Central Bank Credibility: A Meta-Analysis[*]

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Extended Abstract

A general consensus in the literature seems to be that high credibility is by far the greatest asset of any central bank. Taken to an extreme, a fully credible central bank could theoretically lower inflation without inflicting adverse effects on employment (Blinder, 2000) or push the exchange rate to a desired level without actually buying or selling foreign currency (Basu, 2012). Of course, the main accompanying assumption for this to occur is for market participants to have rational expectations. But even in the absence of rationality, and as long as there exists some degree of forward-looking expectations, credibility still plays a significant role.

Similarly important is the lack of credibility, which for the case of unanchored inflation expectations can lead to lingering price and wage spirals (Bems et al., 2020). Also, when central bank independence falters, sudden stops generally ensue. Ultimately, credibility allows for a self-fulfilling prophecy; which essentially can be interpreted as a corner solution that can either make-or-break monetary policy objectives. This is particularly relevant for policymakers in periods of high uncertainty or stress (Maria and Nicola, 2009.

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Paradoxically, while perfect credibility is commonly assumed (including in most of the workhorse models used today by central banks), the empirical literature that documents the incremental benefits of credibly is rather scant. Thus, we intend to contribute to this literature by bringing together the first meta-analysis ever conducted on the subject, with 692 reported effects on conventional monetary policy and 481 effects on unconventional policy (FX intervention and effects on capital flows). We highlight that this is one of the largest (if not the largest) meta-analysis ever conducted in the macroeconomic literature. In table Table 1 we break down observations by policy objective and instrument.

Given the few empirical studies available that directly address issues pertaining to central bank credibility, our approach is to first gather the entire literature on central bank effectiveness and then test whether effectiveness is a function of credibility, transparency, and independence. This analysis is carried out over 7 decades (1950-2020) and for over 60 central banks (see Table 2 and Figure 1).

We use various measures of independence, transparency, and the degree of anchoring in inflation expectations to assess central bank credibility. Note that independence and transparency indexes relate to institutional or *de facto* arrangements that strengthen central bank commitment to price stability and thus, can potentially increase credibility. Specifically, we use three independence indexes presented in Cukierman et al. (1992) and Romelli (2022). This family of indexes begins by measuring legal independence, continues by considering actual and perceived independence, and finally includes elements of institutional design that affect the conduct of monetary policy. We also use the transparency index estimated by Dincer et al. (2022), which measures the extent to which information on central bank policy decisions and decision-making processes is made publicly available.

We complement these measures with several indexes relating to the degree of anchoring of inflation expectations. Namely, medium- and long-term expectations reflect how far apart are agents' perceptions of future inflation from the pre-announced inflation target. In essence, they reveal information on whether market participants believe that the central bank can effectively carry out monetary policy to control prices. Therefore, the anchoring of inflation expectations provides a valuable and easy-to-estimate measure of observed central bank credibility. We follow Levieuge et al. (2018), de Mendonça et al. (2021), and Bems et al. (2021) to measure the anchoring of one-, three- and five-years ahead inflation expectations, using data from surveys to financial agents. The indexes allow for different weights of negative deviations from the target, and the stability of expectations across time and across survey

respondents.

Our preliminary findings suggest that conventional monetary policy significantly affects inflation and output. Under a random effects model, a 100 basis point (bp) increase in the domestic policy rate lowers both inflation and and output in 0.03% (see Table 4). More notably, high levels of central bank's independence enhances this effect. We also find that some country-related factors improve the effectiveness of conventional policy; these include countries with: inflation targeting regimes, higher tax revenue, lower public debt (as % of GDP) and a lower Gini index.

FX intervention also show a significant mean effect of 0.027% exchange rate depreciation in response to net purchases of $1 billion USD. We explore heterogeneity patterns in these effect sizes due to differences in central banks' credibility. We also report incremental changes due to financial and macroeconomic factors (see Table 4 and Table 5). For example, factors that improve the effects on FX levels include a higher current account (as % of GDP), VIX and SKEW index, and lower debt (as % of GDP) and 5-year Credit Default Swaps.

Finally, we do not observe an unconditional effect on capital flows. That is, our results indicate a non-significant effect on net capital inflows in response to a 100bp increase (reduction) in the domestic (external) policy rate. However, variables that increase the effect on net inflows are: higher output growth and export diversification index, and lower restrictions on capital flows and departures from the uncovered interest rate parity condition (UIP).

To conclude, our most novel result is that for conventional policy, independence matters most. Alternatively, for unconventional policy transparency matters most. We corroborate these findings throughout our exercises.

Appendix: Figures and Tables

Table 1: Observations by Meta-analysis and Response Variables

| Monetary Objective	Instrument	Obs
Conventional Monetary Policy		*692*
CPI	Policy rate	266
PPI	Policy rate	5
Housing Prices	Policy rate	7
GDP	Policy rate	199
Industrial GDP	Policy rate	163
GDP Deflator	Policy rate	52
Unconventional Monetary Policy		*481*
FX Level	Purchases/Sales of USD	151
Capital Flows	Policy rate	65
Capital Flows	Rate differential	68
Capital Flows	Foreign rate	197

Authors' calculations. Each value denotes the number of observations in our sample by meta-analysis (Conventional monetary policy, Capital Flows and FX level) and by response variables associated with reported effects.

