

The Domestic Side of Sovereign Defaults

Prepared for the Inter-American Development Bank by:

Aitor Erce
Enrico Mallucci
Mattia Picarelli

**Institutions for
Development Sector**
**Connectivity, Markets,
and Finance Division**

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Aitor Erce (European Investment Bank and European University Institute)

Enrico Mallucci (Federal Reserve Board)

Mattia Picarelli (European Stability Mechanism)

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Abstract*

Despite sovereign defaults increasingly affect liabilities governed by local law and held by local residents, there is a lack of empirical work focusing on these episodes. This paper provides an overview of the existing literature on domestic defaults, describes a novel dataset that codifies defaults according to the jurisdiction of the instruments involved, and shows that domestic and foreign-law defaults have different macroeconomic implications. While a default affects

economic growth regardless the legal jurisdiction, local-law defaults are more likely to trigger domestic financial instability and credit tightening, and foreign-law defaults are more likely to tighten access to external financing sources.

JEL Codes: E62, F02, F34, G01

Keywords: domestic debt, sovereign default, governing law, growth, credit

* The views in this paper are solely the responsibility of the authors and should not be interpreted as representing the views of the European Stability Mechanism, the Board of Governors of the Federal Reserve System, or any other person associated with the Federal Reserve System.

Introduction

Early studies on sovereign default overlooked the role of domestic debt and resident creditors. Among the reasons for this were that the literature focused on countries assumed to rely mostly on foreign financing and the lack of a repayment commitment that affected mostly cross-border credit (Eaton and Gersovitz, 1981; Bulow and Rogoff, 1989). The emerging markets crises of the 1990s drew attention to vulnerabilities created by countries' debt structures at that time (Eichengreen et al., 2019). Emerging markets and developing countries were unable to borrow long term in local currency in their own domestic markets or internationally in their local currency.¹ The reluctance on the part of foreign investors to lend money to a country in its own currency, given the authorities' propensity to manipulate the value of their currency, is known as "original sin" (Eichengreen, Hausmann, and Panizza, 2007). It resulted in financial fragilities, which took the form of currency and maturity mismatches (Hausmann and Panizza, 2003).²

Because of these negative dynamics, policymakers focused on developing domestic bond markets, which moved up in the international financial reform agenda (Hardie and Rethel, 2019). Domestic bond markets grew thanks to policies targeted at increasing liquidity, improving the payment and settlement systems, and deepening investor bases. As a result, recent studies have begun to focus on domestic debt as a significant source of sovereign risk (Broner et al., 2014; Reinhart and Rogoff, 2009; 2011).³ Historically, domestically issued debt was

denominated in local currency and held mainly by residents. This might help explain why a substantial body of theoretical work assumes that when the holder of the debt is a resident, the debt is denominated in domestic currency and governed by local law. This triple coincidence of residence, currency, and jurisdiction has crumbled with the deepening of globalization and the development of emerging economies and domestic debt markets (Gelpern and Setser, 2004).⁴

Remarkably, while there is a growing body of analytical work, both theoretical and empirical,

¹ Foreign investors may be reluctant to lend money to a country in its own currency if the authorities are prone to manipulate the value of that currency (Eichengreen, Hausmann, and Panizza, 2007).

² Currency mismatches refer to the currency composition of debt, while maturity mismatches refer to the short-term nature of domestic currency debt.

³ Fløgstad (2017), Forslund, Lima, and Panizza (2011), Guscina and Jeanne (2006), Mehl and Reynaud (2010), and Reinhart and Rogoff (2011) describe detailed datasets for subsets emerging economies. They all document the increasing importance of domestic bond markets. For the 64 countries, which Reinhart and Rogoff (2011) cover during 1914–2007, residents held almost two-thirds of public debt. According to Reinhart and Rogoff (2011), this helps explain why some countries default at low levels of external debt. According to Mehl and Reynaud (2010), by late 2007, the stock of domestic debt securities issued by emerging economies (EMEs) reporting data to the BIS reached US\$5.6 trillion, seven times more than the stock of international debt securities. Domestic debt securities issued by EMEs amounted to 46 percent of their combined GDP in 2007, twice the share in 1994.

⁴ In debt markets under a foreign legal jurisdiction, traditionally foreign-dominated, the role of resident investors has recently increased.

focusing on the residence of creditors (Broner et al., 2014) and the currency denomination of sovereign debt, the legal regime has been less studied (Erce and Mallucci, 2018). This is an important gap in the literature. As a sovereign's prerogative to change domestic law, creditor litigation—the critical challenge in cases involving foreign-law debt—is only a minor issue when local law governs the debt contracts (Buchheit et al., 2019).⁵ The relevance of this local law advantage is best exemplified by Greece and Barbados, whose parliaments retroactively introduced collective action clauses in all local-law bonds, allowing them to smoothly restructure their local-law debt (in 2012 and 2018, respectively) while they struggled to obtain relief from foreign-law bonds (Buchheit and Gulati, 2018).

