Basel III Capital and Macroprudential Governance

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5th Annual Macroprudential Conference

June 21-22, 2019

Motivation, Research Question, Findings

- *Motivation*: Widespread call for countries to build out their macroprudential policy toolkits to address system-wide risks, but less attention on the institutional structure of how to implement policies to reduce risks
  - International organizations often recommend a primary role for the central bank, based on its technical skills and relative independence
  - But institutional structures vary across countries and financial stability committees (FSCs) have risen sharply
- *Question*: Do institutional structures and their governance affect the implementation of macroprudential policy tools?
- Focus on macroprudential bank capital tools of Basel III
  - Countercyclical Capital Buffer (CCyB) decisions made regularly
  - Insights into motives for creation of FSC -- Functional or symbolic political delegation
- *Findings*: FSCs with better governance activate CCyB to reduce systemic risk, consistent with functional regulation
  - Not the case for central banks
 - Most FSCs are not strong

Outline

I. Developments in governance arrangements and financial stability committees

II. How they would affect macroprudential policy decisions?

III. Macroprudential elements of Basel III

IV. Governance for countercyclical capital buffer

V. Strong financial stability committees

VI. Decision to use the countercyclical capital buffer
   - Other Basel III bank capital macroprudential tools (preliminary)

VII. Conclusions

Number of FSCs
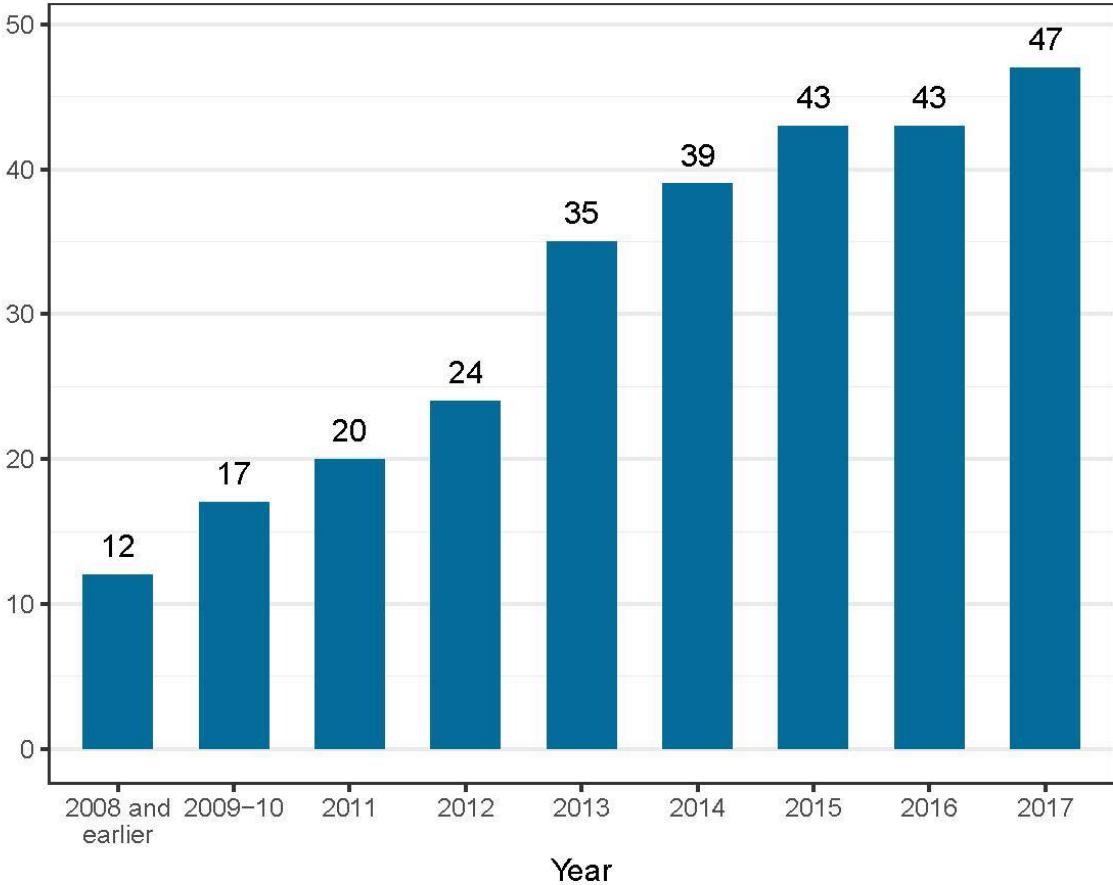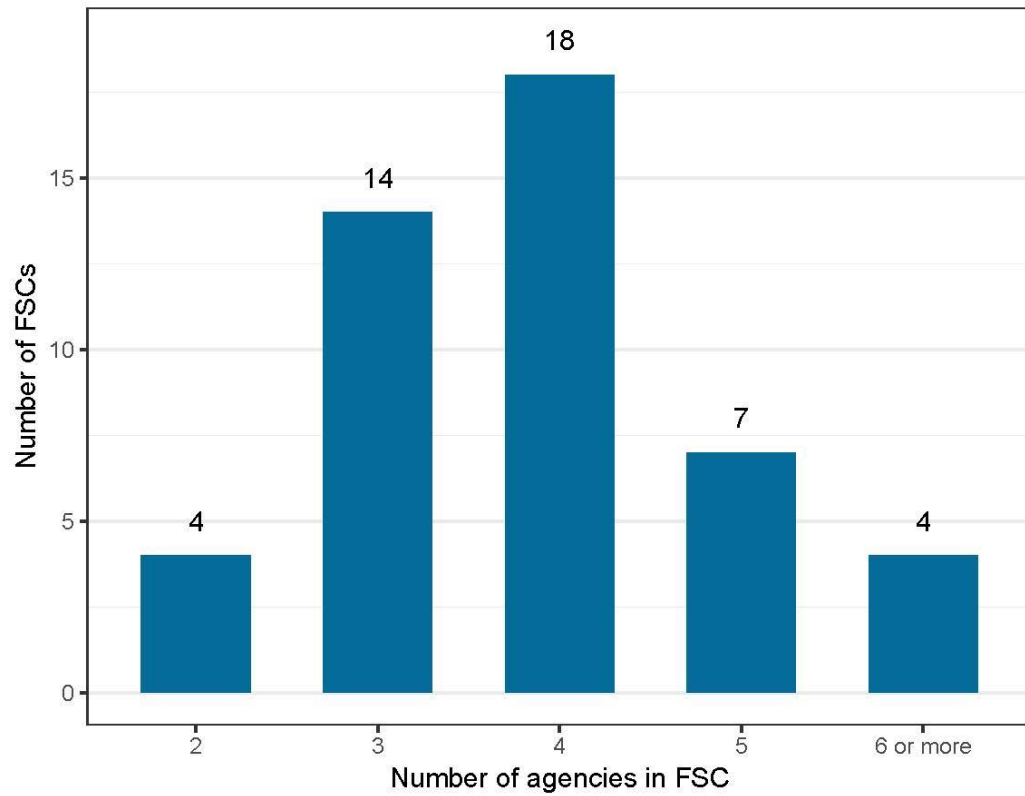

