the representative agent may dismiss her after she has announced whether or not she is about to default on the debt. But dismissing the government is costly for all agents: it constitutes a "political crisis" in the model.

Despite the information asymmetry, no political crisis occur in equilibrium unless there is a political distortion: the policymaker's preferences differ from the maximization of social welfare. The model's assumption is that the policymaker may suffer a personal cost, in addition to the social loss, if she is responsible for default. That personal cost may reflect career concerns or political biases; regardless of the interpretation, the divergence of interests means that the option to fire the policymaker now is exercised in equilibrium.

The incidence of the political distortions, and the equilibrium probabilities of default and political crisis, both depend on the stock of foreign exchange reserves and the size of the foreign debt. The latter is endogenized by embedding the political scenario into a more involved investment problem, in which the country borrows in the world market in order to undertake a socially desirable investment. The cost of foreign credit and the final debt obligation must then increase with the probability of default and political crises if foreigners are to lend. But this means that, in the extended model, the size of the debt and the likelihood of financial and political crises are simultaneously determined.

The resulting *politico-economic* equilibria have several noteworthy implications. Some crises are "only financial" while others are associated with political turmoil. And crucially, both kinds of crises can coexist, as already stressed.

Multiple equilibria suggests that international financial assistance policy can select the best equilibrium at a zero cost, as discussed by Chang and Velasco (2000) and other recent papers on liquidity crises. However, there is at least one significant caveat. If an equilibrium with "only financial crisis" coexists with an equilibrium in which crises are not only financial but also political, an unconditional loan guarantee provided by the international community selects the first equilibrium, thus eliminating political crises, but implies a net expected

transfer to the debtor country. Such a gift can be avoided, but this requires guarantees to be designed so as to become effective *only* in the worst equilibrium; this is the case, for instance, if the guarantee is made conditional on the cost of credit to the debtor country.

This paper is obviously related to the literature on crises in open economies started by Krugman (1979).⁴ While the literature is huge, it has by and large ignored the interplay between financial crises and political issues which is central to this paper.⁵ In pursuing this approach, we borrow many insights from the "political economics" literature usefully summarized by Drazen (2000) and Persson and Tabellini (2000).⁶

The rest of the paper is organized as follows. Section 2 describes the basic features of the political stage. Section 3 introduces a divergence between the policymaker's objectives and those of the representative agent, characterizes the resulting equilibria and shows, in particular, political crises may occur if debt is sufficiently large and reserves are low. Section 4 embeds the political stage into a two stage investment problem, characterizes politico economic equilibria, and shows that confidence crises may lead both to an increased probability of default and of political collapse. Section 5 discusses policy. Section 6 concludes.

2. A Stylized "Non-Political" Model of Default

This section describes the main setting, a small open economy populated by a representative agent and a government or policymaker. By assuming a representative agent, our discussion emphasizes conflicts of interest between the government and the public, as opposed to other

⁴See Garber and Svensson (1995) for a survey of "first generation" models of currency crises. For a review of more recent developments, see Chang (1999).

⁵A notable exception is Drazen (1998), which studies how a currency crisis in one country may provide information about government preferences in other countries and, hence, result in "contagion." On the empirical relation between institutions and macroeconomic volatility, a key reference is Acemoglu, Johnson, Robinson and Thaicharoen (2003).

⁶In particular, the idea that the representative agent can dismiss the policymaker is similar to that in Ferejohn (1986) to study the role of voting, while the government problem of conveying its information to the public is reminiscent of that used by Cukierman and Tomassi (1998) to explain policy reversals.

conflicts, such as those between different groups in the population. Hence our model is applicable to crises in which a popular consensus develops concerning the need to get rid of an incumbent government. This appears to have been the case in Indonesia 1998 and Argentina 2001.

There is only one period and one good, which is traded freely and costs one unit of the world's currency, which will be the numeraire and called *dollar*. The economy starts the period with an official debt of D dollars to foreign investors due for repayment at the end of the period, but only has $R < D$ dollar "reserves" at that point. In this section and the next we take R and D as exogenously given; later we endogenize them and embed the analysis as one stage of a more fully fledged investment problem.

Since $D > R$, repaying the debt requires collecting a tax $X = D - R$ from the representative agent.⁷ The burden of the tax on the representative agent may be higher than X if, for example, taxes are distortionary. This is not essential for the analysis, however, so we shall just assume that the cost, in dollars, to the representative agent of repaying the debt is $X + \Psi(X)$, where Ψ is a non decreasing function that captures the cost of distortionary taxation.