This paper reviews empirical work on the domestic side of sovereign default. It summarizes a recent study by Erce and Mallucci (2018) that uses

newly gathered data on defaults under local law to provide stylized facts and to study the macroeconomic effects of sovereign default. Although selective defaults are frequent, defaults affecting both local and foreign law instruments are the most damaging for output. Local-law defaults seem to affect output through their impact on credit, while external defaults seem to operate through a trade channel. The paper also provides a simple analysis of the relationship between sovereign defaults and banking crises. Finally, it lays out some policy-relevant implications.

⁵ The powers stemming from control of governing law and jurisdiction weaken the position of creditors during a restructuring, to the benefit of the sovereign debtor. Often, creditors can only rely on constitutional protection against unwarranted expropriation.

Domestic Sovereign Default: An Overview of the Empirical Literature

The empirical literature focuses on three specific dimensions along which sovereign debt is domestic: (i) the currency of denomination; (ii) the residence of the sovereign's creditors, and (iii) the legal regime governing the debt. The seminal paper in this literature is Reinhart and Rogoff (2011).⁶ It was the first to code a large multi-decade, cross-country dataset on domestic default focused on the residence of the sovereigns' creditors. According to Reinhart and Rogoff (2011), domestic residents are not systematically junior to external creditors. Other datasets using creditor residency criteria to code domestic debt restructurings can be found in Arslanalp and Tsuda (2014a; 2014b), Asonuma et al. (2018), Duggar (2013), Erce (2015), and Sturzenegger and Zettelmeyer (2008).

With a focus on the currency of the defaulted debt, Kohlscheen (2009) and Van Rijckeghem and Weder (2009) study the role of political factors in explaining patterns of default across currencies using default episodes coming from Standard & Poor's. Bank exposure, instead, is pivotal to determine default risk for local-currency debt. Using smaller samples, Finger and Mecagni (2007) and Sturzenegger and Zettelmeyer (2008) compare creditor losses by currency. They do not find systematic differences across currencies on the size of haircuts. Jeanneret and Soussi (2016) also use

Standard & Poor's data covering 100 countries over the period 1996–2012 to compare defaults in local and foreign currency bonds.⁷ According to Jeanneret and Soussi (2016), changes in foreign reserves and global risk are crucial to determine default risk for foreign-currency debt. Beers and Mavalwalla (2018) document sovereign defaults on local currency debt involving 31 sovereigns since 1960, noting that with rising cross-border investment in domestic debt markets, defaults on local currency debt could become as common as defaults on foreign currency bonds.⁸

⁶ Das, Trebesch, and Papaioannou (2012), Diaz-Cassou and Erce (2011), Duggar (2013), Erce (2015), and Finger and Mecagni et al. (2007) also present evidence on these aspects of domestic debt for a small set of countries.

⁷ Another strand of work on this area focuses on local currency debt default through inflation. Du and Schreger (2016), Engel and Park (2017), and Perez and Ottonello (2016) outline the importance of monetary policy credibility to determine default incentives. This literature concentrates on a key trade-off. On the one hand, governments prefer local-currency debt, as the exchange rate reduces borrowing costs in bad times Hausmann and Panizza (2003). On the other hand, borrowing in local currency can quickly become expensive, as investors worry that governments may inflate local-currency debt away.

⁸ A majority resulted from the exchange of old central bank currency on confiscatory terms.

Borensztein and Panizza (2009), Gelpern and Setser (2004), and Gulati and Weidemaier (2015) discuss the relevance of the legal regime governing the sovereign liabilities to understand when and how sovereigns borrow and default. According to Chamon, Schumacher, and Trebesch (2018), sovereigns issue debt under foreign jurisdictions because it provides investors with more legal protection.

As detailed below, Erce and Mallucci (2018) present a dataset with 182 default episodes in either local or foreign-law and use it to understand the channels through which different types of sovereign default affect output. Asonuma, Niepelt, and Rancière (2017), Erce (2015), and Sturzenegger and Zettelmeyer (2008) also consider the role of the governing law in smaller samples.