Table 2: Surveyed countries and time periods

	1950 - 1970			1970 - 1990			1990 - 2010			2010 - 2020		
	Conventional Policy	Capital Flows	FXI	Conventional Policy	Capital Flows	FXI	Conventional Policy	Capital Flows	FXI	Conventional Policy	Capital Flows	FXI
ARGENTINA			0			0			2			0
AUSTRALIA	0		0	5		4	5	4		0		0
AUSTRIA	0			1			1			0		
BELGIUM	0			1			1			0		
BRAZIL	0	0	0	4	4	0	28	16	12	2	8	6
BULGARIA	0			0			2			0		
CANADA	0			8			8			0		
CHILE			0			0			11			4
COLOMBIA	0	0	0	0	1	0	2	19	20	2	0	17
CZECH REPUBLIC	0			2			23			0		
DENMARK	0			1			1			0		
ECUADOR	0			0			2			2		
EL SALVADOR	0			0			2			2		
ESTONIA	0			0			2			0		
FINLAND	0			3			3			0		
FRANCE	0			14			14			0		
GERMANY	2		0	18		8	19		4	0		0
GHANA	0			0			1			1		
GREECE	0			2			2			0		
GUATEMALA			0			0			1			1
HUNGARY	0			2			18			0		
INDIA		0	0		0	0		4	8		4	7
INDONESIA	0	0		0	12		2	24		2	8	
IRELAND	0			8			8			0		
ITALY	0			24			24			0		
JAPAN	0	2	0	18	2	4	21	0	46	3	0	7
KENYA	0			0			2			2		
KOREA		0			4			12			0	
LATVIA	0			0			2			0		
LITHUANIA	0			0			2			0		
MALAWI			0			0			1			0
MALAYSIA	0			4			6			4		
MEXICO	0	0	0	0	0	0	2	4	9	2	4	3
NETHERLANDS	0			1			1			0		
NEW ZEALAND	0			5			5			0		
NIGERIA	1	0		2	0		2	2		2	2	
NORWAY	0			0			1			0		
PAKISTAN			0			0			1			0
PANAMA	0			0			2			2		
PANEL	0	18		20	66		82	185		20	153	
PERU	0	0	0	0	4	0	4	4	3	4	4	2
PHILIPPINES	0	0		0	8		4	8		4	8	
POLAND	0			2			16			0		
PORTUGAL	0			1			1			0		
ROMANIA	0			0			8			0		
RUSSIA		0			0			4			4	
SINGAPORE	0			0			2			2		
SLOVAKIA	0			2			12			0		
SLOVENIA	0			2			6			0		
SOUTH AFRICA	0	0		3	8		6	8		3	8	
SPAIN	0			3			3			0		
SWEDEN	0		0	1		0	1		5	0		0
SWITZERLAND			0			2			2			0
TAIWAN	0			2			2			0		
THAILAND	0	0		0	0		6	12		2	4	
TURKEY	0	0	0	0	4	0	1	4	18	1	4	7
UGANDA			0			0			1			1
UNITED KINGDOM	1			14			24			3		
UNITED STATES	177			290			274			43		
VIETNAM	0			0			1			1		
ZAMBIA			0			0			5			1
TOTAL	181	20	0	463	113	18	667	306	153	109	211	56

Authors' calculations. Each value denotes the number of studies (papers) in our sample by frequency and meta-analysis.

Figure 1: Countries in each meta-analysis
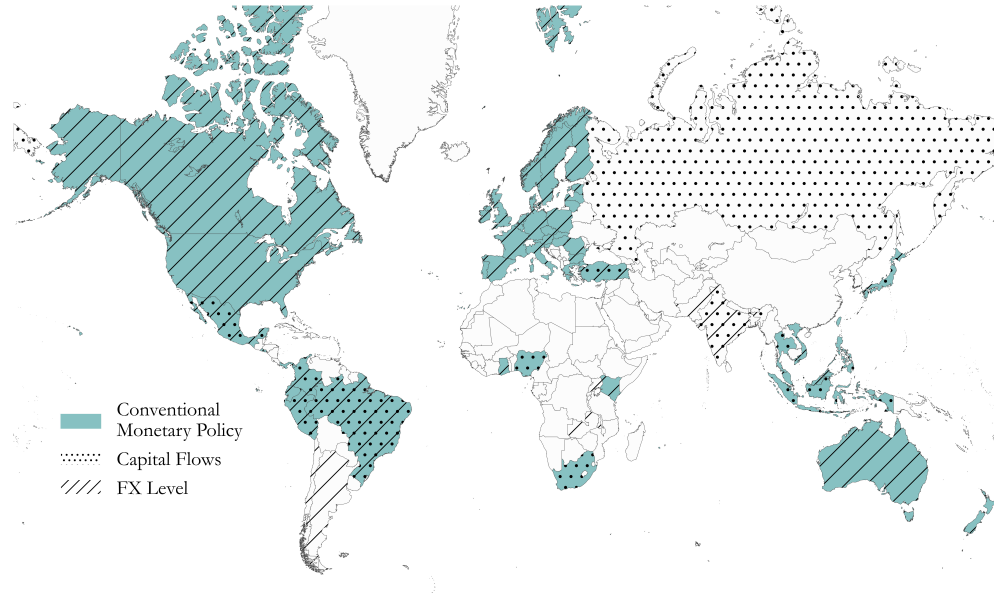
Note: The Figure shows the 62 surveyed countries, sub-categorized by meta-analysis: Conventional Monetary Policy and Unconventional Policy (FX Intervention and Capital Flows)

Table 3: Number of studies by Frequency

	Conventional Monetary Policy	Capital Flows	FX Level
Daily			58
Weekly		5	3
Monthly	69	6	7
Quarterly	51	34	
Annual	5	5	
TOTAL	125	50	68

Authors' calculations. Each value denotes the number of reported effects in our sample by country and by period in which the empirical exercise took place. While there is a total of 125, 50, and 68 distinct studies in each meta-analysis (Conventional monetary policy, Capital Flows and FX level, respectively), note that some studies cover more than one country and/or decade.

Figure 2: Conventional Monetary Policy: Histograms of T-statistics and Effect Sizes
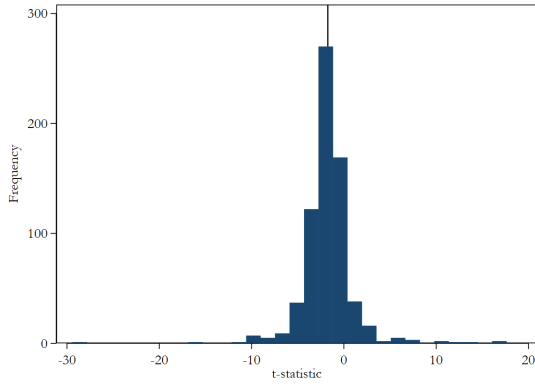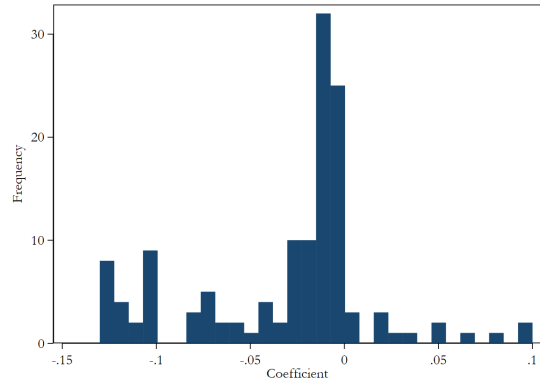
(a) T-statistics (All)
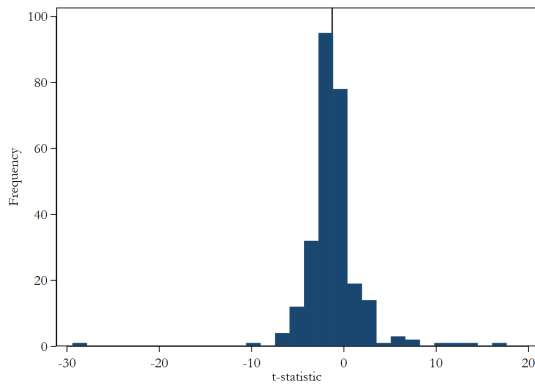
(b) Effect Sizes (All)