Sample of 58 countries
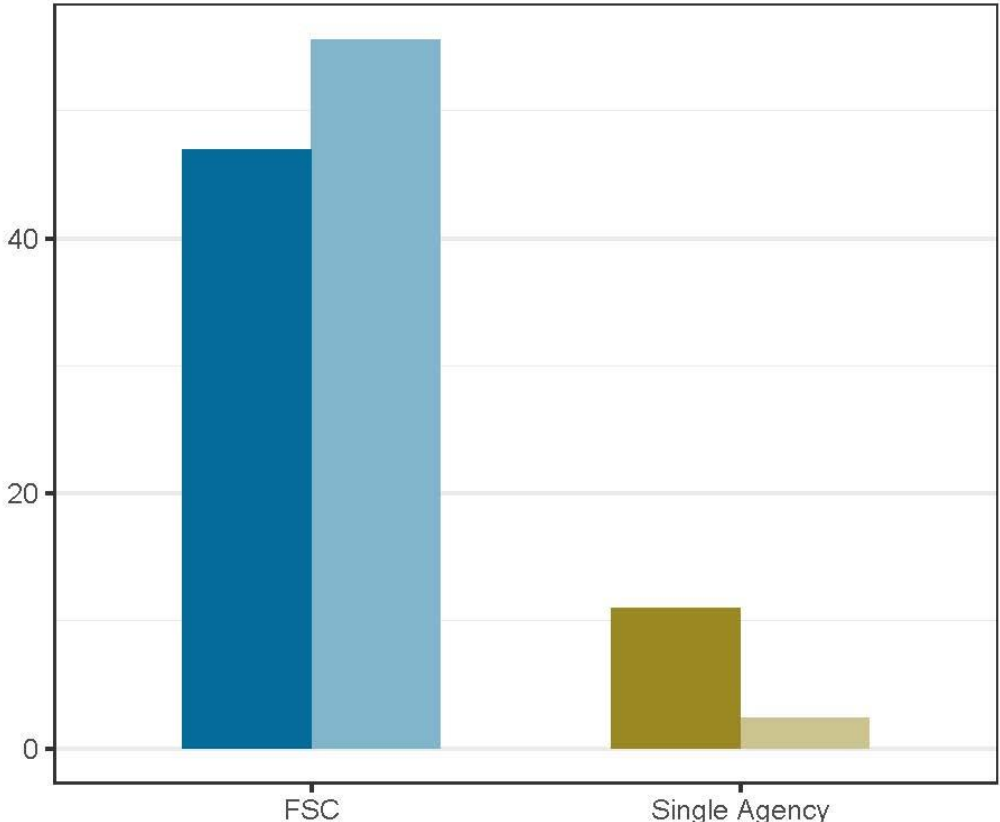
FSCs – Number of agencies and Tools

