Default premium

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ABSTRACT

The literature has found that sovereigns with a history of default are charged only a small and/or short-lived premium on the interest rate warranted by observable fundamentals. We re-assess this view using a metric of such a “default premium” (DP) that nests previous metrics and applying it to a much broader dataset. We find a sizeable and persistent DP: in 1870–1938, it averaged 250bps upon market re-entry, tapering to around 150bps five years out; in 1970–2014 the respective estimates are about 350 and 200bps. We also find that: (i) the DP accounts for between 30 and 60% of the sovereign spread within five years of market re-entry, and its contribution to the spread remains non-negligible thereafter; (ii) The DP is higher for countries that take longer to settle with creditors and is on average higher for serial defaulters; (iii) our estimates are robust to many controls including realized “haircuts”. These findings help reconnect theory and evidence on why sovereigns default only infrequently and, when they do, why earlier debt settlements are typically sought.

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1. Introduction

Do countries pay an interest rate premium for having defaulted in the past? If so, how high and for how long? These are important questions in international finance. The prevailing view is that such a premium is small and/or short-lived on average. This view is apparent from earlier studies by Eichengreen and Portes (1986), Lindert and Morton (1989), and Jorgensen and Sachs (1989) who find that countries that honored their debts during the 1930s Great Depression did not benefit from lower spreads in the early post-World War II period relative to those that defaulted. This finding is only mildly overturned in Ozler’s (1993) classic study of emerging market loan data from 1968 to 1981. Ozler found that a default memory dummy, which differentiates between countries that defaulted in previous decades and those that did not, is statistically significant but the implied difference in interest rates is economically small (25 basis points at the mean). Using a similar sample but an instrumental-variables approach to decompose the spread into a backward-looking component related to credit history vs. a forward-looking default risk component driven by fundamentals, Benczur and Ilut (2015) arrive at a similar estimate. For the 1880–1913 period alone, Flandreau and Zumer (2004) estimate a slightly higher interest rate cost of default (up to around 90 basis points) in the first year after the settlement of arrears, but one that decays significantly thereafter.

Other research finds a more sizeable premium but which dies out even more rapidly. Using JP Morgan emerging market bond index (EMBI) spreads over 1997–2004, Borensztein and Panizza (2009) estimate whether a default has an extra impact on the country spread upon market re-entry by adding year dummies (starting from the debt settlement date) to an otherwise standard empirical model of sovereign spreads. From the estimated coefficients and standard errors on those year dummies, they find that defaults have a very sizeable impact on the first year of market re-entry (up to around

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The evidence raises critical issues. First, the magnitude and persistence of such interest rate premia seem puzzlingly low given that governments often go to considerable length to avoid defaults, including through politically costly fiscal austerity and the conditionalties of multilateral financing. This puzzle is all the more apparent if much touted costs of default, like market exclusion and trade and military sanctions (what Mitchener and Weidenmier, 2005 call “super-sanctions”), are frequently unimportant. As Gennaioli et al. (2014) put it: “In reality, sanctions are rarely observed and market exclusion is short-lived.” Costs associated with the break-down of domestic financial intermediation could be one missing link (Bolton and Jeanne, 2011; Gennaioli et al., 2014; Kalemli-Ozcan et al., 2015), but only so for countries and periods where and when the share of sovereign bonds in domestic banks’ portfolios is sufficiently high. Insofar as this deterrence mechanism is not ubiquitous, one is then back to the issue as to what sustains non-trivial levels of sovereign debt in the first place.