(c) T-statistics (CPI Inflation)
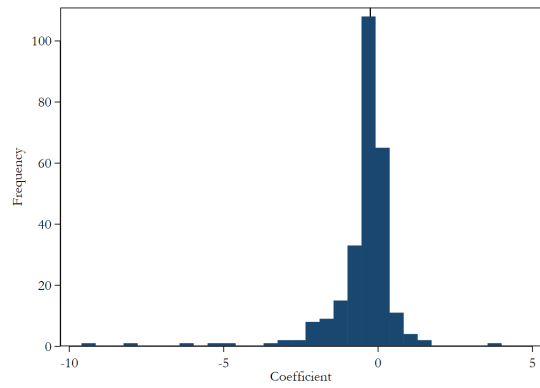
(d) Effect Sizes (CPI Inflation)
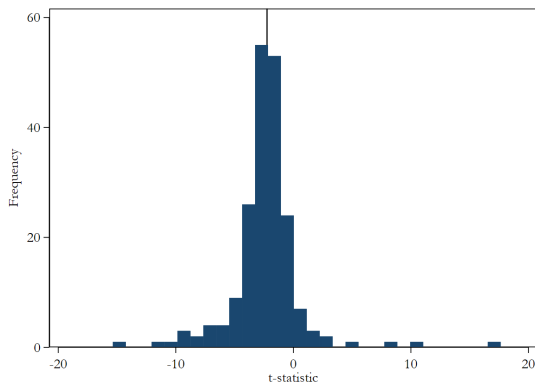
(e) T-statistics (GDP)
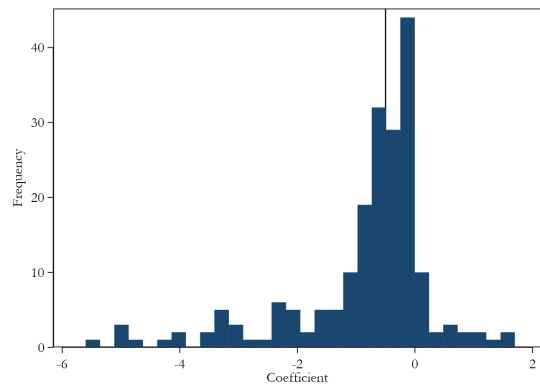
(f) Effect Sizes (GDP)
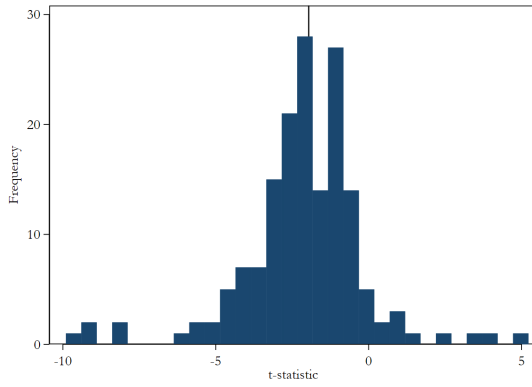
(g) T-statistics (Industrial GDP)
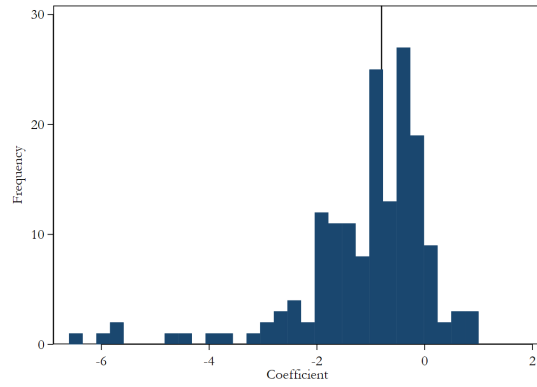
(h) Effect Sizes (Industrial GDP)
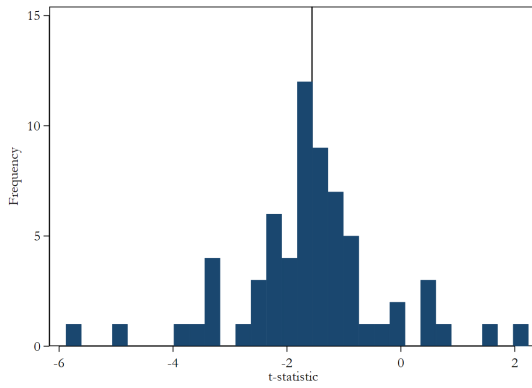
(i) T-statistics (Others: GDP Deflator, PPI, Housing Prices)
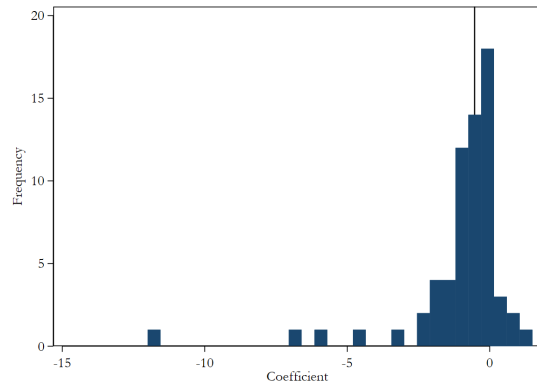
(j) Effect Sizes (Others: GDP Deflator, PPI, Housing Prices)

Note: The figure shows histograms for T-statistics and Effect Sizes for Conventional monetary policy meta-analysis (in %). The line denotes the median. CPI Inflation covers: CPI, CPI excl. food and %Δ CPI. GDP includes: GDP, GDP Gap and %Δ GDP. Industrial GDP contains: Industrial GDP and Industrial Production Index. Other variables include: GDP Deflator, %Δ GDP Deflator, PPI, Housing Prices and %Δ Housing Prices.

