

# Economic policy responses to the COVID-19 pandemic: The role of central bank independence

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# Introduction

- An unprecedented economic downturn
- Dramatic differences in policy responses across countries
- Potential differences in recoveries

## Current Research

- Economic Policy Responses to COVID-19: A Stimulus Index (Elgin, Basbug and Yalaman, 2020)
- Fiscal Policy Responses to a Pandemic: The Role of Informality (Elgin, Yalaman, Oz Yalaman and Williams, 2021)
- Democracy and Economic-Policy Responses to COVID-19 (Elgin, Yalaman, and Yasar, 2021)
- Economic Policy Responses to COVID-19 in Mediterranean Countries (Elgin and Basbug, 2020)
- Economic Policy Responses to COVID-19: The Role of the Central Bank Independence (Elgin, Yalaman, Yasar, Basbug, 2021)

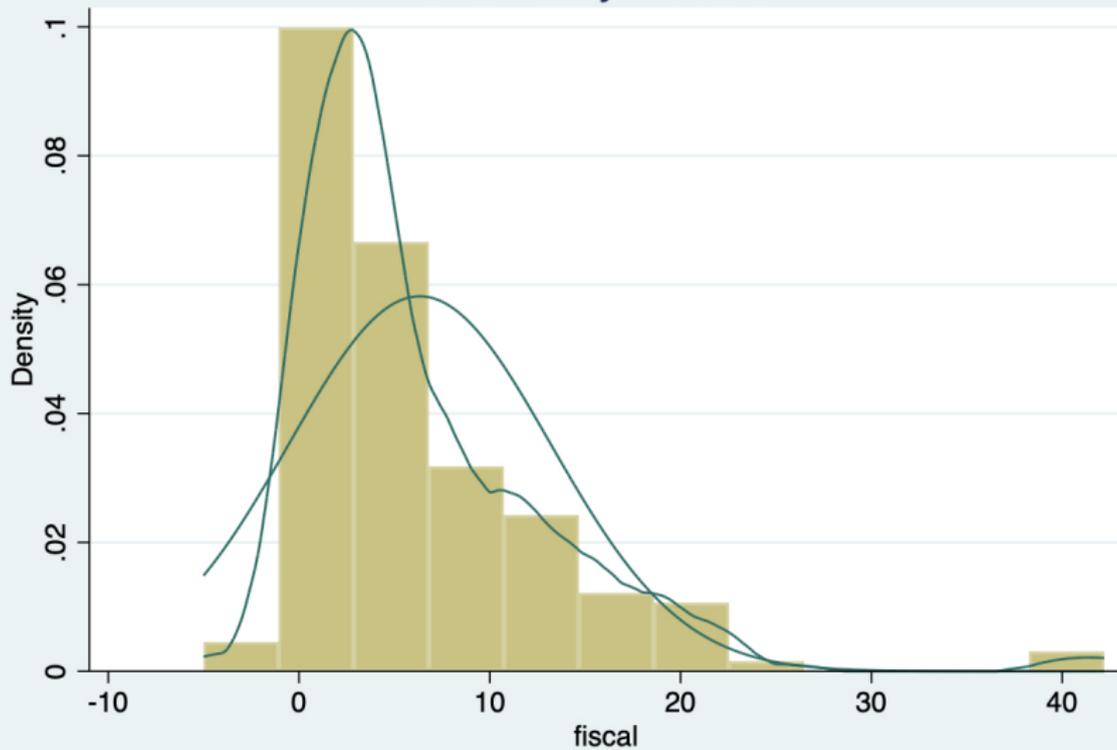
# Economic Policy Responses to COVID-19: A Stimulus Index

- Fiscal Policy
- Monetary Policy
  - Policy Rate Cut
  - Cut in Reserve Requirement
  - Macro-financial package
- Balance of Payment Measures

