The Political Economy of Macroprudential Choices: Some preliminary results

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This document contains some **very preliminary** results on the political economy of macro-prudential regulatory choices.

Dependent variables

Our two dependent variables are derived from a new data set of macro-prudential actions created by Reinhardt and Sowerbutts (2015). Using an number of sources, mostly created by IMF staff economists, with supplementary hand coding, they generated binary quarterly indicators of macro-prudential policy tightening and loosening for 70 countries between 1990 and 2014. They created dummies for individual instruments including lending standards, reserve requirements, capital regulation, risk weights, underwriting standards, profit distribution, and loan to value ratios.

Given that there were sometimes few observations of countries using these policies, especially in the constricted time period for which we had data available on the right-hand side of our models, we created two summary dummy variables from the Reinhardt and Sowerbutts (2015) data to use as our dependent variables. One captured if a country tightened macro-prudential policy in a given quarter. The other captured loosening. These variables equal one for each country-year that any macro-prudential policy was tightened or loosened, respectively, and zero otherwise.

Right-hand variables

In this preliminary analysis we examined how a number of political and economic factors may affect decisions to tighten and loosen macro-prudential policy.

One possibility is that elected politicians are more likely to loosen and less likely to tighten macro-prudential policy if they are close to an **election**. Doing so would spur (slow) credit provision to the economy which voters would like (dislike). To examine this we gathered executive election dates from Hyde and Marinov (2012).[1] Politicians would likely not only loosen or avoid tightening in the immediate election quarter, but also in the quarters leading up to the election. As such, we created a binary executive election variable that was one in the election quarter and the three previous quarters. It was zero otherwise.

Elected politicians may find it difficult to tighten macro-prudential policy generally as this may slow economic growth in the short-term, even if it promotes stability in the future. Countries with more **central bank independence** (CBI) may not suffer from such a time inconsistency problem. Independent central banks were created under the rational that they did not suffer from the electorally induced time-inconsistency problems in monetary policy-making that politicians faced. So, countries with independent central banks may be more likely to tighten macro-prudential policy. We use a standard measure of CBI first devised by Cukierman, Web, and Neyapti (1992) and recently updated through 2008 for about 80 countries by Bodea and Hicks (2015). It ranges from 0.120 and up to 0.95 in the sample with higher values indicating more central bank independence.

Governments that are subject to higher **fiscal policy transparency** may be more likely to loosen macro-prudential regulation. The logic is that they are less able to use fiscal policies that are hidden from voters and

[1] We used Version 4 of the data set.

sovereign bond investors–such as contingent liabilities–in order to boost the economy if their books are more transparent. To compensate, these politicians may loosen lending rules for the private sector to spur them to expand lending and spur the economy. To measure fiscal transparency, we use a new index created by Wang, Irwin, and Murara (2015). They measure the degree to which and what type of fiscal data is reported to the International Monetary Fund from 2003 to 2013. Their index ranges from zero to 100.

As macro-prudential policy is broadly an attempt to shore up financial markets, it is important to include the financial market stress policy-makers perceived in real-time. To do this we use the **FinStress** measure from Gandrud and Hallerberg (2015). They created a real-time indicator of financial market stress for over 180 countries between 2003 and 2011 using a text analysis of *Economist Intelligence Unit* monthly country reports. The value ranges from zero (low stress) to one (high stress). We converted this monthly variable to country-quarter averages.

We also examined if politicians' **economic ideology** may play a role in macro-prudential decisions. To test this we include the government executive's economic policy orientation from the Database of Political Institutions (DPI, Beck et al. 2001 updated through 2012), It is one for right-leaning, two for centre, and three for left-leaning.

Finally, we examined a number of economic indicators including the **inflation rate**, **GDP growth**, and **domestic credit growth**. These are all at the country-year level and from the World Bank's Development Indicators (World Bank 2016).[2]

Results

Because we are primarily interested in how politicians with electoral incentives choose macro-prudential policies, in the following regressions we focus on county-years with a Polity 2 score greater than five (Marshall and Jaggers 2009 updated through 2012). This is the threshold at which the index's authors decide whether a country is democratic or not.