Sovereign Defaults on Local and Foreign Law

Erce and Mallucci (2018) present a database that separates defaults according to the legal regime governing the sovereign debt instruments. Sovereign defaults in local law instruments are identified using multiple sources, including academic papers, reports from rating agencies, reports from international organizations (e.g., the IMF, World Bank, and other development banks), national entities (e.g., ministries of finance, central banks, debt management offices), domestic legislation and parliamentary resolutions, and local and international newspapers.⁹ Foreign-law defaults come from the dataset in Asonuma and Trebesch (2016). The final sample contains 182 default episodes between 1978 and 2015. From these, 64 correspond to local defaults in 47 countries and 118 external defaults in 70 countries. Following Erce and Mallucci (2018), we classify all the episodes as

either local-law defaults, a foreign-law default, or a non-selective default.¹⁰

Table 1 shows that selective defaults are the rule. About one-half of local-law defaults occur in tandem with foreign-law defaults. Similarly, only one-fourth of foreign-law defaults occur simultaneously with local-law ones. Figure 1 depicts the incidence of local- and foreign-law defaults at different points in time (1978–2013). The increase in domestic debt issuance is reflected in the changing default pattern, increasingly tilted toward local-law instruments.

⁹ A more detailed description of the local-law default data collection effort is presented in the appendix at the end of this paper.

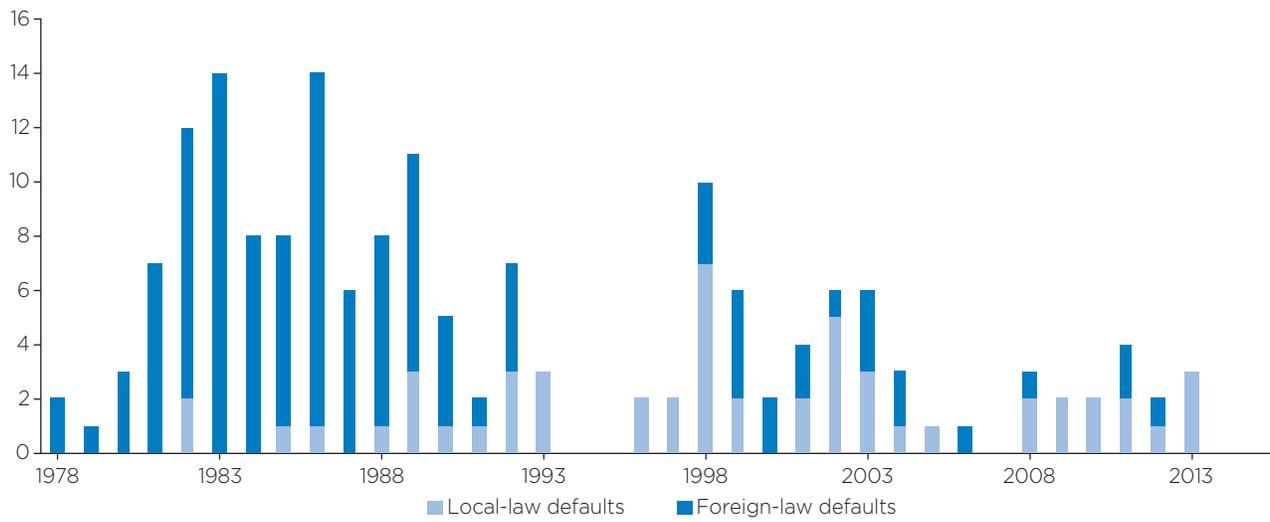
¹⁰ A non-selective default happens when a local-law and foreign-law default occur within two subsequent years.

TABLE 1 The Incidence of Default by Governing Law

	Local-law defaults	Foreign-law defaults	Non-selective
Number of observations	36	90	28
Percentage of total	23	47	19

Source: Erce and Mallucci (2018).

FIGURE 1 Incidence of Local-law versus Foreign-law Defaults, 1978–2013



Source: Erce and Mallucci (2018).

The Macroeconomic Consequences of Sovereign Default

The theoretical literature highlights two main channels explaining output contraction around sovereign defaults: the trade channel (Mendoza and Yue, 2012) and the credit channel (Sandleris, 2012; Gennaioli et al., 2018).¹¹ The trade channel operates through intermediate imports. Following a default, firms' access to foreign intermediates becomes more difficult, restricting the production ability of the private sector. The credit channel operates through the effect of debt restructuring on the balance of domestic banks.

Erce and Malucci (2018) study the dynamics of output, credit, and trade following different types of defaults. Table 2 summarizes their results, obtained using simple OLS with robust standard errors.

Output falls following default regardless of the law governing the bonds, although output contraction appears far more severe in non-selective default episodes. Interestingly, the channels explaining output contraction are different. On the one hand, the trade channel explains output contraction in the aftermath of defaults on foreign-law debt. On the other, the credit channel explains the output contraction in the aftermath of local-law defaults, as indicated by the negative and significant coefficient for foreign-law defaults in the third column of Table 2.

¹¹ See Rose (2005) for empirical evidence on the effect of sovereign default on trade. See Arteta and Hale (2008) for its effect on private sector credit.

TABLE 2 The Macroeconomic Dynamics Following Sovereign Default, by Governing Law

	Output growth	Credit	Imports
Local-law default	-0.044*	-0.011*	-0.029
Foreign-law default	-0.076***	-0.012	-0.014*
Non-selective default	-0.135**	-0.025	-0.016
Observations	1960	1960	1960
Other controls	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes

Source: Erce and Malucci (2018).