Repudiating the foreign debt is an option for this economy. Default is an all or nothing decision. The *value of default* is denoted by V and has two components: the representative agent does not pay the tax (and the associated cost of adjustment) and the economy keeps its reserves. Hence $V = R + X + \Psi(X) = D + \Psi(D - R)$.

On the other hand, defaulting on the debt imposes a *direct cost*, whose dollar value will be denoted by χ , on the representative agent. The exact nature of the direct cost of default has been extensively discussed in the sovereign debt literature,⁸ but is not essential here: χ may represent, for instance, the impact of trade sanctions or of future exclusion from foreign

⁷Of course, we implicitly assume that the representative agent has some given income.

⁸For instance, see Eaton and Fernandez (1995).

credit associated with default. What matters for us is that the direct cost χ is a random variable; for simplicity, assume that it can only take two values, low (χ_L) or high ($\chi_H > \chi_L$). Let q denote the probability that χ is high.

Who makes the default decision and the structure of *information* are crucial. Suppose that the representative agent chooses whether or not the debt is repudiated after observing the realization of χ . Then, the solution is obvious: the debt is repudiated if $V < \chi$ and repaid otherwise. In particular, if

$$\chi_L < V \leq \chi_H \tag{1}$$

the representative agent repays the debt if the direct cost of default is high and defaults in the opposite case. In this case, default happens with probability $(1 - q)$. If $V \leq \chi_L$, the representative agent does not default even if the direct cost is small; at the other extreme, $V > \chi_H$, there is default for sure.

The preceding setup is reasonable in a number of ways. In particular, the probability of default is increasing in the debt D and, given D , decreasing on the reserves to debt ratio R/D . These implications are roughly consistent with recent crises. Yet, the setup does not have a "political" dimension. In addition, it is not realistic as, in practice, the decision to default is not made by the public but by the government.

To introduce a political dimension and add realism, it is assumed hereon that the default decision is made by the policymaker on behalf of the representative agent. The representative agent, however, can *dismiss* the policymaker and overrule her decision, at some cost $\varphi > 0$. The dismissal of the government is what constitutes a "political crisis" in this model. In practice, the government can be dismissed in various ways: it can be voted out of office, for example, or it can be forced to resign by a popular revolt, as in the recent cases of Indonesia and Argentina. Clearly, all of these alternatives result in deadweight losses, although the magnitude of the cost may depend on exactly how the government is kicked out.

Finally, we shall assume that the government has some information that is not immediately available to the public. In particular, only the policymaker observes χ , the social cost of default, without cost. This captures the idea that policymakers often obtain advance information about the pros and cons of default in debt negotiations, or through their economists's research; this information does not necessarily becomes available to the average citizen until default is a *fait accompli*.

To mix all these ingredients in a tractable way, we assume the following sequence of events. The policymaker observes the realization of χ , and proposes to default or to repay the debt. After observing the policymaker's announcement, but not χ , the representative agent chooses to retain the policymaker or to dismiss her. If the policymaker is retained, her proposal is implemented. If not, the representative citizen learns the value of χ , and chooses whether or not to default on the debt. The period under study then ends.

The outcomes of this model are given by its Perfect Bayesian Equilibria (PBE)⁹ and depend on whether there is a divergence between the policymaker's objectives (which have been not specified yet) and those of the electorate, that is, whether there is a *political distortion*. For, if there is no such distortion, the outcome must be the same as when the representative agent chooses policy directly and, in particular, the policymaker is never dismissed.

To be more precise, suppose that the policymaker's preferences are exactly those of the electorate, and that she announces default only if the representative agent, had he been in power, would have chosen so. Then the representative agent has no incentive to dismiss the policymaker: dismissal would entail paying the political cost φ but would lead to the same default decision as that proposed by the government. In turn, knowing that the representative agent will retain her independently of her default announcement, the policymaker will default only if the representative agent would have done so.

⁹A suitable definition of PBE is given in Gibbons (1992).

In sum, even if the representative agent can "fire" the government, a political crisis does not occur in the absence of political distortions. That only the policymaker observes the cost of default does not really matter: in equilibrium, the representative agent believes (correctly) that the policymaker proposes default if and only if it is socially beneficial. Financial crises can occur but political crises cannot.

