

Political Systems and Debt Default: The Choice Between Domestic and External Default

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Motivation...

- When deciding to default governments can choose either to default domestically or externally (or both).
- These two policy choices seem to be interrelated:
 - ▶ Defaulting externally may mean no need to default domestically due to revenue saved.
 - ▶ Governments that risk political survival if defaulting domestically may rather choose to default externally.
- Therefore we would expect the determinants of domestic default to indirectly influence external default, and vice versa.

Current Literature

- Economic determinants:
 - ▶ Manasse, Roubini and Schimmelpfennig (2003)
 - ▶ Manasse and Roubini (2009)
 - ▶ Rijckeghem and Weder (2009)
- Political constraints:
 - ▶ Coalition governments (Saiegh 2009)
 - ▶ Parliamentary Systems (Kohlscheen 2010)
 - ▶ PCIII measure, Veto players, Years in office, all conditional upon political system and economic conditions (Rijckeghem and Weder 2009)

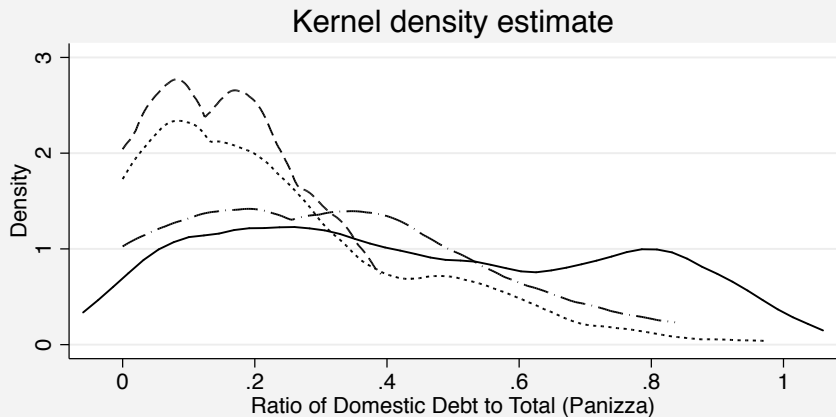
Issues(?):

- ① Apply generally to all forms of debt default.
- ② Primary emphasis is on the *ability* of governments to repay.
- ③ Empirical analysis treats the two choices as distinct (no interdependence).

...and a Puzzle

- Domestic defaults occur at much lower levels of domestic debt than external debt defaults
- This doesn't fit a story of debt service which is solely about ability to pay or trying to "save" revenues.
- Rather this suggests other, possibly strategic, considerations in the choice of default.

Defaults and the Ratio of Domestic to Total Debt



kernel = epanechnikov, bandwidth = 0.0598

Outline

① Theoretical Framework

- ▶ Political responsiveness to creditors.
- ▶ What does this tell us about defaults occurring at different debt levels/ratios?

② Large-n Analysis: Bivariate Probit

- ▶ Does political responsiveness to domestic creditors help us to predict default rates?
- ▶ Is there a correlation between the two choices? Are they substitutes or complements?

The Government's Choice

Under which conditions does the government decide to default?

Look at how the following affect the government's decision:

- The political costs associated with default on each type of debt.
 - ▶ Domestic Debt: Influence of resident debt holders.
 - ▶ External Debt: Dependence on international capital markets.

What this would suggest to us about the possibility of default under different debt scenarios:

- Ratio of Domestic/External to Total Debt
- Overall size of debt.

Highlighting where this differs from an ability to pay / political constraints approach.

Political Costs of Defaulting

Domestic Default:

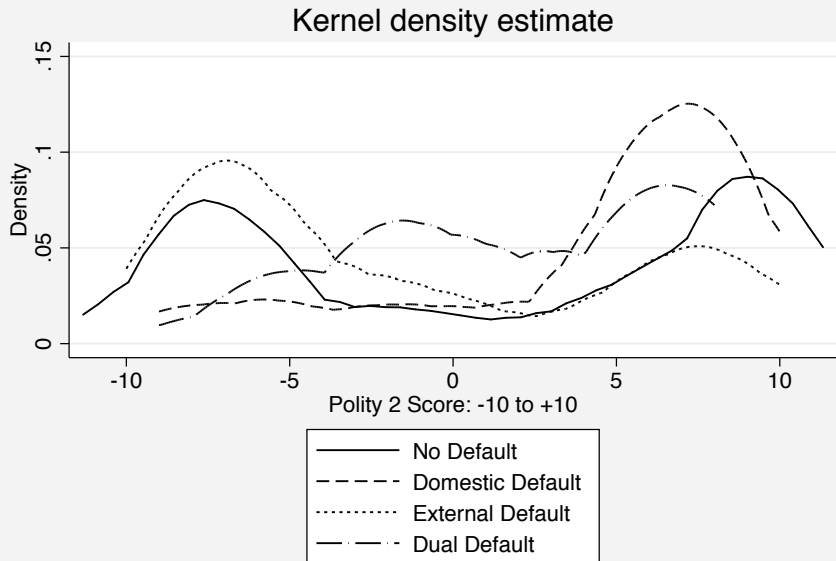
- Influence of domestic bond holding groups within a country.
- A crude simplification: Autocracy more responsive to the elite than democracies.
- If thinking in terms of the elites and wider population, in general:
 - ▶ Low developed and unequal countries: *elite* ownership.
 - ▶ Highly developed, more equal countries: *wider population* (indirect) ownership.
- Political costs of defaulting are higher for democracies the more developed the country.
- Political costs of defaulting are higher for autocracies the less developed the country.