Notes: Each column presents results from an OLS regression of the variable in the column against a set of dummies collecting the different types of sovereign default, other controls, and country and year fixed effects. Other controls include inflation, GDP per capita, public deficits, U.S. interest rates, and oil prices. The figures show the estimated coefficient associated with the corresponding default dummy. *, **, *** stand for significance at 1, 5, and 10%, respectively.

4

Financial Stability and Sovereign Default

According to the findings summarized above, sovereign defaults involving local-law debt are more likely to trigger a reduction in credit to the private sector. In this section, we consider whether a driver of that finding is the fact that local-law defaults are more likely to generate instability in the domestic financial system. This could be the case, for example, because, as documented in Gennaioli, Martin, and Rossi (2018), the domestic banking system typically holds a large share of government debt. Following a sovereign default, domestic banks suffer a loss, which induces a contraction of the credit supply.¹²

We cross the dataset on foreign- and local-law default with the banking crisis dataset of Laeven and Valencia (2020), which contains 61 banking

crises for the countries in our sample. Table 3 compares the probability of observing a banking crisis in the full sample with that following sovereign default. We consider the likelihood of observing a bank crisis either in the same year of the default or in either of the two subsequent years. The conditional probabilities are much higher around default episodes. Non-selective defaults are those most likely to precede a banking crisis (almost 13 percent of times). When default includes local-law debt, the likelihood of a subsequent bank crisis is almost 20 percent. Our results confirm the frequently mentioned intuition that domestic defaults and banking crises often go hand in hand.

¹² See also Abad (2019) and Asonuma et al. (2019).

TABLE 3 Bank Crises and Sovereign Default in Different Governing Laws

	Number of bank crises	Bank crisis likelihood (%)
Full sample	61	2.40
Local-law default in the last two years	12	8.20
Foreign-law default in the last two years	16	5.60
Non-selective default in the last two years	6	12.70

Sources: Erce and Mallucci (2018), Laeven and Valencia (2020), and authors' calculations.

5

Summary and Policy Implications

This paper summarizes the recent literature focused on the domestic side of sovereign default. Using the data and findings in Erce and Mallucci (2018), it demonstrates that defaults focused on debt instruments issued in domestic bond markets under local legislation are increasingly frequent. It also finds that selective defaults that do not include both local- and foreign-law instruments are frequent. In fact, they are the norm.

The paper describes different channels through which defaults involving local- or foreign-law instruments affect the economy. The trade channel is more active around foreign-law defaults, while the credit channel is more active around local-law defaults. Moreover, comprehensive defaults are more likely to be followed by a banking crisis. This is also true for defaults involving only local-law instruments, but to lesser extent. Underlying this

stronger effect of default on local debt may be the fact that domestic banks remain the main actors in these markets and are thus likely to suffer more when defaults occur in those markets. One potential reason why non-selective defaults often trigger banking crises is that they may be associated with deeper recessions, so the banks suffer from both the recession and the wealth loss associated with the default. This question will be answered in future research.

These findings have implications for the ongoing reform of the international financial architecture to facilitate sovereign debt restructuring (IMF, 2019). Our results highlight the need by policymakers to factor in financial deepness and trade linkages before deciding whether to restructure local or foreign debt. Moreover, local- and foreign-law defaults have significantly different macroeconomic implications.

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Appendix

Sourcing Local Law Defaults

Erce and Mallucci (2018) used the following three-step procedure to build their dataset on local-law defaults. First, they identified relevant episodes from existing papers (Moody's, 2018; Reinhart and Rogoff, 2011). Second, they used search and read additional documents to find other episodes. The variety of sources was large, including World Bank and OECD country reports, IMF program reviews and Article IV consultations, IMF books and public information notes, local institutions policy reports, rating agencies reports, debt exchange offers, research papers, local legislations and parliamentary resolutions, and articles in the financial press. Specifically, the use of legal decrees and parliamentary resolutions, where available, was fundamental to get details about the debt involved and the restructuring terms applied. In a third step,

they obtained missing information from news articles in financial press, using Factiva.¹³ For the most recent period, debt exchange offers, rating agencies reports, and financial news searches proved most useful.¹⁴

¹³ Factiva is an online news database. Financial crises are highly publicized events and extensively covered by the financial press. Searches conducted in Factiva included "country name" "domestic debt default" and "domestic debt restructuring." When information about the event was available, the search also included the year. The authors consulted international newspapers, financial markets information providers (e.g., Markit, Reuters and Bloomberg), and local newspapers. The search included publications in English, Spanish, and French.

¹⁴ In a number of cases, country authorities have revised the accuracy of the dataset.