Figure 3: Capital Flows: Histograms of T-statistics and Effect Sizes
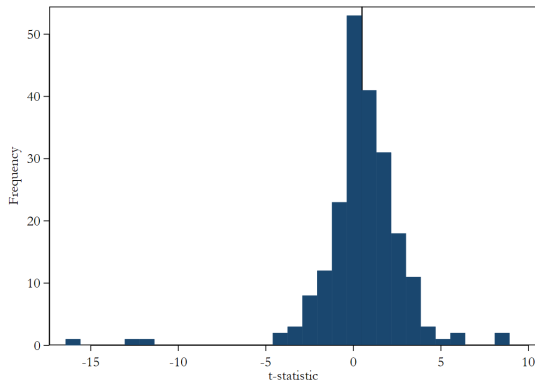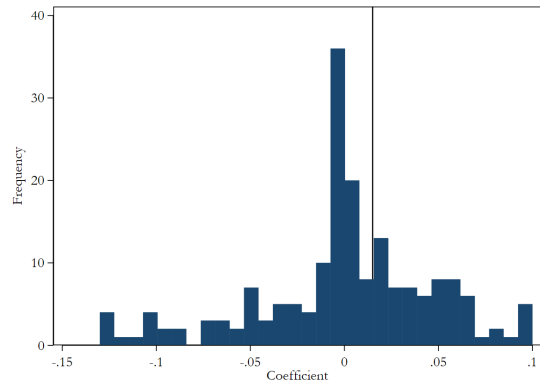
(a) T-statistics (All)
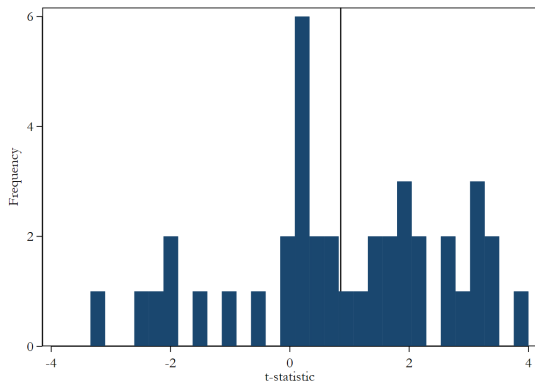
(b) Effect Sizes (All)

(c) T-statistics (Domestic Policy Rate (i))
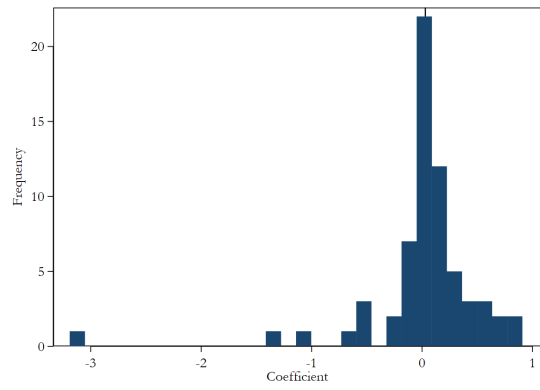
(d) Effect Sizes (Domestic Policy Rate (i))
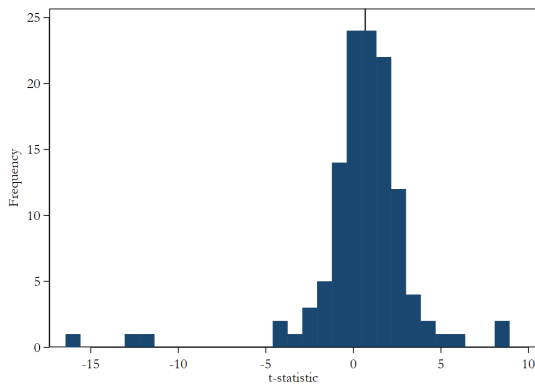
(e) T-statistics (Foreign Policy Rate (i^*))
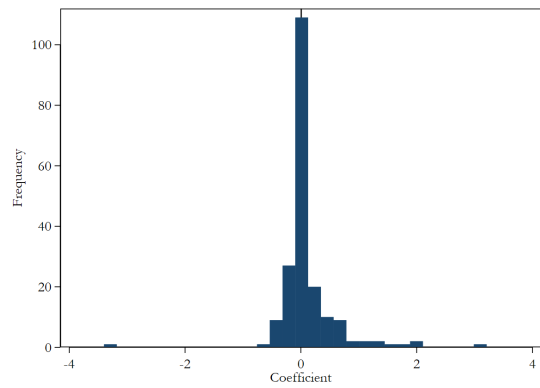
(f) Effect Sizes (Foreign Policy Rate (i^*))
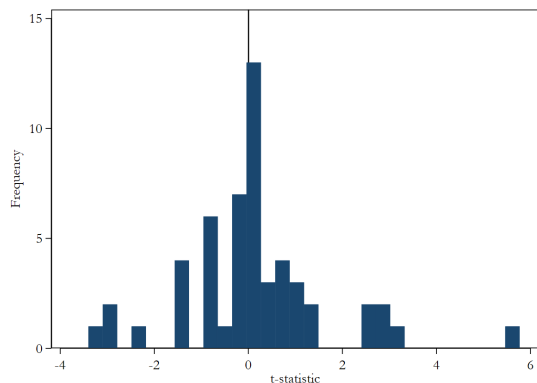
(g) T-statistics (Policy rate differential $(i - i^*)$)
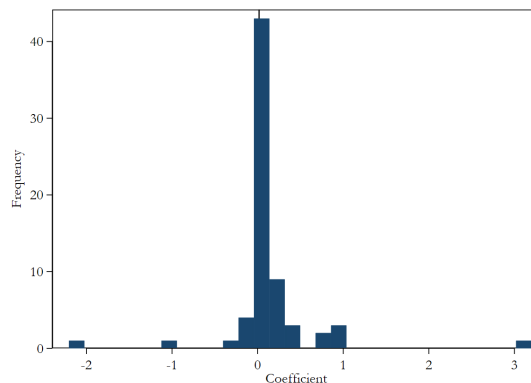
(h) Effect Sizes (Policy rate differential $(i - i^*)$)

Note: The figure shows histograms for T-statistics and Effect Sizes for Capital Flows meta-analysis (in % of quarterly GDP). The line denotes the median.

Figure 4: FX Level: Histograms of T-statistics and Effect Sizes
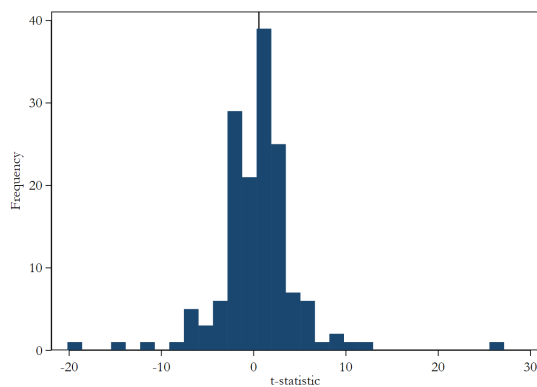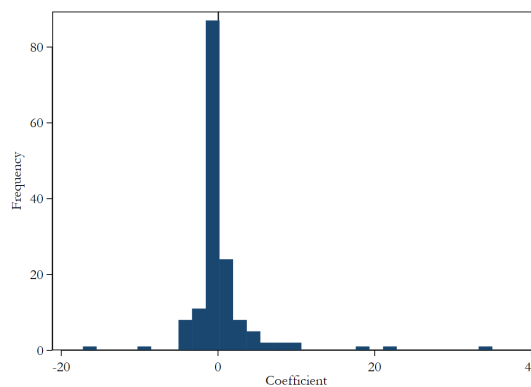
(a) T-statistics

(b) Effect Sizes

Note: The figure shows histograms for T-statistics and Effect Sizes for FX level intervention meta-analysis (in %). The line denotes the median.

