Financial stability governance and central bank communication[*]

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What we do in this paper

We investigate how differences in financial stability governance frameworks explain central banks' financial stability communication strategies, their use of other policy instruments, and the effect of these strategies on the evolution of the financial cycle.

- ▸ We propose a conceptual framework to understand the interaction between financial stability governance frameworks and central bank communication strategies and empirically test its hypotheses.

- ▸ We find that financial stability governance frameworks shape financial stability communication strategies and their effectiveness at alleviating the deterioration of financial cycle conditions.

- ▸ Financial stability communication is a powerful tool for central banks participating in interagency financial stability committees.

Our contribution to the literature

This paper bridges a gap between the literature on financial stability governance frameworks and that on financial stability communication.

- ► Renewed interest in financial stability governance: e.g., Edge and Liang (2017); Masciandaro and Volpicella (2016)

- ► Central bank communication mostly focused on monetary policy and cross-country differences explained by transparency

- ► Some literature on financial stability communication: descriptive (Allen et al. (2004); Cihak (2006 and 2012) or communication strategies assumed homogenous (e.g., Born et al. (2014); Harris et al. (2019); Correa, Garud, Londono, and Mislang (2020))

We contribute by showing that central bank communication strategies and their effectiveness differ across central banks depending on their financial stability governance frameworks.
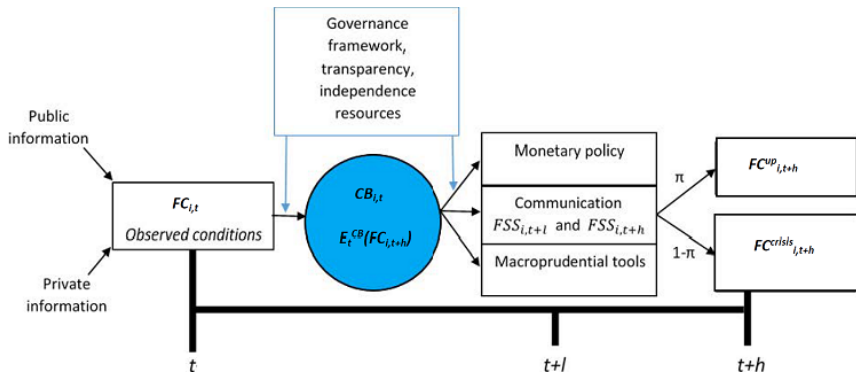
The rest of this presentation

1. **Conceptual framework**

2. **Data**

3. **Evidence**
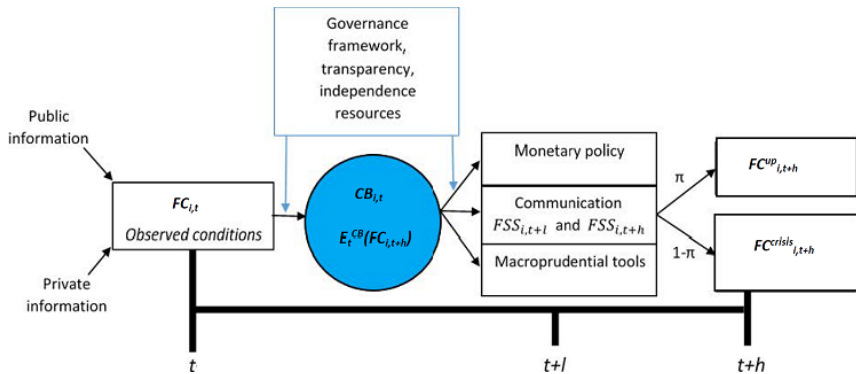
4. **Conclusions**

The rest of this presentation

1. **Conceptual framework**

2. Data

3. Evidence

4. Conclusions

1. Conceptual Framework

Period 1 (t): CB in country i observes initial financial conditions, $FC_{i,t}$, and forms expectations about final financial conditions, $E_{i,t}^{CB}(FC_{t+h})$

1. Conceptual Framework

Period 2 (t+l): CB communicates assessment of current and expected conditions, $FSS_{i,t+l}$ and $FSS_{i,t+h}$. CB can also use other policy tools.