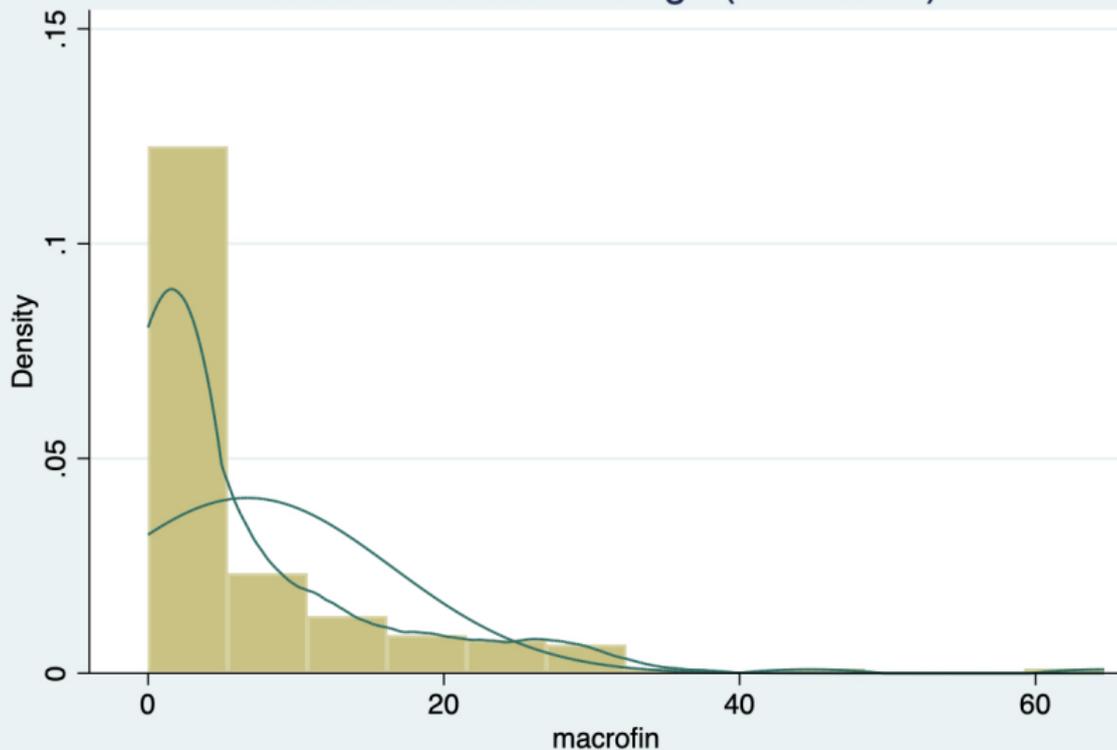
Table: Descriptive Statistics

Version 1 (March 2020)	Mean .	Median	Std. Dev.	Min	Max
Rate Cut (%)	11.63	0.00	21.47	-29.73	100.00
Res. Req. Cut (%)	14.00	0.00	26.44	0.00	100.00
Macro-Fin (% of GDP)	1.87	0.00	4.02	0.00	26.00
Fiscal Package (% GDP)	2.09	0.48	3.60	-7.20	17.80
Version 16 (May 2021)	Mean .	Median	Std. Dev.	Min	Max
Rate Cut (%)	23.31	15.56	30.29	-105.56	100.00
Res. Req. Cut (%)	20.50	0.00	30.15	-7.69	100.00
Macro-Fin (% of GDP)	7.34	3.30	10.03	0.00	64.64
Fiscal Package (% GDP)	7.56	4.99	7.96	-2.50	54.90