- Tools
- Hard – direct authorities
  - 3 FSCs
- Semi-hard – recommend, comply or explain
  - 10 FSCs
- Soft only – convene and communicate
  - 34 FSCs

II. Why is governance important for macroprudential policies?

- Focus on systemic risks from financial firms and markets, and interaction of financial system and real economy, and pre-emptive
  - Financial regulators and the central bank
- Central banks have the technical skills and many are prudential regulators
- However, may want a role for elected officials
  - Need to coordinate across agencies
  - Some policies may have distributional consequences (Tucker, 2014, 2016)
  - Too much power in a central bank (Goodhart, 2010)
  - Macroprudential mandate is less clear than for monetary policy, risk of being politicized and risk independence (Baker, 2015)

Related research

- Lim et al (2013) – Did governance affect speed of response to increase in credit growth?
  - Some evidence that a stronger central bank, either as a sole authority or as a chair of the FSC, reduced response time.
  - Sample of 39 countries, mostly EMEs, based on institutional structures in 2011 with fewer FSCs.
- Our study complements research on effectiveness of macroprudential tools

Political science insights into FSCs

- Macroprudential authorities established, many FSCs
  - Serve as face of macroprudential policies
  - But wide variation in structure and governance
- Alternative hypotheses for delegation to FSCs by legislators (Lombardi and Moschella, 2017):
- Functional - fill a regulatory gap
- Symbolic political - respond to public anger and create accountability
  - Less technical expertise, more political accountability
  - Functional can't be the whole story -- why delegate to technocrat agencies when the crisis called into question their competence?

Functional delegation to experts

- Elected officials delegate authority to specialized expert agencies
  - Builds on models of delegated authority to regulators for financial regulations or to central bankers for monetary policy (Alesina and Tabellini, 2007)
- Model of delegation to agencies given bank risks, systemic risks, and relative costs of bailouts (Groll et al, 2019)
  - Expert agencies more knowledgeable than elected officials
  - Expert agencies will impose stricter regulations, because they are more concerned about bank bailouts or financial dysfunction because they will be blamed
  - If elected officials assign no (political) costs to bailouts, little gain from delegating
  - More likely to delegate when bank risks and systemic risks are uncertain and when concerns about bank bailouts are greater

Symbolic political delegation

- Elected officials delegate to agencies to signal to the public they recognized the gaps in the financial regulatory system and are taking actions to fill them (Lombardi and Moschella, 2017)

- Less focus on technical expertise, more political accountability
  - Tim Geithner, Secretary of the Treasury, "*the intent of the FSOC was to take authority that is diffused around a bunch of people … and move it to a central place. It is not fair to characterise it – although I understand the risk – that is some new bureaucracy we are imposing on top of the system. It is more like more accountability and clarity .. "*

In contrast …

- Osborne - *"only central banks have the macro understanding, authority and knowledge for macroprudential policy"*

- Also emphasis on that the Parliament would be required to approve any granting of powers to the committee and that the Treasury would be involved if any actions were to require the use of public funds

Predictions

- Functional delegation – predict FSCs would have good governance and should improve policy outcomes

- Symbolic political delegation – no prediction for governance and perhaps less influence on policy outcomes

