Why do Some Countries Default More Often than Others? The Role of Institutions

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Roadmap

• Motivation
• Related literature
• Model
• Empirics
• Conclusion
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  • Model
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Share of countries in external default crisis:
1800-2008, 66 countries, High income vs. Middle and low income

Source: Qian, Reinhart and Rogoff (2010)
Latin America countries suffer external default crisis the most:  
1800-2008, 42 countries, Latin America vs. Other middle and low income

Source: Qian, Reinhart and Rogoff (2010)
Anecdotal evidence 1: Argentina 1980s

• Chronic deficits of local governments and SOEs led to a consolidated deficit of 15% of GDP.

• Federal government make transfer to local governments through Revenue Sharing Scheme (RSS) and Extraordinary Treasure Transfer (ETT)

• The absence of RSS during 1985-1987 lead to the abuse of ETT.

“... when fiscal regime that regulates the financial relationship among different government jurisdictions is not properly designed, a kind of non-cooperative behavior among them can develop” Sanguinetti (1994)
Anecdotal evidence 2: Brazil 1980s

- Senate has the authority to regulate states’ borrowing, but it is dominated by interests of states.

- States had ample fiscal autonomy except on personnel and revenue mobilization. Political motivation led to overspending.

- No effective mechanisms from credit market and federal government to control overborrowing of the states.

“Conceding such relief creates a perverse incentive. It encourages states to engage in expansionary fiscal behavior, secure in the knowledge that the Federal Government will, sooner or later, come to their relief. Although each crises has had its proximate exogenous cause, states have consistently placed themselves at risk by overborrowing” Dillinger (1998)
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Related literature


- **Sovereign default (political economy approach)**: Hatchondo, Martinez and Sapriza (2009), Azzimonti and Mitra (2023a, 2023b), Sosa Padilla (2023), Scholl (2024)


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Assumptions: government structure

• Existence of powerful groups

• Good institutions: a well-developed legal structure that limits the influence of powerful groups on central government policies

• Existence of polarization implies weak political cohesion, making coordination impossible.

• The distribution of power (income) among groups reflects the degree of polarization.
Assumptions: powerful groups

- Groups’ income derives from revenue and external borrowing.
- Groups derive utility from consumption goods.
- Under good institution, groups receive transfers from the central government for their consumption.
- Under weak institutions, groups make spending, borrowing, and default decisions independently.
Assumptions: foreign investors

• Risk neutral and competitive.

• They know the institutional quality (fixed) and the degree of polarization of the borrowing country.

• They lend to countries, not to powerful groups.

• Failure to repay the full amount of debt constitutes default.
2 period - 2 groups model

- $N$ powerful groups, $N=2$
- Exogenous institutional quality: unified or polarized
- Failure to repay the full amount of the debt constitutes default.
- International lenders know the quality of institutions and $N$ but cannot attribute specific amount to specific group.
Unified government

\[
\max_B U^U = \sum_{i=1}^{2} \eta^i g_1^i + \beta \mathbb{E} \left[ \eta^i g_2^i \right]
\]

\[\eta^i: \text{share of transfer}\]

\[
\begin{align*}
  &t=1, \quad \sum_{i=1}^{2} g_1^i = Y_1 + B^U \\
  &t=2 \text{ (default)}, \quad \sum_{i=1}^{2} g_D^i = Y_2 (1 - \phi) \\
  &t=2 \text{ (repay)}, \quad \sum_{i=1}^{2} g_R^i = Y_2 - (1 + r^U) B^U
\end{align*}
\]

\[\phi: \text{Default cost}\]

Default Probability:
\[
\pi^U = Pr \left[ Y_2 \leq Y_2^{U^*} \right]
\]

\[
Y_2^{U^*} = \frac{(1 + r^U) B^U}{\phi}
\]
Polarized government

\[
\max_{b_i} U^i = g^i_1 + \beta \mathbb{E} \left[ g^i_2 \right]
\]

\[
\begin{cases}
\text{t=1} , & g^i_1 = \eta^i Y_1 + b^i \\
\text{t=2 (default)} , & g^i_D = \eta^i Y_2 (1 - \phi) \\
\text{t=2 (repay)} , & g^i_R = \eta^i Y_2 - (1 + r^P) b^i \\
\end{cases}
\]

\[i = 1, 2\]