3. The Implications of Political Distortions

Things change if the government's objectives do not always coincide with those of the electorate. To allow for this possibility, assume from now on that the policymaker does not only care about social welfare but, in addition, she may suffer a *personal cost* if she proposes and implements a default. The personal cost is random and can take two values, either zero or $\gamma\chi$, with probabilities p and $(1 - p)$ respectively. Hence p is the probability that the policymaker is "benevolent," and $(1 - p)$ the probability that she is "biased" or "self interested."

The policymaker's personal cost may have at least two interesting interpretations. The first one is that the policymaker cares not only about society but also about her own career. In that case, defaulting on the debt may have an impact on the policymaker's future above and beyond the cost for the general public, due to loss of reputation and concerns about her ability.¹⁰ The second interpretation¹¹ is that the cost of a default may vary across the population. In that case, the public may not know whether the policymaker's evaluation of the costs of default are aligned with the average citizen's evaluation or, in contrast, biased towards a particular group.

With the amendment just made, the rest of the model is the same as in the previous

¹⁰An associated interpretation is that the policymaker may be "corrupt", a suspicion that figured prominently in the recent crises of Indonesia and Argentina.

¹¹Suggested by Andres Velasco.

section, except that the government knows her own objectives, as well as the direct social cost of default, before making her default proposal. On the other hand, the public never observes whether the policymaker has a bias or not.

The resulting Bayesian game has many possible equilibria, depending on parameter values and, more importantly for our discussion, on the size of the debt and reserves. For concreteness, the rest of the paper assumes that:

$$(1 + \gamma)\chi_L \geq \chi_H \tag{2}$$

This condition implies that, in the (interesting) range given by (1), the self interested policymaker will propose to repay the debt even if the social cost of default is low: together with (1), (2) guarantees (although it is stronger than necessary) that the cost of repayment, $X + \Psi(X)$, is less than the self serving policymaker's cost if she proposes default and is accepted, $(1 + \gamma)\chi_L - R$. The implication is that there cannot be a PBE in which political crisis is absent and default happens only when the social cost is low, since the self interested government would repay the debt regardless of the social cost of default. In other words, the outcome of the previous section is now ruled out.

The details of the model's PBE are straightforward but somewhat lengthy and therefore best delayed to an Appendix.¹² The following Proposition collects the results that are most relevant for our subsequent discussion:

Proposition 3.1. *Assume that $\gamma\chi_L > \varphi$ and $\chi_H - \chi_L \geq \varphi(1 + 1/(1 - z))$, where $z = q/[q + (1 - q)(1 - p)]$. Then:*

- *If $V \leq \chi_L$, there is a PBE (which, for brevity, we will refer to as PBE Type i) in which there is neither default nor political crisis.*

¹²The Appendix is available at <http://econweb.rutgers.edu/rchang/>

- If $\chi_L < V \leq \chi_L + \varphi/(1 - z)$, there is a PBE (called Type ii) in which default occurs with probability $p(1 - q)$, but political crises do not occur.
- If $\chi_L + \varphi/(1 - z) < V \leq \chi_H - \varphi$, there is a PBE (Type iii) in which default has probability $1 - q$ and political crises occur with probability $1 - p(1 - q)$.

The proof is in the Appendix. The Appendix also shows that, given any parameter configuration satisfying its conditions, the Proposition identifies the only "reasonable outcome" of the model.¹³

[PLEASE INSERT FIGURE 1 HERE]

Figure 1 summarizes the Proposition. As illustrated by the Figure, given the other parameters of the model, the debt D and reserves R determine the value of default V and therefore the type of PBE that prevails. And they do so in an intuitively appealing way: as the Proposition states, there is neither default nor political crises if the debt is low enough and reserves large enough in the sense that $V = D + \Psi(D - R) \leq \chi_L$; a larger debt or smaller reserves imply, when $\chi_L < V \leq \chi_L + \varphi/(1 - z)$, that defaults occur with positive probability; if V is even larger, then the probability of default goes up, and political crises happen with positive probability.

A sketch of the proof of the Proposition and of the strategies and beliefs supporting the PBE reveals further aspects of the model. If $V \leq \chi_L$ the costs of default always exceed the cost of debt service for both the benevolent and selfish policymaker. So both kinds propose to repay the debt regardless of the realization of χ . This leads to a socially desirable outcome, and hence the representative agent never dismisses the policymaker.