III. Basel III Capital

- Macroprudential elements
  - Countercyclical capital buffer (CCyB)
    - Only feature designed to be evaluated at regular intervals
    - Implementation framework in place in 55 of 58 countries
  - Capital Conservation Buffer (CCoB)
  - Capital surcharge for systemically important institutions (GSIBs, DSIBs)
    - CCoB and surcharge are not evaluated at frequent intervals
    - More likely to be determined by prudential regulators as part of rule-writing process

Number of countries that have activated CCYB and size of the CCyB
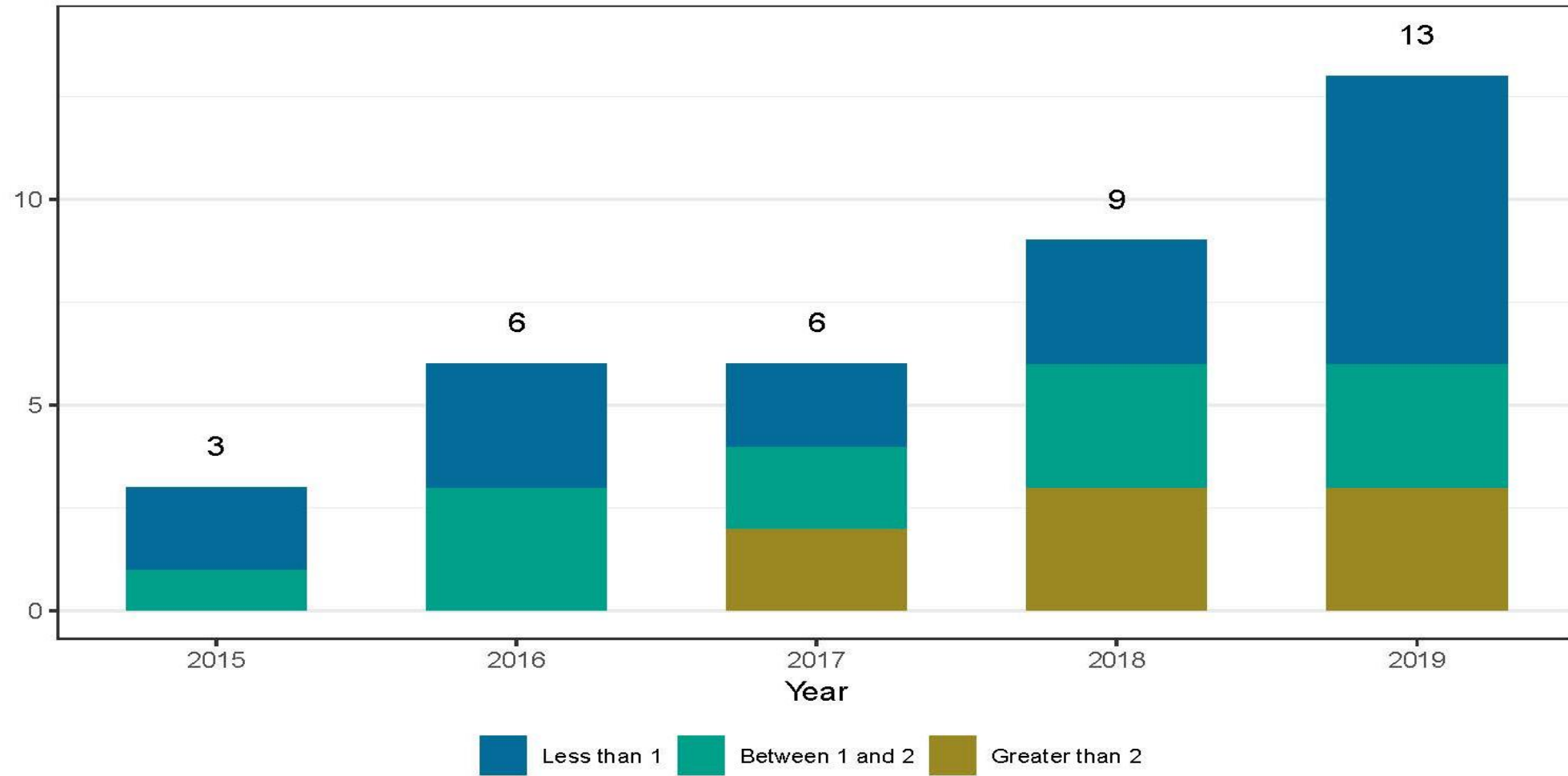
Decision to use the CCyB

- *Decision_CCyB$_{i,t}$* = 1 if CCyB$_{i,t}$ > 0 for country *i* in any year *t*