Table 4: Simple Meta-regressions conditional on country-specific credibility variables

|		Conventional Monetary Policy				Capital Flows				FX Level			
		Cont	p25	p50	p75	Cont	p25	p50	p75	Cont	p25	p50	p75
Mean Effect Size	Coef	-0.033***				1.2E-5				0.027***			
	SE	(0.006)				(2.6E-5)				(0.010)			
	Obs	692				330				151			
Transparency Index	Coef	-0.005	0.023	0.007	-0.026	0.004	-0.014	0.008	0.013	0.066***	-0.014	0.002	0.036
	SE	(0.009)	(0.018)	(0.015)	(0.019)	(0.002)	(0.011)	(0.013)	(0.022)	(0.017)	(0.025)	(0.023)	(0.026)
	Obs	416	416	416	416	113	113	113	113	125	125	125	125
Independence Index Cukiermann	Coef	0.015	-0.058***	-0.062**	-0.062**	0.072				-0.223	0.412		
	SE	(0.009)	(0.019)	(0.029)	(0.029)	(0.062)				(0.267)	(0.617)		
	Obs	426	426	426	426	15				16	16		
Independence Index Cukiermann-Romelli	Coef	0.011	-0.033*	-0.008	-0.046***	-0.018*	0.051**	-0.009	0.016	-0.003	0.018	-2.4E-4	0.009
	SE	(0.009)	(0.018)	(0.012)	(0.016)	(0.010)	(0.020)	(0.015)	(0.024)	(0.010)	(0.023)	(0.024)	(0.028)
	Obs	608	608	608	608	121	121	121	121	151	151	151	151
Independence Index Romelli	Coef	-0.001	-0.051**	-0.013	-0.043***	-0.018**	0.075**	-0.028**	-0.016	-0.004	0.003	-2.0E-4	-0.027
	SE	(0.009)	(0.022)	(0.012)	(0.015)	(0.008)	(0.032)	(0.012)	(0.010)	(0.011)	(0.022)	(0.024)	(0.031)
	Obs	608	608	608	608	121	121	121	121	151	151	151	151
Credibility Index LLR1	Coef	-0.050	0.075	-0.141	-0.010	0.004**	-0.021*	0.019		0.019	-0.027	0.081*	0.007
	SE	(0.092)	(0.093)	(0.086)	(0.102)	(0.002)	(0.011)	(0.013)		(0.044)	(0.101)	(0.045)	(0.088)
	Obs	75	75	75	75	82	82	82		63	63	63	63
Credibility Index LLR1 [=0 if no IT]	Coef	-0.007	0.020	-0.020	-0.020	0.009**	-0.019*	0.022	0.013	0.032**	-0.037*	0.037*	0.099***
	SE	(0.007)	(0.022)	(0.022)	(0.022)	(0.004)	(0.009)	(0.013)	(0.019)	(0.013)	(0.022)	(0.022)	(0.033)
	Obs	539	539	539	539	107	107	107	107	135	135	135	135
Credibility Index LLR1 (Paper)	Coef	0.004	-0.029	0.010	0.016	0.004*	-0.020*	0.023**	0.021	-0.162	0.130	-0.178	-0.277
	SE	(0.021)	(0.043)	(0.036)	(0.043)	(0.002)	(0.010)	(0.011)	(0.015)	(0.208)	(0.234)	(0.162)	(0.170)
	Obs	121	121	121	121	102	102	102	102	61	61	61	61
Credibility Index LLR2	Coef	-0.089	0.106	-0.131	-0.091	0.004**	-0.021*	0.019		0.039	-0.143	0.031	-0.011
	SE	(0.128)	(0.089)	(0.089)	(0.097)	(0.002)	(0.011)	(0.013)		(0.049)	(0.122)	(0.101)	(0.098)
	Obs	75	75	75	75	82	82	82		63	63	63	63
Credibility Index LLR2 [=0 if no IT]	Coef	-0.007	0.020	-0.020	-0.020	0.009**	-0.019*	0.022	0.013	0.021**	-0.037*	0.037*	0.052**
	SE	(0.008)	(0.022)	(0.022)	(0.022)	(0.004)	(0.009)	(0.013)	(0.019)	(0.010)	(0.022)	(0.022)	(0.023)
	Obs	539	539	539	539	107	107	107	107	135	135	135	135
Credibility Index LLR2 (Paper)	Coef	0.004	-0.018	-0.014	0.016	-0.006	3.1E-4	-0.003	-0.017	-0.146	0.014	-0.110	-0.277
	SE	(0.022)	(0.044)	(0.038)	(0.043)	(0.009)	(0.017)	(0.016)	(0.011)	(0.212)	(0.231)	(0.198)	(0.170)
	Obs	121	121	121	121	102	102	102	102	61	61	61	61
Credibility Index DMGS	Coef	-0.016	0.217**	-0.077	0.023	0.003**	-0.020*	0.019		-0.005	-0.053	0.160***	0.220***
	SE	(0.048)	(0.103)	(0.084)	(0.103)	(0.001)	(0.011)	(0.013)		(0.025)	(0.044)	(0.049)	(0.052)
	Obs	75	75	75	75	82	82	82		63	63	63	63
Credibility Index DMGS [=0 if no IT]	Coef	-0.007	0.020	-0.020	-0.020	0.010	-0.019*	0.016	0.013	0.026*	-0.037*	0.037*	0.216***
	SE	(0.007)	(0.022)	(0.022)	(0.022)	(0.010)	(0.009)	(0.015)	(0.019)	(0.014)	(0.022)	(0.022)	(0.044)
	Obs	539	539	539	539	107	107	107	107	135	135	135	135
Anchoring Index 3 years ahead	Coef	0.006	-0.044***	0.050***	0.051***	0.012**	-0.025**	0.023*	0.036*	0.011	-0.035	0.037*	0.095***
	SE	(0.005)	(0.014)	(0.012)	(0.017)	(0.005)	(0.011)	(0.013)	(0.022)	(0.008)	(0.023)	(0.022)	(0.025)
	Obs	509	509	509	509	111	111	111	111	131	131	131	131
Anchoring Index 3 years ahead [=0 if no IT]	Coef	0.003	-0.023	0.050***	0.044**	0.036***	-0.024**	0.023*	0.037*	0.073***	-0.050*	0.051**	0.073***
	SE	(0.008)	(0.017)	(0.012)	(0.018)	(0.013)	(0.009)	(0.012)	(0.022)	(0.023)	(0.027)	(0.026)	(0.024)
	Obs	595	595	595	595	115	115	115	115	148	148	148	148
Anchoring Index 5 years ahead	Coef	0.007	-0.037***	0.029**	0.012	0.015**	-0.025**	0.019	0.035**	0.010	-0.035	0.037*	0.068***
	SE	(0.005)	(0.013)	(0.012)	(0.011)	(0.006)	(0.011)	(0.013)	(0.016)	(0.008)	(0.023)	(0.022)	(0.025)
	Obs	509	509	509	509	111	111	111	111	131	131	131	131
Anchoring Index 5 years ahead [=0 if no IT]	Coef	0.002	-0.025	0.043***	0.011	0.036**	-0.025**	0.019	0.034**	0.043**	-0.050*	0.055**	0.054**
	SE	(0.008)	(0.016)	(0.012)	(0.013)	(0.014)	(0.011)	(0.013)	(0.016)	(0.018)	(0.027)	(0.026)	(0.024)
	Obs	595	595	595	595	115	115	115	115	148	148	148	148
Sensib. Expectations to Inflation 0.5 band	Coef	0.003	-0.004	0.018	0.010	0.004	-0.017*	0.013	-0.003	-0.049	0.054	-0.059	-0.016
	SE	(0.006)	(0.012)	(0.011)	(0.018)	(0.007)	(0.009)	(0.011)	(0.017)	(0.050)	(0.051)	(0.051)	(0.064)
	Obs	220	220	220	220	98	98	98	98	100	100	100	100
Sensib. Expectations to Inflation 0.25 band	Coef	0.001	-0.017	0.011	-0.017	-0.020**	0.028	-0.022*	-0.009	-0.053	0.055	-0.078*	-0.268***
	SE	(0.005)	(0.018)	(0.012)	(0.016)	(0.009)	(0.018)	(0.011)	(0.017)	(0.037)	(0.050)	(0.043)	(0.072)
	Obs	220	220	220	220	98	98	98	98	100	100	100	100