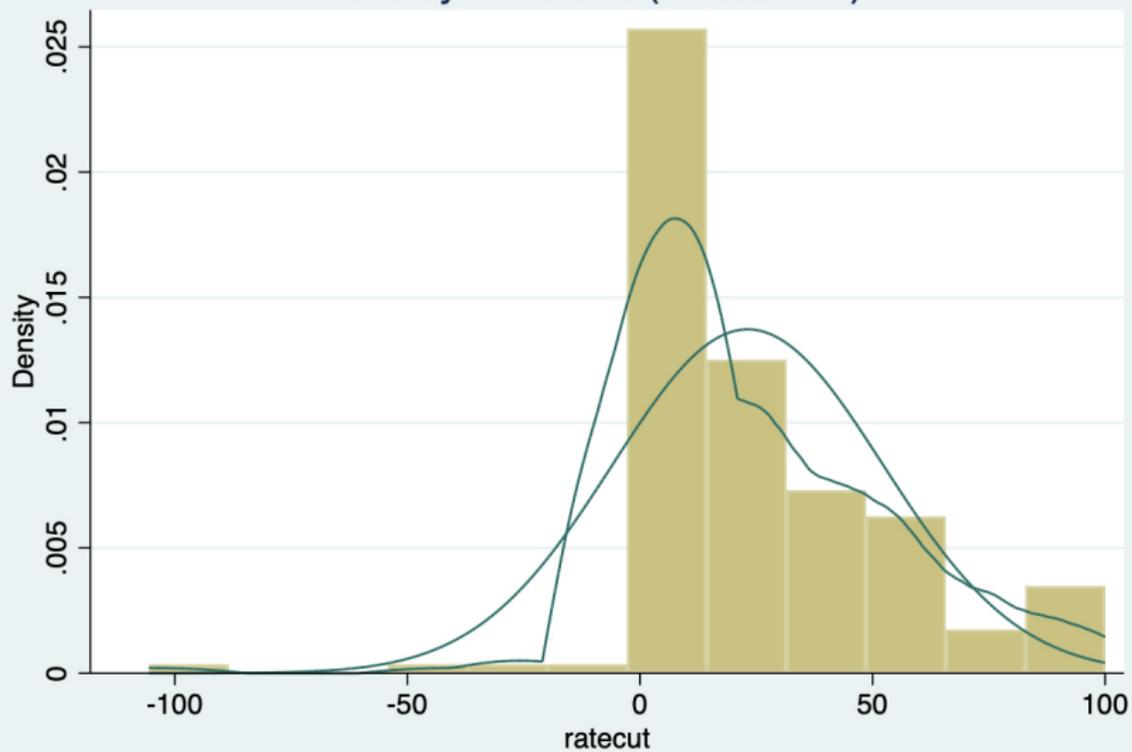
## Fiscal Policy version 14



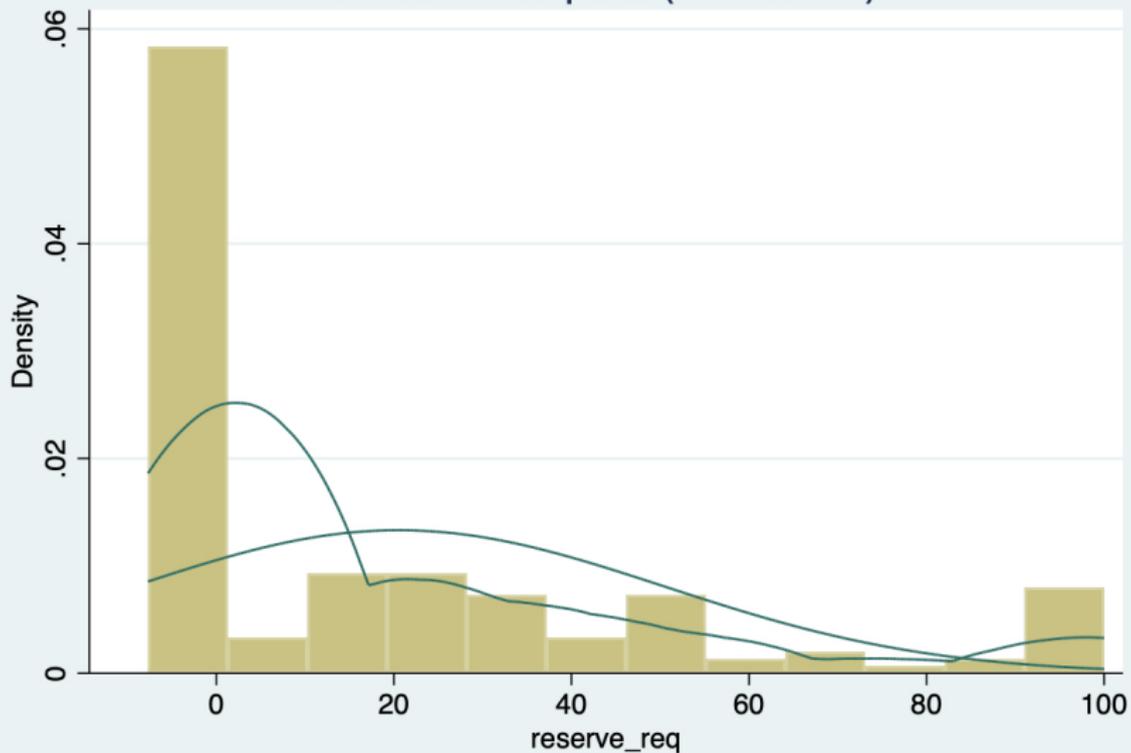
## Macrofinancial Package (version 14)