Defaulting Domestically Rather Than Externally

If the level of Domestic Debt $<$ External Debt:

- Ability to pay:
 - ▶ We should not observe this behaviour.
 - ▶ Increasing in difference between interest payments on domestic compared to external debt.
- Strategic default:
 - ▶ Political influence of debt holders is weak.
 - ▶ Political influence decreasing when ratio of domestic to total debt is decreasing.
 - ▶ Democracy: debt held by a small elite.
 - ▶ Autocracy: debt held outside of the elite (plausability?)

Defaults and the Political System



kernel = epanechnikov, bandwidth = 1.3234

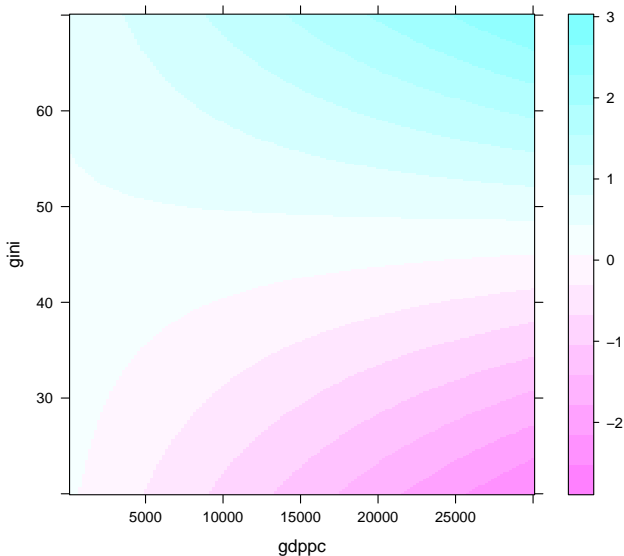
Empirical Model

- **Estimator:** Bivariate Probit (+ country clustered standard errors).
- **Dependent Variables:** Domestic Default and External Bank Default (Standard and Poor's).
- **Key Independent Variables:** Level of Democracy (Polity 2), GDP per capita and GINI in a triple interaction.
- **Other Independent Variables:**
 - ▶ *Economic:* Ratio of Domestic to Total Debt (Panizza), Total Debt to GDP (Panizza), GDP Growth, Inflation Rate (GDP Deflator), Ratio of M2 to Reserves, Trade Openness, Current Account Balance as % of GDP.
 - ▶ *Political:* Election Year, Years in Office, Executive Constraints, Coalition Government, Herfindahl Index of Government, ~~Parliamentary System~~.
 - ▶ *Temporal Dependence:* Cubic Polynomial of Time since last default (Carter and Signorino 2010).

Results - Domestic Debt Default

Marginal Effect of Level of Democracy (Polity 2)

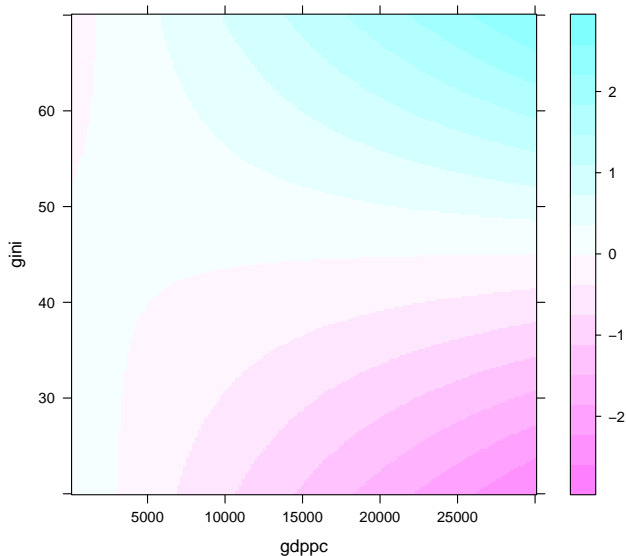
Domestic Debt Default



Results - External Debt Default

Marginal Effect of Level of Democracy (Polity 2)