Default Probability:
\[
\pi^i = Pr \left[ Y_2 \leq Y^{i,P*}_2 \right]
\]

\[
Y^{i,P*}_2 = \frac{(1 + r^P) b^i}{\eta^i \phi}
\]

For \(i = 1, 2\)

\(\phi\): Default cost
Equilibrium interest rates

Unified government

\[(1 + r^U)(1 - \pi^U) = 1 + r\]

where

\[\pi^U = Pr [Y_2 \leq Y_2^{U*}]\]

\[Y_2^{U*} = \frac{(1 + r^U)B^U}{\phi}\]

Polarized government

\[(1 + r^P)(1 - \pi^P) = 1 + r\]

where

\[\pi^P = \max_{i=1}^{n} \pi^i^{2}\]

\[\pi^i = Pr [Y_2 \leq Y_2^{i,P*}]\]

\[Y_2^{i,P*} = \frac{(1 + r^P)b^i}{\eta^i\phi}\]
The equilibrium

**Unified government**

FOC:

\[ 1 = \beta (1 + r) + \phi \beta \pi^U Y_2^H \frac{d\pi^U}{dB^U} \]

Equilibrium debt and interest rate

\[ B^U = \frac{[1 - \beta (1 + r)] \phi Y_2^H}{(1 + r)[2 - \beta (1 + r)]^2} \]

\[ 1 + r^U = (1 + r)[2 - \beta (1 + r)] \]

**Polarized government**

FOC:

\[ 1 = \beta (1 + r) + \eta^i \phi \beta \pi^P Y_2^H \frac{d\pi^P}{db^i} \]

Equilibrium debt and interest rate

\[ b^i = \phi Y_2^H \eta^i \Omega, \ i = 1, 2 \]

\[ B^P = \phi Y_2^H \Omega \]

\[ 1 + r^P = \frac{(1 + r)[2 - \beta (1 + r)(2 - \eta)]}{1 - \beta (1 + r)(1 - \eta)} \]

\[ \Omega = \frac{[1 - \beta (1 + r)][1 - \beta (1 + r)(1 + \eta)]}{(1 + r)[2 - \beta (1 + r)(2 - \eta)]^2} \]
Proposition 1. \( \forall \eta, i) \) the default probability, \( ii) \) the level of total debt, and \( iii) \) the equilibrium interest rate are strictly higher in the polarized government case than the unified government case, that is, \( \pi^P > \pi^U, r^P > r^U, B^P > B^U \).

Proposition 2. If the government is polarized, \( \forall \eta, i) \) the default probability, \( ii) \) the level of total debt, and \( iii) \) the equilibrium interest rate are increasing in the degree of polarization, that is, \( \frac{d\pi^P}{d\eta} < 0, \frac{dr^P}{d\eta} < 0, \frac{dB^P}{d\eta} < 0 \).
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Empirical analysis: institutional variables

Proxies for powerful groups’ influence in government decisions:

- **ICRG index**: average of corruption, law and order, and bureaucracy quality.

- **Regulation of participation (parreg)**: degree and type of regulation applied regarding how political preferences are expressed.
  1. Unregulated
  2. Multiple identity
  3. Sectarian
  4. Restricted
  5. Regulated

**Government polarization**: weighted (voting shares) standard deviation of ideologies of the three largest parties in the government.
Cross-country OLS regression of sovereign default risk

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\[
\left[ \frac{\partial \Pr(\text{Default})}{\partial \text{Polarization}} \right]_{\text{parreg}=2} = 9.69
\]

\[
\left[ \frac{\partial \Pr(\text{Default})}{\partial \text{Polarization}} \right]_{\text{parreg}=5} = -1.63
\]
Cross-country OLS regression of sovereign default risk
*high vs. low regulation of participation*

<table>
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<th>VARIABLES</th>
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</table>
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Conclusion

• Quality of institution and government structure are important determinants of default risks.

• Higher polarization could lead to higher default risks in countries with weak institutions.

Policy considerations:

Given high debt-to-GDP, increasing income inequality which could result in increasing polarization,

Set up institutions to limit spending pressures will be crucial: fiscal rules, central bank independence, PFM (budget process), and debt transparency