Reputation and Transparency in Sovereign Debt Markets

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Motivation

Reputation can promote international cooperation in the absence of a world government. With an eye to long-run benefits from cooperation, states often find themselves willing to forgo short-run windfalls from cheating to build up their trustworthy reputation for honoring international agreements, which would provide them with the desired long-run benefits. The incentive to build and maintain a good reputation is what enables states to commit themselves to living up to their promises, thereby making cooperative outcomes possible even without credible third-party enforcement. In short, reputation can be an effective commitment device in long-run relationships.

International debt is an area where reputation plays a prominent role. Since the seminal paper by Eaton and Gersovitz (1981), much of the literature on sovereign debt has identified sovereign borrowers' reputational concern for losing future access to loans as a key incentive to repay debt, hence, as a reason why sovereign debt can exist in the first place. On observing a default, lenders would come to believe the borrower was a "bad" type, to which they would no longer provide a loan or charge higher interest rates. Hence, "bad" borrowers have an incentive to build a creditworthy reputation by honoring the debt contracts, which provides potential lenders the incentive to lend to sovereigns.

One of the key premises in this logic is that a borrower's action, whether it repays or not, is observable and verifiable to lenders. This seemingly innocuous assumption about the verifiability of repayment and default, however, does not always hold in reality. As shown by Grossman and van Huyck (1988) and by Tomz (2007), sovereign debt contracts can be characterized by

a "contingent claim," in which a sovereign borrower is not considered refusing to recognize its debt obligations and is not subject to reputational costs so long as it repays *as much as it can* given the realized state of its economy. A partial default is "excusable" and causes no serious repercussions provided that the country's economic condition is bad enough to justify its failure of full payment. Whether or not a sovereign honors its debt contracts, then, becomes a matter of judging whether or not it repays as much as it is able to given its fundamentals. Lenders observe a sovereign's actual payments ($p = \omega \times \theta$); however, they cannot always observe perfectly its ability to pay (θ). Hence, a borrower's willingness to honor its debt contracts ($\omega \in [0, 1]$) is not always verifiable to lenders.

Logic

When lenders can observe θ (I call a government *transparent* when θ is observable to outside observers), they can deduce ω from the amount of payments made by the sovereign. If the deduced ω suggests that the sovereign violated the implicit contingent debt contracts, lenders would conclude that it was a "bad" type and would impose a sanction in the form of higher risk premiums or a denial of future credit. As a result, a reputational equilibrium can be supported, in which lenders provide a loan, and the sovereign always repays as much as it can given the realized θ. In this transparent reputation equilibrium, the sovereign gains two benefits: It can finance its consumption and investment through foreign debts; but it can also insure itself against bad external shocks. In the event that a bad state is realized, the sovereign can excusably default and make as much payment as it can without damaging its creditworthy reputation.

These two benefits are not available to non-transparent regimes, at least not both at the same time. A sovereign's ability to make a credible commitment hinges on lenders' ability to deduce its willingness to pay from the observed payments. When θ is not observable, any payment short of full payment is an ambiguous signal of the sovereign's willingness to pay. On observing a partial payment, lenders increase their beliefs that it is a "bad" type and charge as high interest rates as the risk can be offset, which I call an *opacity premium*. This would be a surcharge to a sovereign who was simply unable to make a full payment, and thus, undermine its incentive to live by the pay-as-much-as-it-can rule, which, in turn, justifies the charge for opacity premiums.

This leaves a non-transparent sovereign with two possibilities depending on the prior distribution of its ability to pay. When its expected θ is low, no loan is provided to a non-transparent government since lenders expect that it cannot afford to pay the opacity premiums. When its expected θ is high, lenders lend to a non-transparent sovereign who then always repays in full regardless of the realized state of the economy. To put it another way, for relatively poor opaque regimes, sovereign debt cannot exist because they lack the ability to build a creditworthy reputation, and for relatively rich opaque regimes, sovereign debt can exist so long as they maintain a good reputation unambiguously by paying in full in good times and bad.