  $\qquad\qquad\qquad$ = 0 if CCyB$_{i,t}$ = 0

  - Sample of 55 countries with implementation framework, 2015 to 2018

- Model the decision with a logit:
  - $Prob\big(Decision\_CCyB_{i,t}\big) = \dfrac{1}{1+\exp\left[-\left(a+b\cdot X_{i,t-1}+c\cdot G_i+d\cdot Z_i\right)\right]}$
  - $X_{i,t-1}$ are financial and economic variables that vary for country *i* in year *t-1*
  - G_i are governance variables for country *i*
  - Z_i are other characteristics for country *i,* including financial development indexes and measures of the economic costs of the global financial crisis

IV. Governance variables for CCyB

- Specific: CCYB is set by
  - PR in 15 countries
  - CB in 33 countries, and CB recommends in 5 countries
  - FSC in 3 countries, and FSC recommends in 7 countries
  - MoF or government in 4 countries, with recommendations by either FSC or CB
- General: FSCs can convene and improve communication across agencies
  - FSC exists
  - FSC strength based on cluster analysis

V. Cluster analysis of FSC governance

- Cluster analysis used to form groups of FSCs based on similarities in their characteristics
  - Kaplan and Stromberg (2002), Gillan, Hartzell, and Starks (2007)
- FSC characteristics
  - Formal
  - Designated chair
  - Voting process
  - Hard or semi-hard tools
    - Hard tools to direct
    - Semi-hard tools to recommend with "comply or explain"
    - Includes recommendations on CCyB

FSC Ability to Act Dendrogram
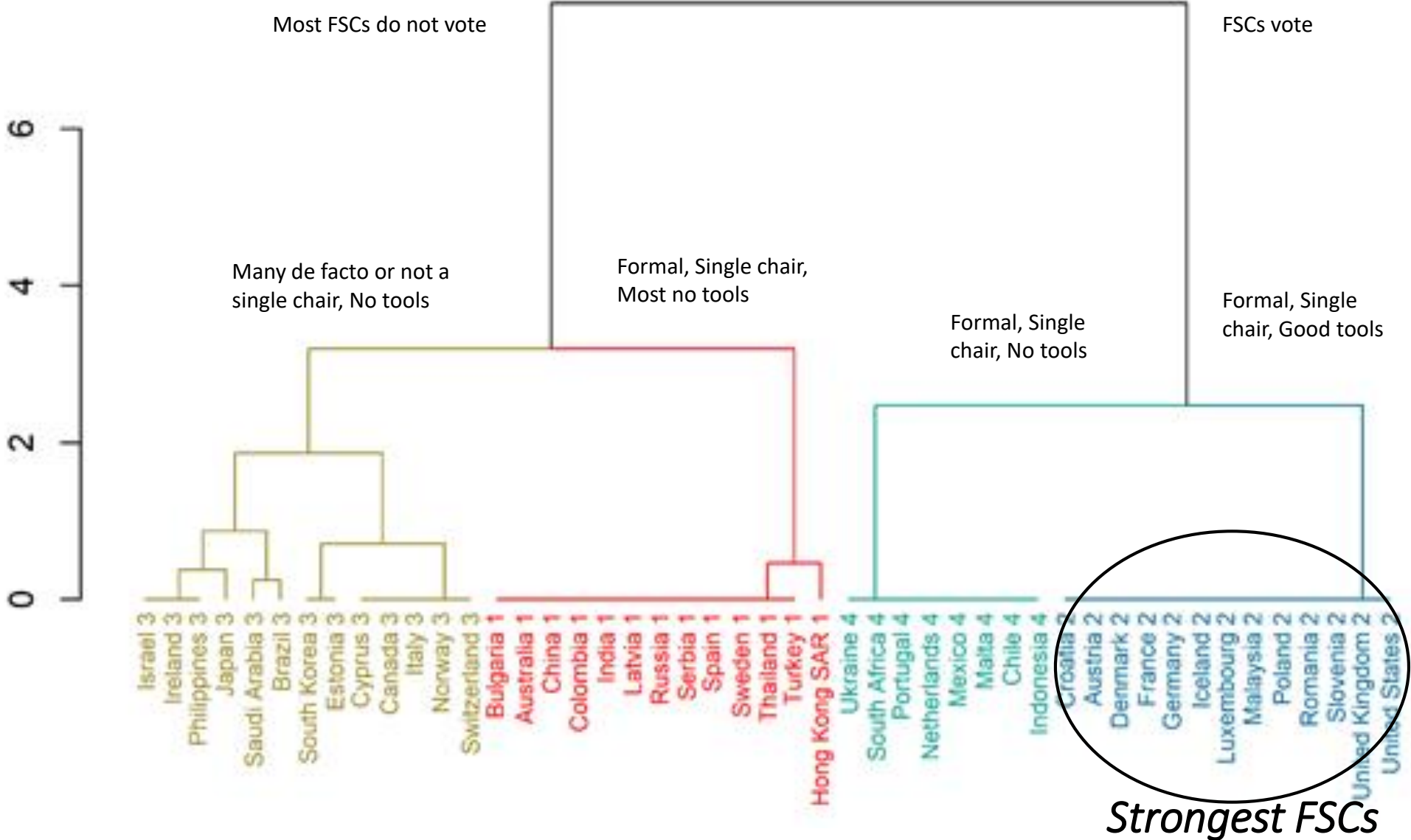
Characteristics of FSC strongest