Second, and as stressed in a recent survey by Tomz and Wright (2013), existing empirical studies are unclear as to what mechanism(s) generates such positive interest rate premia, since none of them offers a model to guide their metrics. Indeed, in the canonical sovereign debt model of Eaton and Gersovitz (1981) and subsequent extensions (Aguiar and Gopinath, 2006; Arellano, 2008; and others), sovereign credit history per se should not add a premium to country spreads. This is because those models feature full information on fundamentals and shocks, as well as investors that break even at all times; hence default repayment decisions per se do not add information to bond pricing. An alternative is to do away with the assumption that investors are risk neutral and break-even; instead, defrauded creditors could collude and impose above-market lending rates to recoup losses and thus penalize defaulters.1 While this could be rationalized by “cheater of the cheater” arguments (Kletzer and Wright, 2000), this presumption seems difficult to reconcile with evidence of new lenders undercutting older ones and of overall lenders’ surpluses being close to zero historically (Eichengreen and Portes, 1986; Lindert and Morton, 1989; Klinglen et al., 2004).2 If so, such a “punishment” mechanism also seems unfit to deliver a positive default premium in competitive bond markets. Introducing asymmetric information on the sovereign’s type (Eaton, 1996; Alfaro and Kanczuk, 2005) or on the shocks it receives (Sandiller, 2008; Catão et al., 2009) can generate a positive default premium in competitive bond market equilibria, but then the issue becomes how to establish which “true” fundamentals or shocks are unobserved (or imperfectly observed) by investors. These different modeling possibilities are notoriously hard to disentangle in the data. So, from a purely empirical standpoint what one needs is an empirical specification that can accommodate these distinct theoretical mechanisms — especially in a cross-country sample (like ours) containing both sovereign bonds and loan contracts.

Third, the above studies span distinct country samples and periods and exclude many of today’s advanced countries. These can also default and some of them have done so in both the distant and the recent past. Before one underplays the interest rate cost of default, a look at a more representative sample seems in order.

This paper re-assesses the effect of sovereign credit history on country spreads on the basis of a better metric and broader data. A first contribution is to build a metric that conforms to existing theories of a positive default premium (DP henceforth) and to relate such a metric to those used in the empirical studies reviewed above. We show that our metric, which combines indicators of the frequency, timing and duration of the relevant credit events (defaults and debt settlements), nests those, thereby allowing comparability; in addition, we highlight the distinction between using our metric vs. the unconditional difference in the spread before default and after debt settlement as a gauge of the DP.

The paper’s second and key contribution is to measure the DP in a much broader data set than before.2 Our data set spans the entire 1870–1938 period as well as 1970–2014 for both emerging and advanced countries, rather than just for emerging markets post-1990. Relative to classical studies of pre-WWII spreads by Bordo and Rockoff (1996), Obstfeld and Taylor (2003), Flandreau and Zumer (2004), Mauro et al. (2006), and Tomz (2007), it adds more countries, fixes issues with the data and also comprises more control variables, including for global market factors highlighted in recent work (Borri and Verdelhan, 2011; Longstaff et al., 2011). Regarding the post-WWII period, we extend many series on sovereign spreads back to the 1970s and 1980s and add advanced countries to the sample. This addition allows us to span major recent events in sovereign debt markets as well.

By combining the first and the second contribution, the paper yields a third contribution: it documents salient features of the empirical DPs hitherto uncovered. It does so by decomposing the spread into a vector of observable fundamentals, the DP, and an estimation error, as well as by allowing for distinct functional forms for memory formation, and re-evaluating the importance of the actual size of the default (the final “haircut”) in shaping the evolution of the DP.

The results are: (i) the year after a debt settlement is agreed with creditors, the average DP was around 250 basis points in the period 1870–1938 and 350 bps in 1970–2014. The DP then decays but slowly: by the end of the 5th year after debt settlement it averages some 150 basis points in the pre-WWII period and 200 bps post-1970, tapering off thereafter; (ii) while the DP is significant at conventional statistical levels, it also displays considerable variance across countries and over time, so limited sampling (as in previous studies) can greatly affect inference on the mean DP; (iii) the DP accounts for between 30% and 60% of the market spread within five years after settlement with creditors and no less than 10% of the average spread farther away from default and debt settlement; (iv) the DP rises with the number of years a sovereign stays out of the market — this being higher for serial defaulters implies that they pay a higher DP; (v) The estimated DP is broadly robust to controlling for alternative sets of fundamentals, and no smaller for alternative specifications on how investors’ memories evolve; (vi) unlike Cruces and Trebesch (2013), direct control for the size of the actual haircut in spread regressions is not necessary to obtain a significant and longer lasting DP, partly because nearly 90% of the actual haircut can be predicted by the length of the default and country-specific

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1 This is the interpretation favored by Benczur and Ilut (2015).
2 This is not to deny the importance of lenders' market power in enforcing repayments and extracting surpluses from borrowers in certain circumstances, specially in the context of relationship banking and syndicated loans (see Voth (2011) and Flandreau and Flores (2012) for eloquent historical illustrations).

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