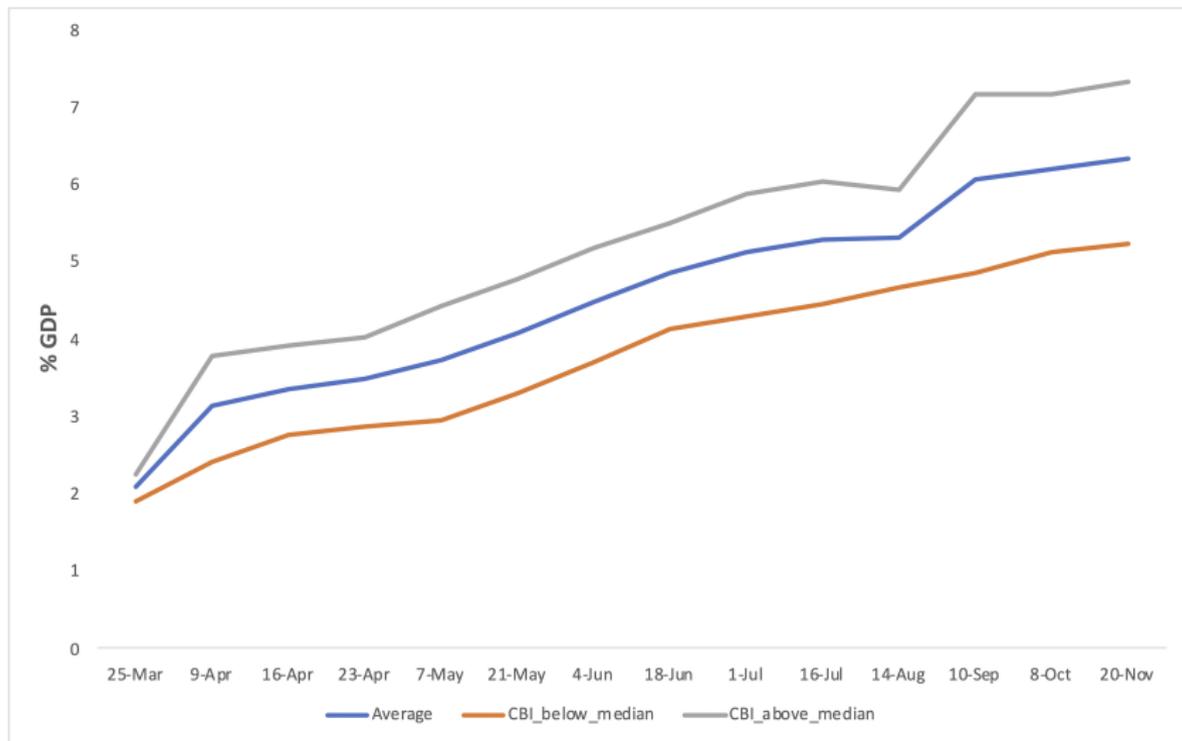
## Policy Rate Cut (version 14)