- Strongest FSCs
  - In countries with stronger rule of law, higher per capita income
    - Significant across all clusters
  - In countries with higher checks and balances, higher financial development index, CBs are more politically independent for monetary policy
    - Relative to next-most similar FSCs (same but no good tools), less significant
  - Equally likely to have the MoF or the CB to be the FSC chair
  - 4 member agencies and more likely to have independent members that vote
- Relationships not monotonic from less strong to strongest

VI. Empirical results $Prob(Decision\_CCyB_{i,t})$
Credit-to-GDP gap and growth

- Sample averages
- Regression results:
- Credit-to-GDP gap not significant
- Credit-to-GDP growth is significant and can have substantial effects

Sample averages (percent)	CCyB=1	CCyB=0
Credit-to-GDP Gap $_{t-1}$	-7.9	-6.3
Credit-to-GDP Growth $_{t-1}$	4.1	1.4
Credit-to-GDP Growth $_{t-2}$	2.7	1.7

Table 3. $Prob\big(Decision\_CCyB_{i,t}\big)$

| | Dependent variable: Decision to use CCyB | | | | | | |
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Credit growth(t-1)	40.09***	35.37***	46.08***	49.76***	60.19***	62.49***	65.83***
	(3.55)	(2.99)	(3.49)	(3.52)	(3.77)	(3.31)	(4.62)
Credit growth(t-2)	24.38*	19.35	25.31	30.02**	33.32*	39.76*	36.46**
	(1.82)	(1.47)	(1.50)	(2.04)	(1.76)	(1.83)	(2.15)
GDP growth(t-1)	42.39*	9.39	44.60	57.16**	70.24**	68.95*	77.05**
	(1.76)	(0.30)	(1.54)	(2.10)	(1.99)	(1.80)	(2.37)
CPI (t-1)	50.83***	13.07	67.00**	77.00***	102.31***	82.16***	105.65***
	(2.59)	(0.24)	(2.56)	(3.58)	(3.45)	(2.85)	(4.04)
Peak NPL (crisis)	0.28**	0.09	0.25*	0.28*	0.20	0.49***	0.35**
	(2.19)	(0.51)	(1.82)	(1.90)	(1.31)	(2.66)	(2.48)
Equity returns(t-1)		14.81***					
		(3.07)					

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$Prob\left(Decision\_CCyB_{i,t}\right)$ and governance

	Probability_Decision_CCyB=1 (percent, other variables evaluated at means)
Equation 4	
FSC exists	6
FSC sets CCyB	43
FSC only advises on CCyB	18
Equation 5	
FSC not strongest cluster	10
FSC strongest cluster	20
Equation 6	
CB sets CCyB	16
PR sets CCyB	3
Neither CB or PR sets CCyB	48

	Probability_Decision_CCyB=1 (percent, other variables evaluated at means)	Probability_Decision_CCyB=1 (percent, credit growth (t-1) is increased 1 s.d.)
Equation 4		
FSC exists	6	16
FSC sets CCyB	43	50
FSC only advises on CCyB	18	20
Equation 5		
FSC not strongest cluster	10	18
FSC strongest cluster	20	44
Equation 6		
CB sets CCyB	16	18
PR sets CCyB	3	7
Neither CB or PR sets CCyB	48	50

$Prob(Decision\_CCyB_{i,t})$ on governance and credit growth

|	Probability_Decision_CCyB=1 (percent, other variables evaluated at means)	Probability_Decision_CCyB=1 (percent, credit growth (t-1) is increased 1 s.d.)
Equation 4 FSC exists FSC sets CCyB FSC only advises on CCyB	6 43 18	16 50 20
Equation 5 FSC not strongest cluster FSC strongest cluster	10 20	18 44
Equation 6 CB sets CCyB PR sets CCyB Neither CB or PR sets CCyB	16 3 48	18 7 50