The following tables are from logistic regressions with country, year, and quarter fixed effects.

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[2]The indicator IDs are FP.CPI.TOTL.ZG, NY.GDP.MKTP.KD.ZG, FS.AST.DOMS.GD.ZS, respectively. Note that we created the domestic credit growth variable by finding the year-on-year percentage change in domestic credit as a percentage of GDP.

Table 1: Logistic Regression for extbfTightening Macroprudential Regulation

	Dependent variable:							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FinStress	-3.100^{***}	-2.890^{**}	10.415^{***}	1.452	-2.849^{**}	-3.298^{**}	-1.576	-2.996^{**}
	(1.024)	(1.203)	(4.038)	(1.678)	(1.204)	(1.459)	(1.230)	(1.236)
Election	0.088							
	(0.279)							
CBI		8.352^{**}	16.418^{***}	55.891^{***}	8.496^{**}	8.968^{**}	7.354^{**}	8.293^{**}
		(3.578)	(4.430)	(21.230)	(3.592)	(3.711)	(3.654)	(3.613)
Fiscal Transp.				0.013				
				(0.229)				
Economic Ideology					0.004			
					(0.008)			
GDP Growth							0.248^{***}	
							(0.051)	
Domestic Credit Growth						-0.010		
						(0.012)		
Inflation								0.022
								(0.042)
FinStress*CBI			-18.274^{***}					
			(5.332)					
Constant	-0.428	-6.848^{**}	-12.947^{***}	-46.466^{***}	-7.025^{**}	-5.575^{***}	-8.728^{***}	-5.897^{***}
	(0.801)	(2.862)	(3.502)	(16.746)	(2.887)	(1.641)	(2.955)	(1.593)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,786	1,231	1,231	767	1,231	816	1,231	1,172
Log Likelihood	-427.461	-319.630	-313.626	-183.614	-319.506	-206.882	-305.132	-299.428
Akaike Inf. Crit.	984.923	739.260	729.252	449.229	741.012	489.763	712.264	698.856

Note: *p<0.1; **p<0.05; ***p<0.01

Table 2: Logistic Regression for extbfLoosening Macroprudential Regulation

	Dependent variable:							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Fiscal Transp.	0.024^{**}	0.014^{*}	0.026^{**}	0.023^{*}	0.017	0.014^{*}	0.001	
	(0.010)	(0.008)	(0.011)	(0.012)	(0.011)	(0.008)	(0.009)	
FinStress	-0.751							-0.800
	(1.424)							(1.421)
Election		0.825^{***}	0.561	0.887^{**}	0.103	0.756^{**}	0.694^{**}	0.591^{*}
		(0.294)	(0.359)	(0.409)	(0.430)	(0.305)	(0.338)	(0.359)
CBI			2.995					
			(4.773)					
Economic Ideology				-0.046				
				(0.210)				
GDP Growth						0.005		
						(0.034)		
Inflation							0.089^{**}	
							(0.043)	
Domestic Credit Growth					0.010			
					(0.014)			
Constant	0.0003	-0.806	-2.819	-0.076	-22.925	-0.760	-21.148	0.041
	(0.948)	(0.530)	(3.723)	(0.783)	(2,601.169)	(0.588)	(2,593.254)	(0.950)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Quarter FE	Yes	No	Yes	Yes	Yes	No	No	Yes
Observations	1,786	2,274	1,356	1,533	1,160	2,234	2,142	1,786
Log Likelihood	-229.216	-352.551	-217.293	-209.190	-170.087	-339.810	-301.197	-230.885
Akaike Inf. Crit.	588.433	843.101	542.585	534.381	428.173	819.620	740.394	591.770

Note: *p<0.1; **p<0.05; ***p<0.01

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