Authors' calculations. Estimates are from random effects meta-regression, where each effect size is weighted by the inverse of its variance and the between-study heterogeneity variance, estimated using the DerSimonian-Laird method. Different specifications are presented for each variable: Continous (Cont), binary variables equal to 1 when the continous variables are lower than the 25th pertencile (p25), or higher than the median (p50) or 75th percentile (p75). Standard errors are in parentheses. Effects are rescaled to a one standard deviation increase. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level respectively.

Table 5: Simple Meta-regressions conditional on country-specific variables

		Conventional Monetary Policy				Capital Flows				FX Level			
		Cont	p25	p50	p75	Cont	p25	p50	p75	Cont	p25	p50	p75
Bayesian Error Bands	Coef		-0.014										
	SE		(0.016)										
	Obs		692										
≥ 90% Probability Bands	Coef		-0.030**										
	SE		(0.013)										
	Obs		692										
Real GDP per capita	Coef	1.2E-6**	-0.028*	0.008	0.027**	-1.0E-6	0.020	0.010	0.007	2.0E-6*	-0.065	0.060**	0.008
	SE	(5.5E-7)	(0.015)	(0.012)	(0.013)	(1.6E-6)	(0.015)	(0.014)	(0.015)	(1.2E-6)	(0.042)	(0.023)	(0.022)
	Obs	610	610	610	610	123	123	123	123	151	151	151	151
Real GDP Growth	Coef	0.005	-0.061***	0.013	0.020	0.007*	-0.020*	0.032**	0.035**	-0.011	0.022	0.017	-0.097**
	SE	(0.006)	(0.019)	(0.012)	(0.015)	(0.004)	(0.011)	(0.014)	(0.017)	(0.008)	(0.023)	(0.027)	(0.046)
	Obs	610	610	610	610	123	123	123	123	151	151	151	151
Inflation	Coef	3.2E-4***	0.021	-0.032***	-0.045**	4.0E-5	0.008	-0.013	-0.022**	-0.001	0.025	-0.048*	-0.045*
	SE	(7.9E-5)	(0.013)	(0.012)	(0.018)	(7.7E-5)	(0.057)	(0.015)	(0.010)	(8.1E-4)	(0.023)	(0.026)	(0.027)
	Obs	597	597	597	597	121	121	121	121	151	151	151	151
International Reserves (% of GDP)	Coef	-0.001**	0.014	-0.036***	-0.019	-0.004*	0.042	-0.044	-0.012	-6.1E-4	-0.016	-0.021	0.034
	SE	(5.1E-4)	(0.026)	(0.011)	(0.012)	(0.002)	(0.032)	(0.030)	(0.045)	(0.003)	(0.033)	(0.019)	(0.021)
	Obs	353	353	353	353	108	108	108	108	115	115	115	115
Current Account (% of GDP)	Coef	-3.5E-4	0.006	3.9E-4	-0.045***	0.001	-0.014	-0.014	-0.064	0.010*	-0.044	0.062**	-0.008
	SE	(0.003)	(0.013)	(0.012)	(0.015)	(0.004)	(0.011)	(0.018)	(0.052)	(0.005)	(0.034)	(0.028)	(0.022)
	Obs	578	578	578	578	121	121	121	121	142	142	142	142
Openness Index	Coef	-4.0E-4**	0.037***	-0.054***	-0.037***	4.1E-4	-0.019**	0.008	-0.034	1.2E-4	0.023	-0.013	0.008
	SE	(1.6E-4)	(0.013)	(0.012)	(0.014)	(4.0E-4)	(0.010)	(0.012)	(0.025)	(7.6E-4)	(0.021)	(0.024)	(0.037)
	Obs	592	592	592	592	121	121	121	121	150	150	150	150
Export Diversification Index	Coef	6.2E-4	-0.022	0.027**	0.017	0.001*	-0.019*	0.011	0.010	-0.002	0.027	-0.019	-0.037
	SE	(7.0E-4)	(0.015)	(0.012)	(0.013)	(8.4E-4)	(0.011)	(0.020)	(0.024)	(0.002)	(0.035)	(0.022)	(0.051)
	Obs	608	608	608	608	123	123	123	123	151	151	151	151
Financial Development Index	Coef	4.0E-4**	-0.046***	0.003	0.015	-6.0E-4	0.027***	-0.002	-0.031	3.3E-4	-0.047	0.026	0.010
	SE	(1.6E-4)	(0.015)	(0.012)	(0.013)	(3.8E-4)	(0.010)	(0.018)	(0.035)	(3.7E-4)	(0.092)	(0.061)	(0.035)
	Obs	520	520	520	520	107	107	107	107	126	126	126	126
Debt (% of GDP)	Coef	5.8E-4	-0.058***	0.013	0.002	7.0E-4	-0.021**	0.011	0.011	-5.5E-5	0.060*	-0.017	0.014
	SE	(4.1E-4)	(0.016)	(0.012)	(0.015)	(4.6E-4)	(0.010)	(0.011)	(0.025)	(2.5E-4)	(0.035)	(0.027)	(0.023)
	Obs	610	610	610	610	123	123	123	123	151	151	151	151