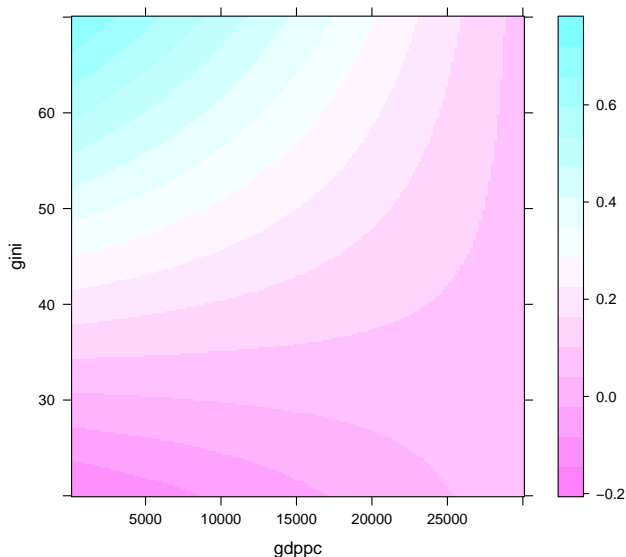
External Default



Results - Domestic Vs. External Default

Difference in Marginal Effect for Level of Democracy (Polity 2)

$\text{MFX}(\text{Domestic Default}) - \text{MFX}(\text{External Default})$



Complements or Substitutes?

- $\rho < 0$ in all estimations, suggesting substitution.
- But never reaches conventional levels of statistical significance.

Conclusion

- Taking into account political responsiveness allows us to better fit the observed facts about debt default.
- There doesn't appear to be any statistical interdependence between choosing to default on domestic or external debt (business as usual?).
- Further work to be done on the politics of debt default.

Extra Slides

- ① Parameters and standard errors from estimations.
- ② Predicted probabilities of domestic default from previous working paper.

Estimations

	(1)	(2)	(3)
	Triple Interaction	Polity 2 * GDPPC	Polity 2 * GINI
<u>Domestic Default Equation</u>			
polity2	-0.037 (0.281)	0.162*** (0.060)	-0.321* (0.194)
gdppc	0.000 (0.001)	0.000 (0.000)	-0.000 (0.000)
gini_net	-0.091 (0.057)	-0.007 (0.013)	-0.098** (0.044)
polity_gdppc	-0.000 (0.000)	-0.000 (0.000)	
polity_gini	0.009 (0.008)		0.013** (0.006)
gini_gdppc	-0.000 (0.000)		
polity_gini_gdppc	0.000 (0.000)		
dom_debt_ratio	-2.209* (1.239)	-1.550* (0.934)	-1.703* (1.000)
tot_debt_gdp	0.100 (0.430)	-0.029 (0.414)	0.012 (0.397)
gdp_growth	-0.100** (0.043)	-0.081** (0.037)	-0.095** (0.040)

Estimations - Ctd.

inflation_gdpdef	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
m2_reserves	0.001* (0.000)	-0.000 (0.000)	0.001** (0.000)
openness	-0.000 (0.004)	-0.000 (0.004)	0.002 (0.003)
current_account_gdp	0.063* (0.035)	0.056* (0.032)	0.055 (0.034)
elec	-0.124 (0.227)	-0.121 (0.232)	-0.085 (0.263)
yrsoffc	-0.031 (0.029)	-0.030 (0.024)	-0.030 (0.028)
xconst	-0.630*** (0.244)	-0.373 (0.233)	-0.531*** (0.205)
coalgov	0.000 (0.001)	0.000 (0.000)	0.000 (0.001)
herfgov	1.147 (0.848)	1.103 (0.774)	1.208 (0.828)
dom_t	-0.815*** (0.254)	-0.771*** (0.239)	-0.813*** (0.231)
dom_t2	0.059** (0.023)	0.055** (0.022)	0.058*** (0.021)
dom_t3	-0.001** (0.001)	-0.001** (0.001)	-0.001** (0.000)
cons	5.859* (0.001)	2.054 (0.001)	5.809*** (0.000)

Estimations - Ctd.