¹³The Proposition's restriction to cases in which $V \leq \chi_H - \varphi$ is for expositional purposes only. The Appendix shows and discusses PBE when $V > \chi_H - \varphi$.

If $V > \chi_L$, the analysis is more involved. The strategies underlying both PBE Type ii and PBE Type iii have the policymaker proposing default only if she is benevolent and the social cost of default is low. The representative agent, in turn, always accepts the government's proposal in a PBE of Type ii, but fires the government (and defaults on the debt if he learns that $\chi = \chi_L$) after a no default proposal in a Type iii PBE.

Why? In both cases, a proposal to default on the debt and the government strategies just described allow the representative agent to infer that the government is benevolent and, more significantly, that $\chi = \chi_L$, meaning that default is indeed the socially most preferred option. But the agent's inference is more delicate when he hears a proposal to repay the debt: in that case, the cost of default may in fact be low but the policymaker may be self serving and lying about the state of nature. While the representative agent can find out the truth by firing the policymaker, the value of doing so depends on the probability of changing a possibly wrong policy. Hence the agent's expected gain or loss from firing the policymaker depends on his beliefs about the policymaker's true type conditional on the repayment proposal. In a PBE, those beliefs are pinned down by Bayes' rule and the equilibrium strategies, which together imply that $\Pr\{\chi = \chi_H | \text{policymaker proposes to repay}\} = z$, where z is defined in the Proposition. One can then show that it is optimal for the representative agent to retain the policymaker, after a no default proposal, if $V \leq \chi_L + \varphi/(1 - z)$, and to fire her if the inequality is reversed.¹⁴

The existence of PBE of Type iii implies that financial crises and political crises may occur simultaneously and in equilibrium, a result new to the literature on debt crises. This occurs when a large debt and low reserves make the expected gain from correcting a possibly wrong repayment decision large enough for the representative agent to fire the government

¹⁴As shown in the Appendix, $\gamma\chi_L > \varphi$ ensures the optimality of the selfish policymaker's strategy. In a PBE Type iii, the selfish policymaker effectively accepts her own dismissal, which costs φ to her, by proposing repayment. To remain in power, however, she must propose default, which costs her $\gamma\chi_L$ over and above the social cost. See the Appendix for the completion of the proof and further discussion.

after a repayment proposal, even if political crises are costly. Here political crises serve a social purpose: useful information is released and the debt is repudiated when it is optimal for the representative agent to do so. On the other hand, the deadweight loss φ associated with political crises is paid with positive probability.

Notably, in a Type iii PBE, the benevolent policymaker may truthfully claim that the cost of default is high and that the debt should be repaid. Nevertheless, the representative agent kicks her out of office, only to find out later that it is better not to default anyway. In such a case, the political distortions and asymmetric information make it impossible for a good government to convince the population that repayment is really called for.¹⁵

4. Liquidity Crises and Political Crises

So far we have taken the amount of debt D as given exogenously. In reality, however, the cost and size of the foreign debt responds to market expectations about financial and political stability. Accordingly, this section allows the debt to be endogenous, which leads to an interplay between financial equilibria and political turmoil and to the most novel and significant result of this paper: financial fragility can lead to default and political crises.

The easiest way to proceed is to embed our model as the final "political stage" of a two stage investment problem. The first, or "financial" stage, is as follows. Take the environment of the two previous sections but assume that at the beginning of the period of analysis the economy has an investment opportunity that costs I dollars. At that point, the economy has inherited some prior debt of D_0 dollars, due at the end of the period, but has no reserves (alternatively, I is the difference between the cost of the investment and the initial reserves).

¹⁵It may be worth noting that political distortions can matter even if they do not become manifest in the form of a political crisis. In a Type ii PBE the representative agent always retains the policymaker, even if there is a positive probability that the policymaker is selfish and is getting away with a proposal to repay the debt when it should be repudiated. Then, although there are no political crises, default occurs less often than socially desirable.

The investment returns $R > 0$ dollars, but only at the end of the period. Hence, making the investment requires this economy to borrow the I dollars needed. The potential lenders are risk neutral foreign lenders, whose opportunity cost of funds is zero.

For simplicity, assume that the investment has some nonpecuniary benefits as well, so that the representative agent would choose to make the investment if at all possible. To do this, the government is instructed to sell claims to D_1 dollars, payable at the end of the period, to the foreign investors. As the latter are rational, if the government is able to raise the funds for the investment, the price of each claim (denoted by ω hereon) must be equal to the probability that the debt claims will be repaid, and $\omega D_1 = I$. This ends the financial stage. The continuation, political stage, is just the model of the last section.