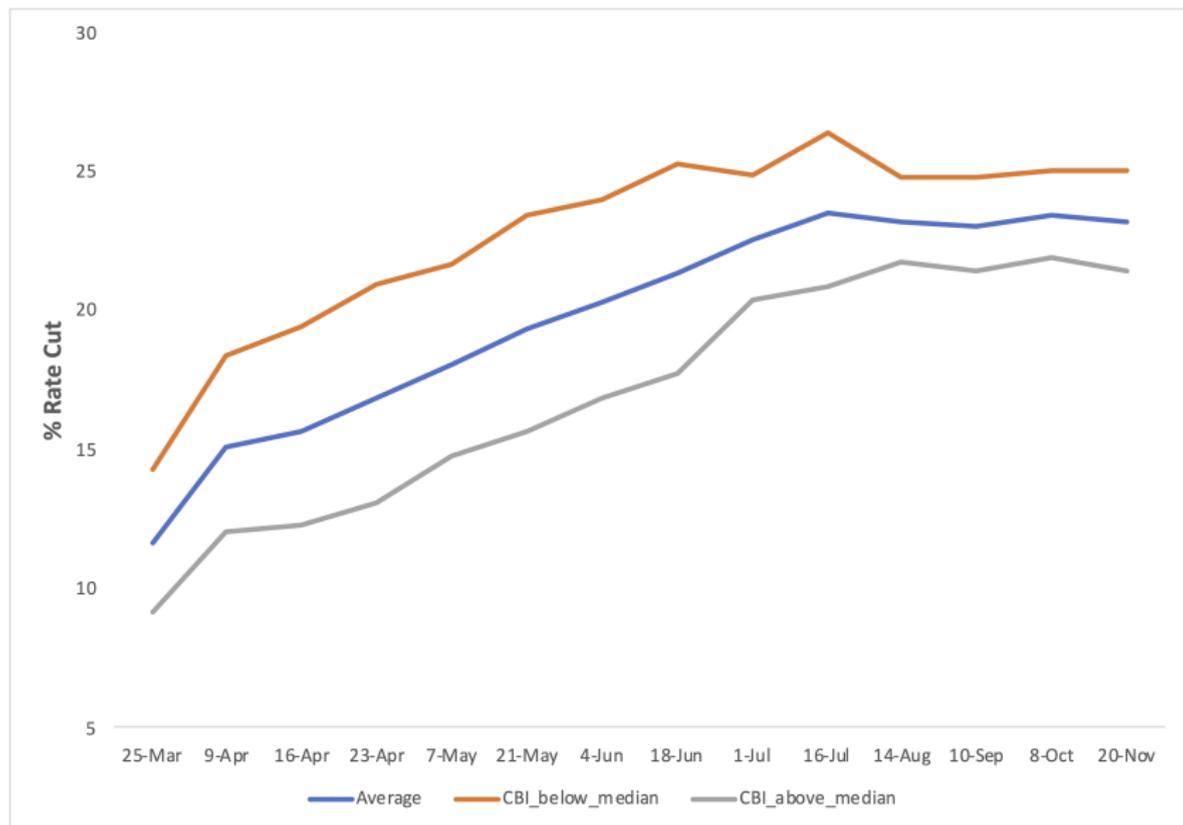
## Reserve Req Cut (version 14)