Overall Balance (% of GDP)	Coef	-0.004	0.038***	-0.036**	-0.015	1.5E-4	-0.020	0.032**	0.025	0.003	-0.003	0.005	0.023
	SE	(0.003)	(0.014)	(0.014)	(0.015)	(0.004)	(0.012)	(0.016)	(0.021)	(0.005)	(0.023)	(0.034)	(0.036)
	Obs	443	443	443	443	121	121	121	121	144	144	144	144
Tax Revenue (% of GDP)	Coef	-0.004**	-0.016	-0.072***	-0.080***	-0.007**	0.016	-0.071**	-0.051	-1.1E-4	0.035	-0.058	0.117
	SE	(0.002)	(0.013)	(0.015)	(0.018)	(0.003)	(0.012)	(0.032)	(0.037)	(0.013)	(0.081)	(0.049)	(0.119)
	Obs	543	543	543	543	91	91	91	91	118	118	118	118
Departure from UIP	Coef	-0.003	0.157*	0.010	0.094	-0.009**	0.053	-0.042	-0.064*	-0.001	0.010	0.080	-0.002
	SE	(0.012)	(0.085)	(0.090)	(0.101)	(0.004)	(0.032)	(0.031)	(0.036)	(0.005)	(0.108)	(0.050)	(0.045)
	Obs	47	47	47	47	100	100	100	100	86	86	86	86
Departure from CIP	Coef	0.008	-0.038	0.018	0.083	5.9E-4	0.029	-7.4E-5	0.020	0.002	-0.009	-0.067	0.014
	SE	(0.010)	(0.102)	(0.091)	(0.136)	(0.002)	(0.037)	(0.031)	(0.031)	(0.007)	(0.064)	(0.044)	(0.064)
	Obs	47	47	47	47	100	100	100	100	86	86	86	86
Inflow Restrictions Index	Coef	-6.7E-4**	0.008	0.001	-0.044***	-3.1E-4	0.012	-0.024**	-0.016	-5.6E-4	0.035	-0.029	-0.020
	SE	(2.9E-4)	(0.013)	(0.012)	(0.015)	(2.7E-4)	(0.021)	(0.012)	(0.010)	(5.4E-4)	(0.024)	(0.025)	(0.045)
	Obs	544	544	544	544	121	121	121	121	140	140	140	140
Outflow Restrictions Index	Coef	-5.7E-4**	-0.015	-0.007	-0.058***	-5.3E-4*	0.042***	-0.032**	0.007	-3.7E-4	0.005	0.015	-0.019
	SE	(2.7E-4)	(0.012)	(0.012)	(0.017)	(2.9E-4)	(0.016)	(0.014)	(0.018)	(5.0E-4)	(0.024)	(0.027)	(0.034)
	Obs	544	544	544	544	121	121	121	121	140	140	140	140
Overall Flow Restrictions Index	Coef	-6.3E-4**	-0.014	-0.008	-0.043***	-4.7E-4	0.031	-0.030***	-0.026**	-4.7E-4	0.001	-0.044	-0.049
	SE	(2.8E-4)	(0.012)	(0.012)	(0.015)	(3.0E-4)	(0.020)	(0.011)	(0.010)	(5.2E-4)	(0.024)	(0.029)	(0.045)
	Obs	544	544	544	544	121	121	121	121	140	140	140	140
Currency Crisis	Coef	7.6E-4	0.035	-0.035	-0.035	6.7E-4	-0.008	0.008	0.011	-0.001	0.048	-0.048	-0.048
	SE	(0.002)	(0.025)	(0.025)	(0.025)	(0.002)	(0.012)	(0.012)	(0.015)	(0.001)	(0.031)	(0.031)	(0.031)
	Obs	608	608	608	608	123	123	123	123	151	151	151	151
Systematic Banking Crisis	Coef	2.4E-4	-0.030**	-0.008	0.013	-0.001**	0.022	-0.031**	-0.022**	1.8E-4	0.032	-0.025	0.035
	SE	(5.1E-4)	(0.015)	(0.012)	(0.013)	(4.2E-4)	(0.015)	(0.014)	(0.010)	(6.5E-4)	(0.032)	(0.031)	(0.021)
	Obs	574	574	574	574	115	115	115	115	144	144	144	144
Output Loss due to Banking Crisis	Coef	0.007***	-0.018	0.018	0.019	-0.001	0.008	-0.008	-0.017*	7.8E-4	0.025	-0.025	0.009
	SE	(0.002)	(0.014)	(0.014)	(0.014)	(8.3E-4)	(0.013)	(0.013)	(0.010)	(0.001)	(0.031)	(0.031)	(0.021)
	Obs	574	574	574	574	115	115	115	115	144	144	144	144
Moody's Credit Rating	Coef	0.002	-0.029**			-0.004	-0.002	-0.012	-0.014	0.003	-0.028	0.057**	-0.060**
	SE	(0.001)	(0.014)			(0.005)	(0.026)	(0.013)	(0.043)	(0.002)	(0.026)	(0.022)	(0.025)
	Obs	599	599			119	119	119	119	140	140	140	140
Fitch Credit Rating	Coef	0.004**	-0.027**			-0.007*	0.020	-0.011	-0.158***	0.002	-0.033	0.034*	-0.009
	SE	(0.001)	(0.013)			(0.004)	(0.023)	(0.013)	(0.055)	(0.002)	(0.020)	(0.020)	(0.021)
	Obs	570	570			113	113	113	113	137	137	137	137
S&P Credit Rating	Coef	-0.011	0.043			7.6E-4	-0.020	0.020	-0.231***	3.8E-4	-0.030	0.030	-0.729*
	SE	(0.007)	(0.066)			(0.008)	(0.028)	(0.028)	(0.069)	(0.013)	(0.080)	(0.080)	(0.421)
	Obs	69	69			58	58	58	58	51	51	51	51

Table 5: Simple Meta-regressions conditional on country-specific variables (Cont.)