Now, in the political stage, the amount of reserves R is given by the return on the investment (if enough funds were raised in the financial stage), still an exogenous quantity. But now the debt due at the end of the period, D , is equal to $D_0 + D_1 = D_0 + I/\omega$, which is endogenous and depends on the probability of default. A *politico economic* equilibrium is now an amount of debt D and a probability of repayment ω such that, given D and R , ω is determined by a PBE of the political stage, and $D = D_0 + I/\omega$.

One can now construct several kinds of politico economic equilibria, corresponding to the different PBE outcomes of the political stage. In particular,

Proposition 4.1. • *A politico economic equilibrium with no default nor political crisis exists if*

$$D_0 + I + \Psi(D_0 + I - R) \leq \chi_L \quad (3)$$

• *There is a politico economic equilibrium with only financial crises if*

$$\chi_L < D_0 + I/[1 - p(1 - q)] + \Psi(D_0 + \{I/[1 - p(1 - q)]\} - R) \leq \chi_L + \phi/(1 - z) \quad (4)$$

- Finally, there is a politico economic equilibrium in which both financial crises and political crises happen with positive probability if

$$\chi_L + \phi/(1 - z) < D_0 + I/q + \Psi(D_0 + (I/q) - R) \leq \chi_H - \phi. \quad (5)$$

Proof: If there is no default in equilibrium, the probability of repayment, ω , must be one, and hence $D = D_0 + I$. For this to be a politico economic equilibrium, D and R must lead to a Type i PBE of the political stage, which requires (as we know from Proposition 3.1) $V \leq \chi_L$. But this is guaranteed by (3), since $V = R + X + \Psi(X) = D_0 + I + \Psi(D_0 + I - R)$.

In an equilibrium in which the political stage continuation outcome is given by PBE Type ii, $\omega = 1 - p(1 - q)$, and $D = D_0 + I/[1 - p(1 - q)]$. For this to be an equilibrium, $\chi_L + \phi/(1 - z) < V \leq \chi_H - \phi$, which is guaranteed by (4). An entirely analogous argument implies that 5 guarantees a politico economic equilibrium with a political stage continuation outcome given by PBE Type iii. ■

Corollary 4.2. *A no crisis equilibrium may coexist with an equilibrium with only financial crises. The latter may, in turn, coexist with an equilibrium with both financial and political crises.*

Proof. The intervals (3) and (4) overlap. So do (4) and (5). ■

Proposition 4.1 reveals that worsening fundamentals are associated with a higher likelihood of a progressively more severe collapse involving not only the financial system but also political stability. Low reserves R , for example, makes it more likely that (3) ceases to hold and that (4) applies; if reserves are even lower, (5) may hold instead.

The Corollary emphasizes, however, that the existence and severity of crises depends not only on fundamentals, but also on self fulfilling expectations. That financial crises may be

self fulfilling is, of course, not unexpected in light of recent developments in the literature.¹⁶ But the most crucial and novel finding is that an equilibrium with "only financial" crises may coexist with an equilibrium with both financial *and* political crisis. The intuition is that, if lenders hold adverse expectations about the politico-economic outcome, they will demand a higher interest rate on their loans; the high cost of capital increases the debt D and, hence, exacerbates the political problem so as to validate pessimistic expectations. This is not a necessary outcome, however: if lenders anticipate a more favorable outcome in the political stage, the interest rate on the debt is lower, which eliminates political crises. In this sense, financial fragility can result in political collapse.

5. Welfare and Policy Implications

Recent work on liquidity crises has emphasized that, if there are multiple equilibria, Pareto dominated crisis outcomes can be eliminated if an international institution (such as the IMF) provides loan guarantees or acts as international lender of last resort. In addition, those assistance packages are not needed in the surviving equilibrium, and hence they have a zero expected cost for the international institution. This section shows that international policy can be similarly beneficial in this model, although the interaction between finance and politics warrant remarkable modifications to the analysis.