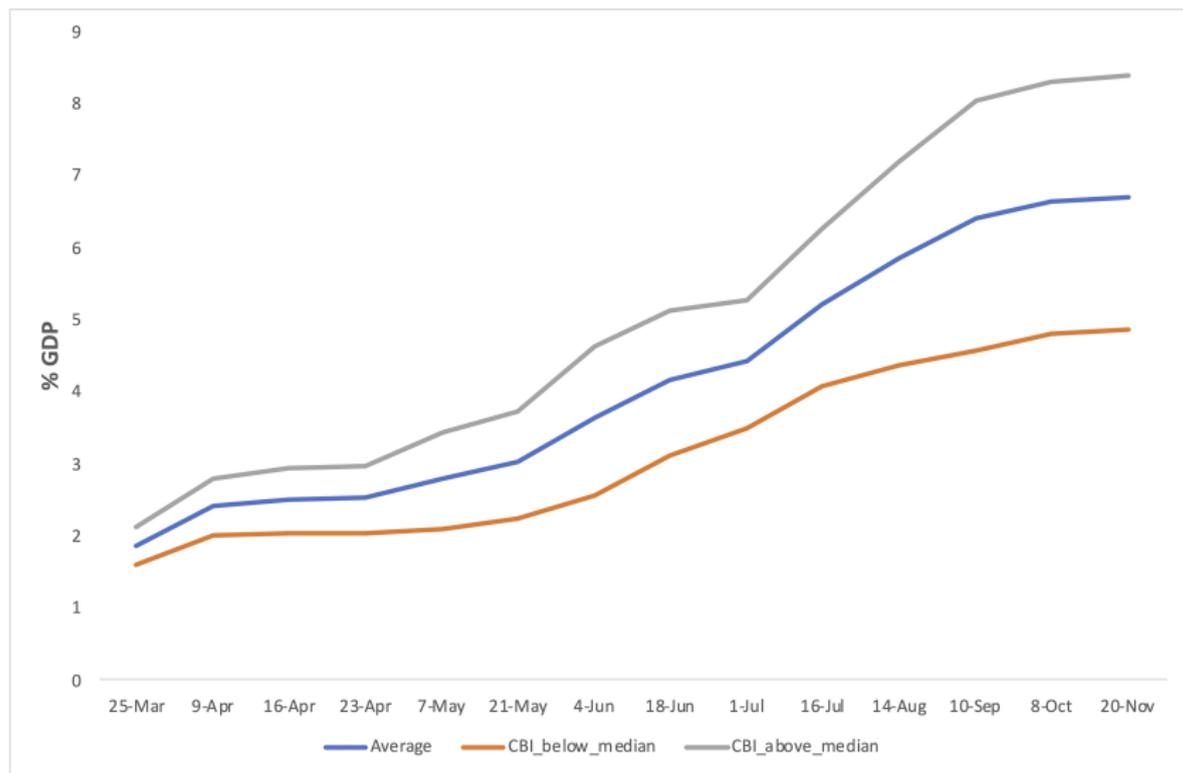
# Fiscal Policy Package



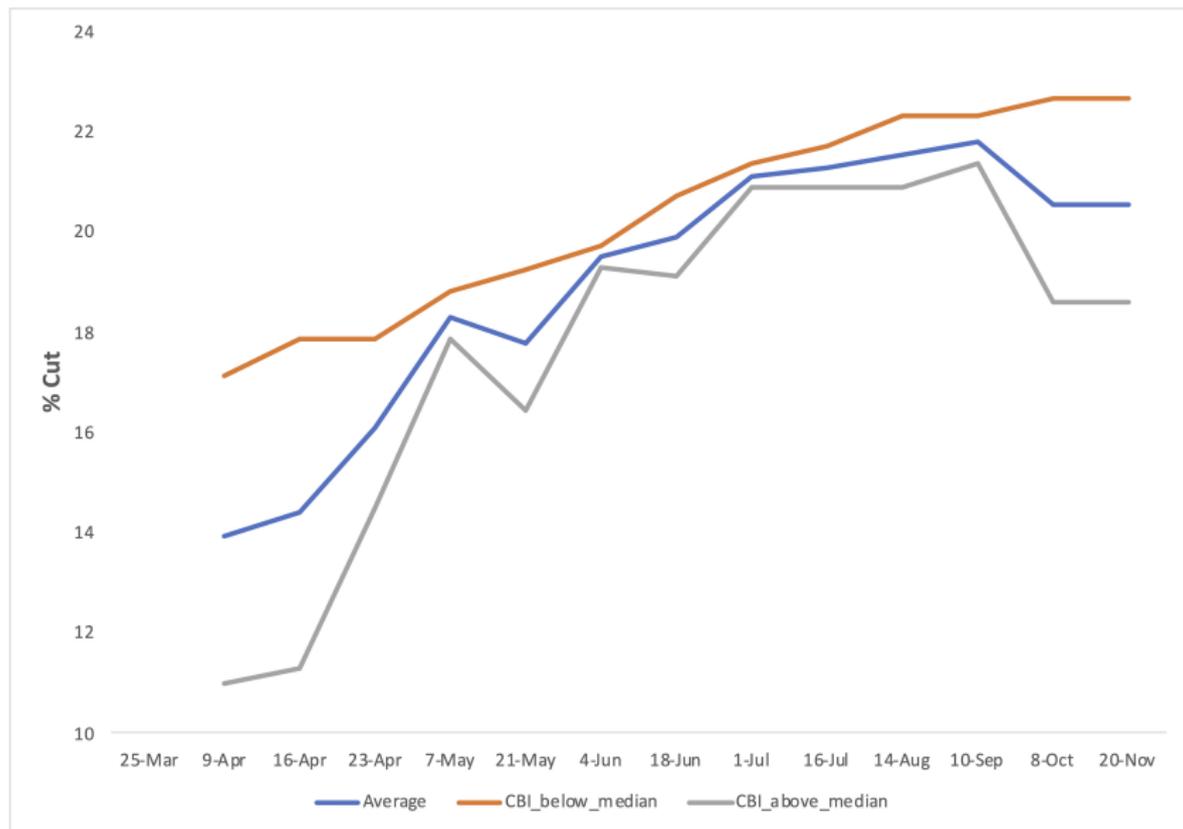
# Rate Cut



# Macro-Financial Policy Package



# Reserve Req. Cut



# Empirical Framework

$$Stimulus_{it} = \alpha_0 + \alpha_1 CBI_i + \alpha_k \sum_{k=2}^n X_{k_{it}} + \alpha_j \sum_{j=n+1}^m Z_{ji} + \gamma_t + \epsilon_{it}$$