<u>External Default Equation</u>			
polity2	0.460*** (0.162)	0.082* (0.045)	0.142 (0.100)
gdppc	0.000 (0.000)	0.000** (0.000)	-0.000 (0.000)
gini_net	0.024 (0.023)	0.015 (0.013)	0.023 (0.015)
polity_gdppc	-0.000** (0.000)	-0.000** (0.000)	
polity_gini	-0.009** (0.004)		-0.002 (0.002)
gini_gdppc	-0.000 (0.000)		
polity_gini_gdppc	0.000** (0.000)		
dom_debt_ratio	-1.519*** (0.475)	-1.164*** (0.407)	-0.929** (0.421)
tot_debt_gdp	1.179*** (0.352)	1.044*** (0.314)	0.855*** (0.287)
gdp_growth	-0.054** (0.026)	-0.057*** (0.021)	-0.053** (0.023)
inflation_gdpdef	0.001* (0.001)	0.001* (0.001)	0.001* (0.001)
m2_reserves	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)

Estimations - Ctd.

openness	-0.003 (0.003)	-0.001 (0.002)	0.001 (0.002)
current_account_gdp	-0.009 (0.020)	-0.007 (0.016)	-0.010 (0.017)
elec	0.093 (0.192)	0.076 (0.194)	0.124 (0.183)
yrsoffc	-0.025* (0.013)	-0.028** (0.011)	-0.031** (0.012)
xconst	-0.308** (0.137)	-0.341*** (0.124)	-0.334*** (0.122)
coalgov	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
herfgov	-0.248 (0.349)	-0.181 (0.330)	-0.190 (0.321)
extbank_t	-1.428*** (0.228)	-1.365*** (0.269)	-1.335*** (0.264)
extbank_t2	0.124*** (0.022)	0.118*** (0.026)	0.114*** (0.026)
extbank_t3	-0.003*** (0.001)	-0.003*** (0.001)	-0.003*** (0.001)
_cons	1.031 (1.120)	1.512* (0.779)	1.326* (0.777)

Estimations - Ctd.

athrho			
_cons	-0.101 (0.539)	-0.312 (0.842)	-0.224 (0.579)
<i>N</i>	871	871	871
Log Likelihood	-150.918	-156.522	-155.947

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Pr(Domestic Default), Jackknifed Standard Errors

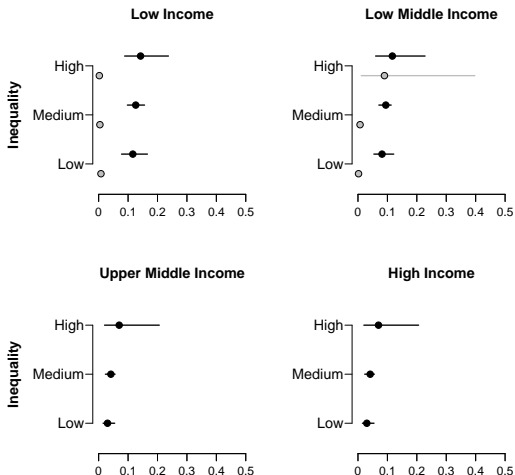
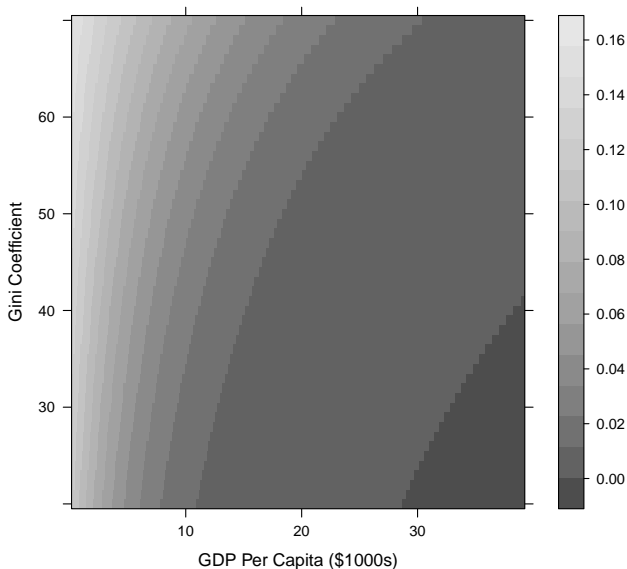


Figure: Black indicates a highly democratic country (Polity Score = +10), grey indicates a highly autocratic country (Polity Score = -10).

Pr(Domestic Default | Polity 2 = +10)

Pr(Default) in a Democratic Country



Pr(Domestic Default | Polity 2 = -9)

Pr(Default) in a Autocratic Country