To state the case for international liquidity assistance in our model, suppose both (3) and (4) hold so that a no crisis politico economic equilibrium and an "only financial" crisis equilibrium coexist. To rule out the latter, some external institution (IFI for short) agrees to provide a guarantee of the debt. Here, an (international) *guarantee* is a facility that, if at the end of the day the country has defaulted on its debt, is activated and pays foreign debt

¹⁶See, for instance, Chang and Velasco (2000). In fact, the model may display multiple equilibria and self fulfilling crises even if in the absence of the political distortion: that would be the case if the political stage were given not by the setting of section 3 but by the "apolitical" one of section 2. Note, however, that the probability of default would be different in the latter case.

holders the D dollars owed to them. To keep our discussion in focus, assume that the policy is automatic and credible. The implication is:

Proposition 5.1. *If both (3) and (4) hold in the absence of IFI intervention, a debt guarantee selects the no crisis equilibrium at a zero expected cost for the IFI.*

Proof: Since the guarantee makes the debt riskless to lenders, the country will raise the investment funds it needs, I , at a zero rate of interest. This ensures that, at the political stage, $D = D_0 + I$. But then $V = D + \Psi(D - R) \leq \chi_L$ by (3), and then Proposition 3.1 ensures that only PBE Type i can be an equilibrium continuation of the political stage. Hence the guarantee selects the no crisis equilibrium. Since default has zero probability in that equilibrium, the guarantee is called upon with zero probability, and the expected cost to the IFI is zero. ■

In the case of the Proposition, the accepted wisdom survives and ignoring the possibility of a political crisis in the policy analysis has no adverse consequences. However, extending the analysis to a case in which a political crisis may happen with *positive* probability is not trivial. Suppose that both (4) and (5) hold, while (3) fails. Then, as shown by Corollary 4.2, a "financial cum political crisis" equilibrium coexists with the "only financial crisis" equilibrium. An argument analogous to that of the preceding Proposition shows that a debt guarantee selects the better equilibrium, the one with only financial crises. But the IFI must expect to *lose* money. Default occurs with positive probability in the "only financial crisis" equilibrium, so the IFI must service the country's debt with positive probability. The counterpart is that the country's representative agent benefits from the guarantee. In other words, the guarantee implies an expected gift from the IFI to the debtor country, which may be problematic.

To avoid the pitfall just identified, the IFI policy must be tailored so that it is called upon only in the worst equilibrium. One way for the IFI to do this is to make the guarantee

conditional on the cost of credit to the debtor country. To be more precise, suppose that the IFI commits to guarantee the country's debt, but only if the price of the debt issue at the financial stage (ω) falls below its price in the better equilibrium, $1 - p(1 - q)$. Then we have:

Proposition 5.2. *Suppose that, without IFI intervention, both (4) and (5) hold, but (3) does not. Then a conditional guarantee selects the "only financial equilibrium" and has zero expected cost.*

Proof: Since the price of the debt issue would be at least $1 - p(1 - q)$, $V = D_0 + I/\omega + \Psi(D_0 + I/\omega - R)$, and (4) holds, Proposition 3.1 rules out the occurrence of PBE Type iii at the political stage. By construction, the conditional guarantee leaves unaffected the "only financial crisis" equilibrium. In the latter, the conditional guarantee is not activated, and hence the expected cost of the guarantee is zero. ■

The conditional guarantee just described, therefore, would eliminate the "financial cum political" crisis at a zero expected cost for the international community. The same result could be achieved in other ways. As the interested reader can show, a similar outcome obtains if the IFI commits to honor the country's debt if default *and* a political crisis both occur. Such an approach may be less palatable, however, since it directly links international assistance to the realization of political events. However, the general lesson is that, in the presence of financial fragility, suitable international assistance can reduce the probability of default and help political stability, and at relatively little cost.

6. Final Remarks

While the model is perhaps too stylized to be realistic, it may be instructive to speculate on some policy aspects not already discussed. The conflict between the government and the

public depends on an asymmetry of information along two dimensions: the social costs of default and the policymaker's objectives. In the model, the social cost of default χ is a catch all for the different fundamental variables that may affect the costs and benefits of default. If the representative agent could observe χ , presumably he would be able to avoid political crises (by just telling the policymaker when to default). Hence the model suggests increasing transparency, via faster and better dissemination of economic data for example, may have a beneficial effect not only in economic terms but also on political stability.

The role of asymmetric information in the policymaker's objectives may be more subtle, and its policy implications may depend on the interpretation one gives to the policymaker's personal cost of default. If the personal cost can be associated with career concerns of the policymaker, the incentives problem can perhaps be addressed by a suitable contract that compensates the policymaker appropriately if she has to manage a default. Existing incentives would seem to work, if anything, in the opposite direction. If the personal cost, on the other hand, can be associated with a political bias in favor of some social groups that suffer disproportionately from a default, corrective policies may be harder to find.