Table: Panel Regressions of Rate Cuts

	Policy Rate	Policy Rate	Policy Rate	Res. Req.	Res. Req.	Res. req.
CBI	-19.79*** (-5.19)	-22.51*** (-5.45)	-32.77*** (-7.36)	-15.43*** (-3.76)	-19.17*** (-4.70)	-25.91*** (-5.72)
Infection rate		0.72*** (3.79)	0.29** (1.99)		-0.46*** (-3.35)	-0.71*** (-4.62)
Case-Fatality		319.71 (0.87)	758.31** (1.99)		728.02* (1.75)	1047.22** (2.46)
GDP per capita		0.29*** (5.03)	0.28*** (4.40)		0.35*** (5.45)	0.43*** (5.40)
Growth Forecast		-0.22 (-1.19)	-0.72*** (-3.18)		-0.13 (-0.60)	-0.17 (-0.78)
Inflation			-0.36*** (-3.95)			-0.70*** (-6.38)
Stringency			0.08*** (2.70)			-0.04 (-0.86)
Developed			-6.48 (-1.32)			-25.33*** (-4.83)
Lower Bound			-5.84* (-1.71)			7.59** (2.55)
Interest Rate			-0.63*** (-4.19)			0.35** (2.11)
Observations	2252	2052	1902	2091	1948	1802
R-squared	0.06	0.12	0.25	0.09	0.12	0.17
Exchange Rate Regime	NO	NO	YES	NO	NO	YES

Table: Panel Regressions of Macro-Financial and Fiscal Policy Measures

	Macro-Fin.	Macro-Fin.	Macro-Fin.	Fiscal	Fiscal	Fiscal
CBI	5.52*** (7.00)	5.67*** (7.69)	3.83*** (4.96)	3.16*** (5.37)	3.00*** (5.83)	2.51*** (4.91)
Infection rate		0.13*** (3.22)	0.20*** (5.34)		0.04** (2.12)	0.10*** (4.78)
Case-Fatality		284.80*** (3.56)	274.60*** (3.58)		-62.84 (-1.46)	-112.05*** (2.65)
GDP per capita		0.03** (2.10)	-0.06*** (-3.91)		0.15*** (12.53)	0.09*** (8.85)
Growth Forecast		-0.20*** (-4.68)	-0.08** (-2.10)		-0.22*** (-8.43)	-0.12*** (-5.36)
Inflation			-0.002 (-0.14)			0.06*** (5.44)
Stringency			-0.01** (-2.02)			-0.004 (-0.90)
Developed			4.77*** (4.10)			2.88** (2.10)
Lower Bound			2.50*** (5.82)			3.82*** (12.91)
Interest Rate			-0.13*** (-7.68)			-0.05*** (-4.24)
Observations	2252	2053	1902	2252	2053	1902
R-squared	0.35	0.39	0.46	0.34	0.53	0.65
Exchange Rate Regime	NO	NO	YES	NO	NO	YES

Table: IV Regressions

Panel Regressions				
	Policy Rate	Res. Req.	Macro-Financial	Fiscal
CBI	-106.29*** (-8.07)	-86.70*** (-4.85)	8.26** (1.96)	17.47*** (6.01)
GDP per capita	0.29 (1.44)	1.32*** (5.45)	0.39*** (5.33)	0.24*** (5.92)
Infection rate	0.64*** (2.69)	-1.36*** (-4.31)	-0.12 (-1.34)	-0.02 (-0.48)
Case-Fatality	-292.30 (-0.71)	999.65** (1.99)	592.18*** (4.98)	118.26 (1.62)
Stringency	-0.05 (-1.07)	-0.04 (-0.77)	0.02* (1.83)	0.02*** (2.96)
Growth Forecast	-0.28 (-1.06)	1.40*** (4.31)	0.05 (0.67)	-0.28*** (-6.71)
Observations	1895	1797	1895	1895
J-test (p-value)	0.19	0.31	0.30	0.07
Underidentification (p-value)	0.00	0.00	0.00	0.00