Communication strategy: $FSS_{i,t+l}$ could differ from $FC_{i,t}$ and/or $FSS_{i,t+h}$ from $E_{i,t}^{CB}(FC_{t+h})$, especially around crises

1. Conceptual Framework
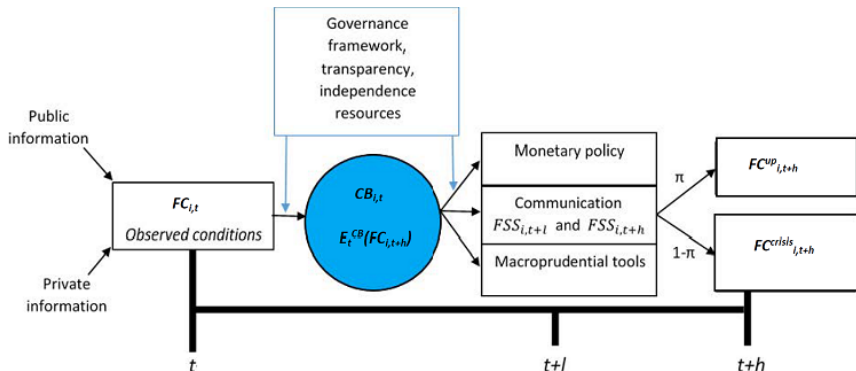
Period 3 (t+h): Final conditions, which depend on previous conditions, tools implemented by the CB, and shocks

Effectiveness of communication: prevent financial crises

1. Conceptual Framework

Hypotheses

▸ **Effectiveness of communication:**

$$FC_{i,t+h} = F(FSS_{i,t+l}, Governance_{i,t})$$

Interaction between financial stability frameworks and communication matters for the effectiveness of communication.

▸ **Communication strategies:**

$$FSS_{i,t+l} = F(FC_{i,t}, Governance_{i,t})$$

Sentiment in financial stability reports can deviate from observed conditions depending on governance framework. Why?

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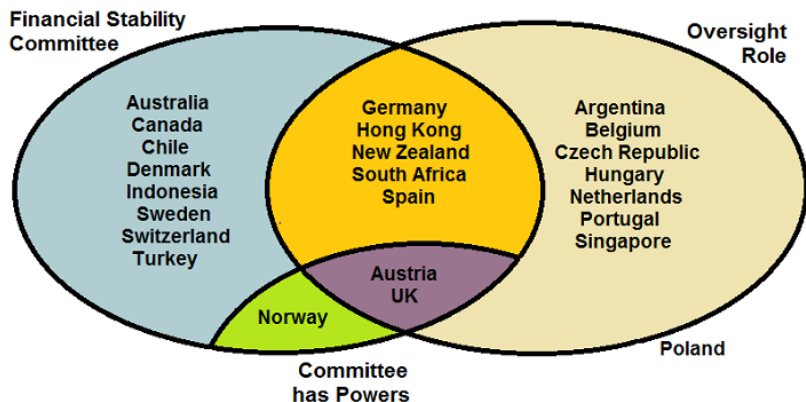
2. Data

To test the hypotheses from the conceptual framework, we use a sample of 24 central banks between 2005 and 2019. We merge three databases:

1. Financial stability governance characteristics

2. Financial stability communication

3. Financial stability conditions

2. Data

Database 1: Governance characteristics (2017)

Source: Correa, Edge, Liang, Londono, Mislang

2. Data
Database 2: Financial stability communication

- ▶ We use the text in the financial stability reports (FSRs) written in (or officially translated to) English by 24 central banks.

- ▶ We calculate a sentiment index as follows:

$$FSS_{country,period} = \frac{\#Negative\ words - \#Positive\ words}{\#Total\ words},$$

where the positive and negative connotation of words is taken from the financial stability dictionary in Correa, Garud, Londono, and Mislang (2020).

