When Do Regulators Lean Against the Wind?: The Political Economy of Implementing Macroprudential Regulatory Tools: Some very preliminary results

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This document contains some **very preliminary** results. Comments welcome.[1]

Abstract

In the aftermath of the global financial crisis, macro-prudential regulatory (MPR) tools, which aim to limit the build-up of systemic risk and the macroeconomic costs of financial instability, have gained widespread attention. An important element of MPR tools involves implementing new counter-cyclical regulatory measures to dampen credit cycles. Yet the political dynamics of MPR tools are complicated in that their implementation involves moving against market and public sentiment during boom periods as well as affecting who can obtain access to financing and who cannot. In this sense, the use of MPR tools can be highly and conspicuously distributional, thus potentially constraining their use and effectiveness. In many cases, the allocation of MPR responsibilities to hitherto independent central banks creates additional concerns about the nature of their accountability relationship with the rest of the political process and the public at large. To shed light on these critical issues, we provide the first cross-national statistical political economy analysis of MPR implementation. Our analysis assesses the relative importance of political credit cycles, institutional demands, and societal demands for credit tightening and easing. **Preliminary results** from democracies indicate that independent central banks are important for overcoming the political credit cycles that would hamper effective MPR tightening. Conversely, higher fiscal transparency and impending elections appear to influence MPR loosening as politicians may be relying on private credit markets to stimulate the economy to please voters.

Dependent variables

Our two dependent variables are derived from a new data set of macro-prudential actions created by Reinhardt and Sowerbutts (2015). Aggregating a number of sources, mostly from IMF staff economists, and supplemented with additional hand coded incidents, they generated binary quarterly indicators of MPR tightening and loosening for 70 countries between 1990 and 2014. They created dummies for a range of individual MPR 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 some of these policies, especially in the constricted time period for which we had available data 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 variable 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.

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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 that voters would like (dislike). To examine this we gathered executive election dates from Hyde and Marinov (2012).[2] 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) suffer less from such a time inconsistency problem. Independent central banks were created under the rational that they would not suffer from the electorally induced time-inconsistency problems in monetary policy-making faced by elected politicians. So, countries with independent central banks may be more likely to tighten MPR. 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 to 0.95 in the sample with higher values indicating more central bank independence. Currently countries in the Eurozone are excluded from regressions with this variable. The vast majority of the data set is from the period prior to the European Central Bank taking on banking supervision. Assigning the high independence of the ECB to Eurozone member state supervisory systems during this period is therefore difficult.

Governments may feel a need to tighten macro-prudential policy when asset prices are rising. A key asset prices, often discussed regarding macro-prudential policy, are **residential property prices**. Measuring national-level residential property prices is notoriously difficult (see Scatigna, Szemere, and Tsatsaronis 2014). We use national series selected by the Bank of International Settlements (Bank of International Settlements 2016) to be as comparable as possible. The indices are at quarterly intervals and in terms of real year-on-year percentage change.

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 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 fuel economic growth. 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 strengthen 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-leaning, and three for left-leaning.

Finally, we examined a number of economic indicators from the World Bank's Development Indicators (World Bank 2016).[3] These included the **inflation rate**, **GDP growth**, and **domestic credit growth**.

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

[3]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.

Very preliminary 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. Additionally, we may expect that countries that a country that has already tightened has a higher propensity to tighten again and having previously tightened is necessary to be able to loosen. As such we include a variable of **cumulative observed macroprudential policy tightening**. This variable simply sums the number of observed instances of tightening by a country up to, but not including the present quarter. Results were largely substantively the same regardless of whether or not we include this variable.[4]

Table 1: Logistic Regression for **Tightening** Macroprudential Regulation in Democracies

	Dependent variable:							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Cumulative Tightening	−0.285***	−0.246***	−0.228***	−0.177*	−0.247***	−0.286***	−0.257***	−0.265***
	(0.061)	(0.070)	(0.071)	(0.092)	(0.070)	(0.091)	(0.072)	(0.075)
FinStress	−3.143***	−2.538**	9.983**	1.924	−2.487**	−2.190	−1.053	−2.516*
	(1.056)	(1.253)	(4.192)	(1.728)	(1.254)	(1.557)	(1.279)	(1.286)
Election	0.149							
	(0.283)							
CBI		6.868*	14.450***	48.321**	7.006*	7.253*	6.104*	6.739*
		(3.591)	(4.470)	(21.885)	(3.605)	(3.720)	(3.687)	(3.616)
Fiscal Transp.				0.110				
				(0.242)				
Economic Ideology					0.005			
					(0.008)			
GDP Growth							0.256***	
							(0.052)	
Domestic Credit Growth						−0.010		
						(0.013)		
Inflation								0.065
								(0.043)
FinStress*CBI			−17.068***					
			(5.479)					
Constant	−0.291	−5.833**	−11.602***	−41.059**	−6.025**	−6.452***	−8.106***	−6.807***
	(0.829)	(2.868)	(3.530)	(17.208)	(2.892)	(1.700)	(2.976)	(1.649)
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	−415.455	−313.173	−308.243	−181.707	−312.982	−201.667	−298.465	−292.716
Akaike Inf. Crit.	962.911	728.346	720.485	447.415	729.965	481.333	700.931	687.433