		Conventional Monetary Policy				Capital Flows				FX Level			
		Cont	p25	p50	p75	Cont	p25	p50	p75	Cont	p25	p50	p75
CDS 5 years	Coef	-3.7E-4***	0.069	-0.104		-8.9E-5	-0.041	-0.043	-0.096*	-5.5E-5*	0.013	-0.031**	-0.024
	SE	(1.2E-4)	(0.090)	(0.078)		(1.7E-4)	(0.038)	(0.031)	(0.050)	(2.9E-5)	(0.013)	(0.014)	(0.016)
	Obs	57	57	57		110	110	110	110	94	94	94	94
VIX Index	Coef	-0.003	0.014	-0.009	-0.002	0.004	-0.013	0.015	0.011	0.008*	-0.047*	0.016	0.017
	SE	(0.003)	(0.012)	(0.012)	(0.012)	(0.004)	(0.009)	(0.012)	(0.026)	(0.005)	(0.028)	(0.022)	(0.025)
	Obs	585	585	585	585	121	121	121	121	147	147	147	147
SKEW Index	Coef	-7.3E-4	-0.007	0.013	0.019	0.008	-0.017*	0.021*	0.023*	0.016**	-0.013	0.036	0.119***
	SE	(0.006)	(0.012)	(0.012)	(0.012)	(0.005)	(0.009)	(0.012)	(0.012)	(0.008)	(0.024)	(0.023)	(0.036)
	Obs	585	585	585	585	121	121	121	121	147	147	147	147
Polity Score	Coef	3.8E-4	-0.023	-0.016		-0.001***	0.037**	-0.036***	0.022	0.004***	-0.040	0.042*	
	SE	(8.4E-4)	(0.015)	(0.012)		(4.4E-4)	(0.017)	(0.014)	(0.024)	(0.001)	(0.025)	(0.024)	
	Obs	610	610	610		123	123	123	123	151	151	151	
Regime Durability	Coef	4.4E-4***	-0.023	0.048***	0.027**	-3.4E-4	0.017	-0.013	-0.015	9.5E-4	-0.077***	0.019	0.025
	SE	(1.2E-4)	(0.015)	(0.012)	(0.013)	(3.5E-4)	(0.013)	(0.011)	(0.010)	(7.0E-4)	(0.028)	(0.025)	(0.023)
	Obs	610	610	610	610	123	123	123	123	151	151	151	151
Major Episodes of Political Violence Score	Coef	0.004**	-0.046***	0.049***	0.022*	8.2E-5	-0.075*	-0.006	0.022	-0.002	0.023	-0.023	-0.017
	SE	(0.002)	(0.013)	(0.012)	(0.012)	(7.2E-4)	(0.040)	(0.020)	(0.017)	(0.002)	(0.030)	(0.030)	(0.035)
	Obs	610	610	610	610	123	123	123	123	151	151	151	151
Representative Government Index	Coef	4.3E-4	-0.019	-0.009	-0.039**	-0.002***	0.042*	-0.022**	-0.061	0.007***	-0.070	0.042*	0.148***
	SE	(6.1E-4)	(0.015)	(0.012)	(0.019)	(7.2E-4)	(0.022)	(0.010)	(0.040)	(0.002)	(0.042)	(0.024)	(0.049)
	Obs	610	610	610	610	121	121	121	121	151	151	151	151
Fundamental Rights Index	Coef	-2.3E-4	-0.015	-0.013	-0.032**	-0.002*	-0.007	-0.007	-0.028	0.001	-0.018	0.047*	0.018
	SE	(6.3E-4)	(0.015)	(0.012)	(0.015)	(0.001)	(0.014)	(0.017)	(0.043)	(8.0E-4)	(0.033)	(0.024)	(0.023)
	Obs	610	610	610	610	121	121	121	121	151	151	151	151
Checks on Government Index	Coef	2.0E-4	-0.024	0.017	0.008	-0.002***	0.029**	-0.030***	-0.004	0.004***	-0.047*	0.054**	0.148***
	SE	(6.1E-4)	(0.015)	(0.012)	(0.012)	(6.8E-4)	(0.012)	(0.011)	(0.025)	(0.001)	(0.026)	(0.024)	(0.053)
	Obs	610	610	610	610	121	121	121	121	151	151	151	151
Impartial Administration Index	Coef	2.2E-4	-0.023*	0.024**	-0.019	-0.002***	0.043*	0.020	-0.008	0.002*	-0.036	0.042*	-0.003
	SE	(4.5E-4)	(0.014)	(0.012)	(0.016)	(9.0E-4)	(0.022)	(0.016)	(0.023)	(0.001)	(0.042)	(0.024)	(0.026)
	Obs	610	610	610	610	121	121	121	121	151	151	151	151
Electoral Participation Index	Coef	-0.002***	0.029***	-0.052***	-0.036**	5.7E-4**	-0.019	0.034***	0.054**	-2.0E-4	-0.011	-0.028	0.008
	SE	(4.7E-4)	(0.013)	(0.012)	(0.016)	(2.5E-4)	(0.012)	(0.016)	(0.023)	(0.001)	(0.026)	(0.022)	(0.089)
	Obs	607	607	607	607	121	121	121	121	151	151	151	151
Human Capital Index	Coef	4.8E-4	-0.028*	7.2E-4	0.020	-1.4E-4	-0.013	0.009	0.009	0.001*	-0.058*	0.042*	0.001
	SE	(5.0E-4)	(0.015)	(0.012)	(0.012)	(7.8E-4)	(0.010)	(0.011)	(0.013)	(7.0E-4)	(0.030)	(0.024)	(0.022)
	Obs	610	610	610	610	123	123	123	123	151	151	151	151
Gini Index	Coef	0.004***	-0.065***	0.025**	0.020	-9.0E-4	0.035*	-0.020	-0.015	2.2E-4	-0.001	0.001	-0.015
	SE	(9.2E-4)	(0.016)	(0.012)	(0.014)	(5.9E-4)	(0.018)	(0.016)	(0.010)	(9.0E-4)	(0.020)	(0.022)	(0.031)
	Obs	602	602	602	602	123	123	123	123	140	140	140	140
Inflation Targeting Policy	Coef			-0.037**				0.019				0.062*	
	SE			(0.017)				(0.013)				(0.034)	
	Obs			610				123				151	
Advanced Economy	Coef			0.007				-0.157**				0.017	
	SE			(0.016)				(0.063)				(0.023)	
	Obs			610				123				151	
Currency Board	Coef			0.016									
	SE			(0.032)									
	Obs			608									
Pre-announced Crawling Peg	Coef			-0.053***				0.038**				-0.289*	
	SE			(0.018)				(0.017)				(0.150)	
	Obs			608				123				151	
Crawling Band	Coef			-0.039**				-0.027**				0.007	
	SE			(0.016)				(0.013)				(0.030)	
	Obs			608				123				151	
Freely Floating	Coef			0.041***				0.070				0.019	
	SE			(0.012)				(0.051)				(0.025)	
	Obs			608				123				151	
Freely Falling	Coef			0.368***								-0.060*	
	SE			(0.093)								(0.035)	
	Obs			608								151	

Authors' calculations. Estimates are from random effects meta-regression, where each effect size is weighted by the inverse of its variance and the between-study heterogeneity variance, estimated using the DerSimonian-Laird method. Different specifications are presented for each variable: Continous (Cont), binary variables equal to 1 when the continous variables are lower than the 25th pertencile (p25), or higher than the median (p50) or 75th percentile (p75). Standard errors are in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level respectively.

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