Robustness of Empirical Results

	Regression #	Panel Logit	Panel (Probit) with Year Effects	2018 only
Credit growth(t-1)	4	49.76 (3.52)	22.26 (2.64)	21.04 (1.95)
FSC sets CCYB		14.68 (2.81)	6.38 (1.54)	2.30 (1.64)
FSC strongest	5	10.25 (2.95)	4.19 (1.95)	.75 (.84)
CB sets CCYB	6	-13.28 (-2.30)	-11.11 (-4.36)	-2.0 (-1.7)
PR sets CCYB	6	-20.60 (-3.66)	-11.97 (-4.75)	-3.07 (-2.01)

Summary of CCYB regression results

- Limited observations!
- Credit-to-GDP growth is significant and effects can be substantial
- Strong FSCs matter – functional delegation
  - *FSC Strongest* have a higher probability of activating the CCyB and high elasticity to increase in credit growth
  - *FSC set CCyB* have the highest probability
  - Controlled for demand for strong governance
- FSCs in general – not functional, symbolic political delegation
  - *FSC* low probability, though sensitive to credit growth
  - More member agencies may raise obstacles
- *PR set CCYB* has the lowest probability, consistent with microprudential focus
- *CB set CCYB* has average probability, lower than for FSC strongest or FSC sets

Phase in Capital Conservation Buffer (CCoB)
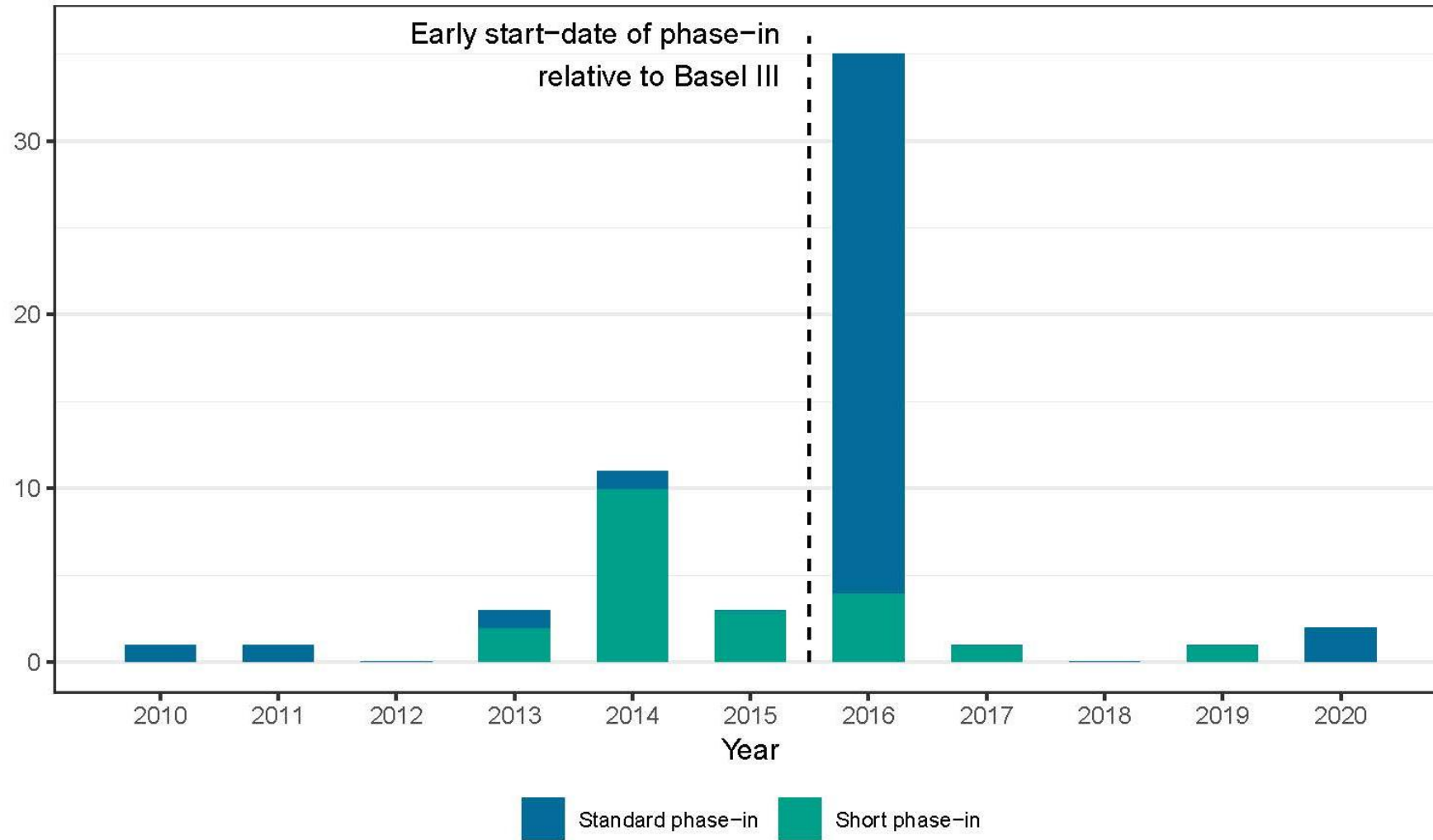
Early adoption of CCoB