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

First, let's examine the factors that are correlated with tightening macro-prudential policy (Table 1). On the economic side, the results are what we would expect. Macro-prudential policy is less likely to be tightened if financial markets are already perceived to be stressed. MPR generally is viewed as a set of measures to head off future crises, rather than a tool to deal with them once they have started. Following the same logic, macro-prudential policy is more likely to be tightened as GDP growth increases. It may be both economically more sensible–tempering bubbles that are creating unsustainable GDP growth–and politically more feasible–if the economy is doing well then slowing it will be less noticeable–to tighten macro-prudential policy during periods of higher economic growth.

Interestingly, impending elections do not seem to have an impact on tightening decisions, but central bank independence does. More countries with more independent central banks appear to be more likely to take the (often) politically unpopular decision to tighten MPR. Economic ideology does not appear to have an effect on MPR decisions, either for tightening or loosening.

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[4]Only results from regressions including the variable are show.

Table 2: Logistic Regression for **Loosening** Macroprudential Regulation in Democracies

	Dependent variable:							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Cumulative Tightening	0.042 (0.084)	0.016 (0.050)	0.044 (0.069)	−0.037 (0.070)	0.074 (0.087)	0.012 (0.054)	0.002 (0.063)	0.036 (0.084)
Fiscal Transp.	0.023** (0.010)	0.014* (0.008)	0.026** (0.011)	0.024* (0.013)	0.015 (0.011)	0.014* (0.008)	0.001 (0.009)	
FinStress	−0.808 (1.425)							−0.846 (1.422)
Election		0.819*** (0.294)	0.561 (0.359)	0.836** (0.409)	0.088 (0.431)	0.752** (0.305)	0.689** (0.338)	0.583 (0.360)
CBI			3.237 (4.877)					
Economic Ideology				−0.093 (0.217)				
GDP Growth						0.005 (0.034)		
Inflation							0.089** (0.044)	
Domestic Credit Growth					0.009 (0.014)			
Constant	−0.017 (0.948)	−0.817 (0.531)	−3.030 (3.810)	0.074 (0.796)	−22.474 (2,612.838)	−0.775 (0.593)	−21.136 (2,593.095)	0.017 (0.951)
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	1,528	1,160	2,234	2,142	1,786
Log Likelihood	−229.089	−352.519	−217.089	−203.696	−169.719	−339.804	−301.220	−230.791
Akaike Inf. Crit.	590.179	845.039	544.177	525.392	429.438	821.608	742.440	593.582

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

Second, let's consider what factors are associated with decisions to loosen macro-prudential policy (Table 2). Politically it may be easier and even desirable to loosen as doing so has short-term benefits for voters. As such, and in contrast to the finding that impending elections appear to have no effect on decisions to tighten, there is some evidence that countries loosen close to elections.[5]

There is also some evidence that countries with more fiscal transparency are more likely to loosen their macro-prudential regulation. The logic here would be that they are loosening standards in the private sector in order to stimulate credit provision and ultimately the economy given that they cannot do so with the public balance sheet without being observed and penalised by voters.

Very preliminary conclusions

Overall, these preliminary findings indicate that political economy considerations may indeed impact decisions to tighten and loosen macro-prudential policy. Importantly, independent economic policy institutions may be important for a country to be able to 'lean against the wind' by tightening macro-prudential policy. Just as they do in monetary policy, independent central banks appear to be less subject to the time inconsistency problem with political credit cycles that may lead to less optimal policy choices in the long-term. This has important implications for the intellectual case for placing macroprudential policy-making in independent central banks, such as the ECB and Bank of England.

Interestingly, CBI seems to not have the same effect on loosening. Loosening MPR seems to be more driven by voter-pleasing considerations. This may complicate the CBI finding. Perhaps, politicians are letting indpendent central banks take the blame for leaning against the wind, while taking credit for doing the opposite. Given the increasingly politically complicated position that central banks have found themselves in following their extrodinary monetary policy measures in the Great Recession, this trend could further open central banks to political criticism and curtailment, undermining their ability to set effective MPR in the future.

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[5]We are cautious about this finding at this point as it is somewhat model dependent (i.e. there is no statistically significant effect of elections in a model without other covariates).

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