Table: IV Regressions

Cross-Sectional Regressions				
	Policy Rate	Res. Req.	Macro-Financial	Fiscal
CBI	-164.94*** (-3.29)	-174.63*** (-2.92)	50.11* (1.85)	47.27** (2.29)
Infection rate	0.92*** (2.67)	-0.07 (-0.20)	0.04 (0.35)	0.03 (0.33)
Case-Fatality	726.14 (0.40)	4.07 (0.20)	821.66 (1.08)	-5.30 (-0.01)
Stringency	-0.12 (-0.46)	-0.22 (-0.94)	0.05 (0.80)	-0.02 (-0.25)
Growth Forecast	-0.05 (0.04)	-0.65 (-0.66)	-0.24 (-0.99)	-0.33 (-1.39)
Developed Country Dummy	1.84 (0.11)	-32.97* (-1.86)	19.92*** (3.74)	20.71*** (3.09)
Observations	135	135	135	135
J-test (p-value)	0.70	0.54	0.26	0.81
Under-identification (p-value)	0.00	0.00	0.02	0.02

Robustness Checks with Shadow Rates Included			
	Policy Rate	Policy Rate	Policy Rate
CBI	-85.70** (-2.22)	-80.73*** (-2.58)	-75.69*** (-3.11)
GDP per capita		1.87 (1.17)	0.39*** (5.33)
Infection rate		-0.04 (-0.48)	0.23 (0.62)
Case-Fatality		31.84** (2.53)	21.78* (1.73)
Growth Forecast		-3.09* (-1.79)	-1.95** (-2.45)
Developed			254.35 (1.57)
Lower Bound			-16.29 (-1.02)
Interest Rate			0.12 (0.19)
Stringency			0.21** (2.09)
Inflation			-0.41** (-2.16)
Observations	2252	2053	1902
R-squared	0.02	0.03	0.06
Exch. Rate Dummies	NO	NO	YES

Table: Robustness Checks

Robustness Checks with Percentage Point Cuts				
	Policy Rate	Policy Rate	Policy Rate	Reserve Requirements
CBI	-1.44*** (-7.10)	-1.86*** (-8.08)	-2.22*** (-9.51)	-0.60** (-2.11)
GDP per capita		-0.006*** (-3.51)	0.05*** (3.83)	0.03*** (3.44)
Infection rate		-0.0009* (1.85)	0.0004 (0.94)	0.001 (0.44)
Case-Fatality		-0.15 (-1.20)	-0.07 (-0.61)	0.09 (0.37)
Growth Forecast		0.01 (-0.01)	-0.02 (-1.23)	-0.11 (-0.62)
Developed			-0.82*** (-7.04)	0.04*** (3.00)
Lower Bound			-0.56*** (-5.67)	0.11** (1.97)
Interest Rate			0.07*** (4.13)	0.08 (1.23)
Stringency			0.001 (0.57)	0.002 (0.65)
Inflation			-0.03*** (-3.69)	-0.02 (-1.21)
Observations	2252	2053	1902	1802
R-squared	0.08	0.11	0.29	0.14

Table: Systems Regressions

<b>Equation 1</b>	Policy Rate	Res. Req.	Macro-Financial
Inflation	-0.66*** (-7.68)	-0.39*** (-3.69)	-0.11*** (-5.43)
CBI	-32.39*** (-8.48)	-23.95*** (-4.90)	4.38*** (4.70)
Stringency	0.08** (2.19)	-0.04 (-0.95)	-0.02* (-1.80)
Infection rate	0.31** (2.45)	-0.61*** (-3.75)	0.18*** (5.82)
Case-Fatality	718.55** (2.42)	873.60** (2.17)	352.44*** (4.84)
GDP per capita	0.27*** (5.36)	0.34*** (5.63)	0.01 (1.03)
Growth Forecast	-0.71*** (-3.34)	0.04 (0.16)	-0.26*** (-5.22)
R-squared	0.24	0.14	0.39
Observations	1902	1802	1902
<b>Equation 2</b>	Inflation	Inflation	Inflation
CBI	-6.48*** (-6.33)	-6.51*** (-6.20)	-6.46*** (-6.31)
R-squared	0.18	0.17	0.18
Observations	162	162	162
Exchange Rate	YES	YES	YES