Finally, as already mentioned, the representative agent assumption restricts the applicability of the model to conflicts between the government and its people. That focus is warranted for some episodes, but it may be less so when the heterogeneity of interests within the population is the main issue. This underscores the need for more research to understand issues such as the observed relationship between financial volatility and electoral uncertainty.

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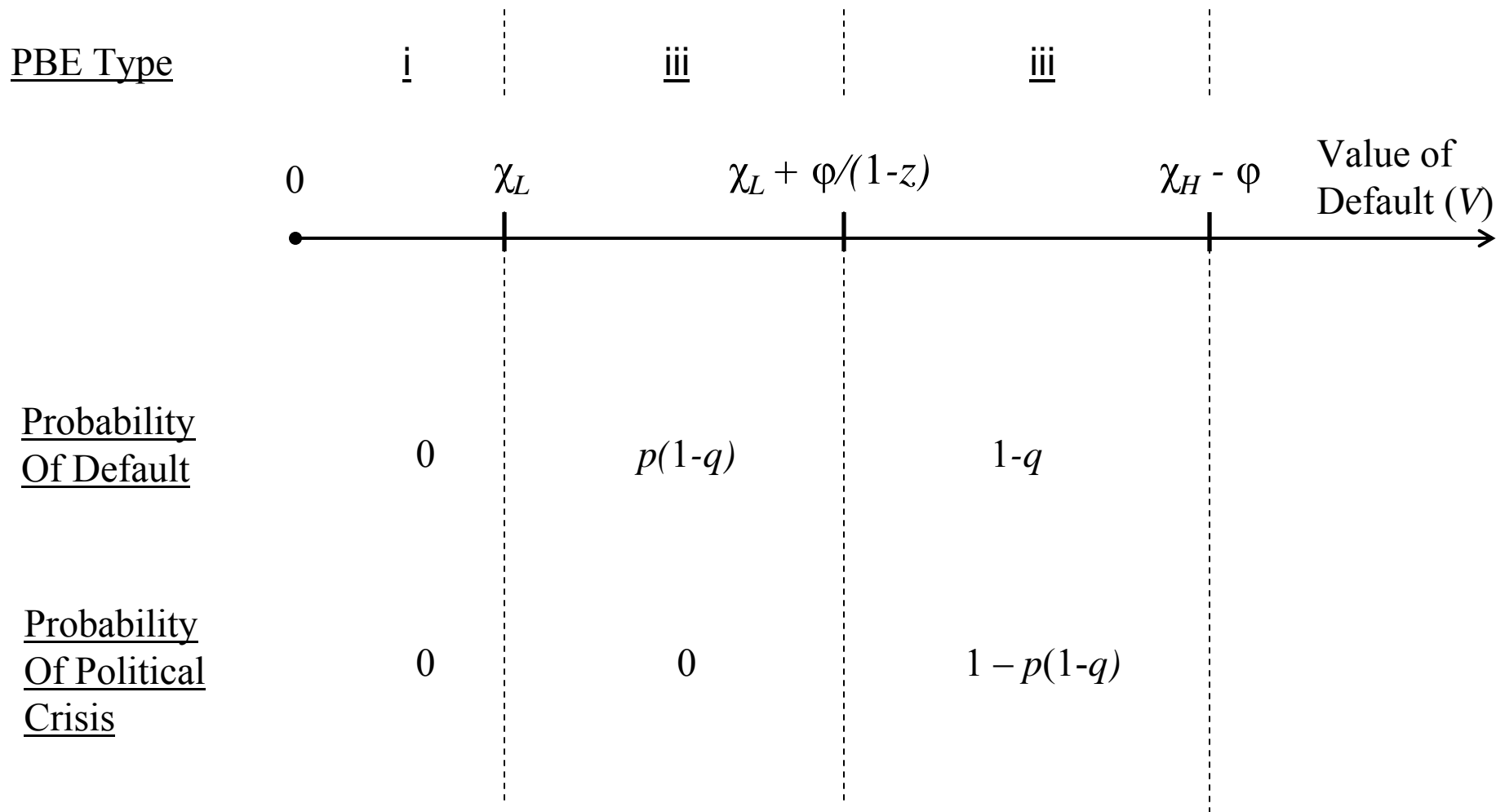


Figure 1: PBE and the Value of Default