Define

$CCoB\_early$ = 1 if phase-in started before default year 2016
$CCoB\_early$ = 0 if phase-in started in 2016

- for 54 countries that adopted Basel III by 2016
- CCoB_early = 1 for 19 countries and 0 for 35 countries

- $Prob(CCoB\_early_i) = \dfrac{1}{1+\exp\left[-\left(a+b\cdot X_{i,t-1}+ c\cdot G_{i,t-1}+d\cdot Z_i\right)\right]}$

- Governance: Role of PR (CB as PR) and FSCs (if in place)

- One-time decision. Use a logit model for a cross-section, by country start-year 2010 to 2016

Early adoption of CCoB *(preliminary)*

- ## Financial variables $X_{i,t-1}$ and Z_i

- Regressions consistent with sample means, but credit-GDP growth not significant

- ## Governance $G_{i,t-1}$

- CB as a PR (proxy for stronger PR) not significant

- FSCs reduce probability of early

- FSC and FSC strongest cluster ~ 1 pct early

- FSC not strongest ~ 11 pct early
    - High equity returns 96 pct early
    - High credit-to-GDP level 2 pct early

- Why? Maybe high credit intensity and MF chair

$X_{i,t-1}$	Early	Default year
Equity returns	0.132	-0.117
ΔCredit-to-GDP	-0.005	-0.012
Z_i		
Credit-to-GDP	4.188	4.536
Fiscal cost-to-GDP	0.011	0.044

Minimum level of capital surcharge (*more to do)*

- Surcharge for GSIBs, DSIBs, and Systemic risk buffer in the EU

- Substantial variation across countries

- Minimum level – maximum of the minimum of the range of the surcharge for GSIBs, or DSIBs, or SRB
  - Surcharge is not additive

- Does PR, CB as PR, or FSC governance matter for the surcharge?
  - Controlling for Peak NPLs in the financial crisis, index of development of financial institutions, and index of development of financial markets

VII. Implications and open questions

- Strong FSCs set the CCyB to reduce systemic risk – Functional
  - General tools or specific CCYB authorities for FSCs with stronger governance
- Other FSCs do not and they do not have strong governance – Symbolic political
- PR and CB specific tools for CCyB do not have the same effect
- Questions:
  - Why is CB set CCyB low? Is there lack of clarity for accountability?
  - Have we controlled sufficiently for joint demand for strong FSCs and CCyB?
  - What is the influence of a MF chair on macroprudential policies?

END

II. Why is governance important for macroprudential policies?

- Goals of macroprudential policies
  - Structural
  - Build resilience
  - Lean against asset bubbles and credit booms
- Skills to implement
  - Systemic risks in financial sector, and interactions with real economy
  - Pre-emptive policies
- Political economy considerations

Political economy considerations

- Roles for financial regulators, central banks, elected government
- Because macroprudential policies are pre-emptive and may be unpopular, need mechanisms to avoid policy inertia and inaction
  - Many benefit when asset prices are rising and credit is growing
  - Policies may have distributional effects
- Central banks have skills for monetary policy and many are prudential regulators
- But if engage too much in macroprudential with less-agreed upon mandate, would end up being politicized and risk independence for monetary policy (Baker, 2015)
- Concerns about excess power in a non-elected body (Goodhart, 2010)
- Policies that have distributional consequences more appropriate for elected officials (Tucker, 2014, 2016)