I plan to formalize this idea by extending Grossman-van Huyck's model in which the verification problem is assumed away. I also draw insights and techniques from the literature on repeated games with imperfectly observed actions (e.g., Fudenberg and Levine 1992; 1994; Faust and Svensson 2001; Stasavage 2003; Faingold and Sannikov 2005) as well as from the literature on sovereign debt (for an excellent review, see Sturzenegger and Zettelmeyer 2006, Chapter 2).

Evidence

Several testable implications can be derived from the model. Among them, the main insight from the model is the following, which is somewhat counter-intuitive: *Sovereign defaults are more likely observed when governments are transparent, but less likely when opaque.* Transparent governments can and do borrow from private creditors and repay as much as they can. From time to time, they default partially due to unfavorable economic conditions. Non-transparent governments, by contrast, either do not have a loan to default on or rarely default if they have loans.

To test this and other auxiliary hypotheses, I plan to use a measure of government transparency that I developed in one of my papers (Kim 2009). Building on the insight by Rosendorff and Vreeland (2006), I assumed that data (un)availability of each indicator in the World Bank's *World Development Indicators* (WDI) is a manifestation of a government's latent trait, i.e., its ability and willingness to provide reliable information on the state of the economy. I used 51 economic or financial indicators in WDI, and via a Bayesian Item Response Theory (IRT) model, recovered governments' latent transparency parameters through their manifested responses (missing or non-missing) to those 51 indicators. The resulting transparency scores reflect

well the variations in the degree to which outside observers can confidently estimate a country's economic fundamentals.

Policy Implications

In international debt markets, transparency helps a state to build and maintain a creditworthy reputation and allows it to do so in a flexible way. Even in bad times, while failing to pay in full, a transparent government can sustain its creditworthy reputation thanks to its ability to "transparently" commit to pay as much as it can. For an opaque regime, however, this flexibility is not allowed. Its reputation must be impeccable in good times and bad; otherwise, it will be ruined. Even worse, it may not be given access to credit at all.

This highlights the significance of transparency in international cooperation. Many international agreements implicitly or explicitly contain elements of contingent contracts such as escape clauses in free trade agreements. While escape clauses serve as a flexibility-enhancing device given the uncertain nature of political and economic conditions that governments would face, and thus, facilitate concluding an international agreement, they might also erode the credibility of an agreement (Rosendorff and Milner 2001). Transparency would allow for an "excusable" use of an escape clause without destroying a good reputation for compliance, thereby promoting international cooperation. This might be an alternative explanation of why democracies (being more transparent regimes) are more likely to conclude trade agreements (Mansfield, Milner, and Rosendorff 2002).

Where does transparency come from and how can it be improved? First, domestic political institutions shape political leaders' incentive to keep the information on the economic fundamentals private or to make it public. A greater degree of informational asymmetry between politicians and the public creates more room for rents. Informational rents then would be used to enrich the former at the expense of the latter unless the politicians are effectively constrained by institutional mechanisms that entail a credible punishment of rent-seeking behaviors. Institutions of electoral accountability and checks and balances are such mechanisms that provide politicians with the incentive to keep the government transparent (Bueno de Mesquita et al. 2003; Rosendorff and Vreeland 2006; Persson, Roland, and Tabellini 1997).

Second, transparency can promote international cooperation, but conversely, sustained international cooperation can also enhance government

transparency. So far transparency is treated as given, as a government's characteristic that is shaped by domestic institutions. However, the level of transparency can be treated as one of a government's strategic choice parameters given the domestic incentive structure. To the extent that sustained international cooperation is beneficial and increased transparency maximizes its benefits, political leaders should choose the optimal level of transparency considering not only its effects on domestic politics, but also its indirect effects through the net benefits from international cooperation.

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