Dictionary   Figures

2. Data
Database 3: Financial stability conditions

- **Financial cycle characteristics**: Credit-to-GDP gap, debt-service ratio, and total credit to the private nonfinancial sector

- **Financial stability events**:Turning points in credit-to-GDP gap (local maximums followed by one-year drops in the gap)

The rest of this presentation

1. Conceptual framework

2. Data

3. **Evidence**

4. Conclusions

3. FS communication conditional on governance framework

Objective: Test hypothesis about the effectiveness of communication; assess whether the association between financial stability communications and the financial cycle depends on the financial stability governance framework.

$$FC_{i,t+4} = \alpha + (\beta_1 + \underbrace{\beta_2 D_{i,t-1}})FSS_{i,t} + \beta_{AR}FC_{i,t} + \epsilon_{t+4},$$

$D_{i,t} = 1$ if central bank has a governance characteristic (driver of heterogeneous communication effects). FC are controls for current financial/macro conditions.

Probit setting:

$$C_{i,t+4} = f(FSS_{i,t}, D_i),$$

$C_{i,t+4} = 1$ if there is a turning point (local maximum in credit-to-GDP gap).

3. FS communication conditional on governance framework

FS communication and the credit-to-GDP gap:

$$CGDG_{i,t+4} = \alpha + (\beta_1 + \underbrace{\beta_2 D_{i,t-1}})FSS_{i,t} + \beta_{AR}FC_{i,t} + \epsilon_{t+4},$$

	Committee	Committee with power	Supervisory Oversight
FSS (β_1)	3.36	2.09	4.91*
	(1.95)	(1.79)	(1.78)
D*FSS (β_2)	-3.87*	-6.17*	-6.63*
	(1.68)	(2.67)	(2..54)
R^2	0.23	0.22	0.25
N	1192	1192	1192

Takeaway: Credit-to-GDP smaller when sentiment deteriorates in countries with a financial stability committee or an oversight role.

3. Financial stability communication around crises
Can FS communication help predict crises?

Probit setting for the predictive power of FSS for turning points for CBs with and without a certain characteristic:

$$C_{i,t+4} = f(FSS_{i,t}, D_i)$$

	Committee		Committee powers		Supervisory Oversight	
	Yes	No	Yes	No	Yes	No
FSS	0.07	0.27**	-1.49***	0.24***	-0.02	0.32***
	(0.14)	(0.09)	(0.12)	(0.06)	(0.16)	(0.05)

Takeaways: (i) CBs without characteristics cry wolf and the wolf comes; (ii) CBs in committee with powers cry wolf and avoid its arrival.

* Potential identification problem: very "succesful/lucky" CBs will be able to prevent all crises.

3. FS communication conditional on governance framework

Robustness tests and additional explorations

- ▸ The results for the interaction between FSS and the governance characteristics remain robust if we consider other financial cycle measures: credit growth and the debt-service ratio. Go

- ▸ The interaction between FSS and the governance characteristics does not change before turning points in the financial cycle. Go

- ▸ Our main takeaway is not driven by characteristics other than financial stability governance characteristics (transparency, English as native language, etc.). Go

3. Communication strategies

Objectives:

- Test another hypothesis of the framework: whether and why sentiment in financial stability reports deviates from observed conditions depending on financial stablity governance frameworks.

- Explore whether access to other policy instruments, such as prudential policies and monetary policy rates, matter.

3. Communication strategies
Does communication deviate from sentiment reflected in news articles?

$$FSS_{i,t+1} = \alpha_i + (\beta_1 + \beta_2 D_{i,t-1})NS_{i,t} + \epsilon_{i,t+1},$$

where NS is a sentiment index calculated using news related to financial stability.

	Committee	Committee with power	Supervisory Oversight
NS (β_1)	0.57***	0.50***	0.44***
	(0.06)	(0.06)	(0.07)
D*NS (β_2)	-0.20*	-0.31**	0.07
	(0.08)	(0.09)	(0.11)
R^2	0.17	0.17	0.16
N	1660.00	1660.00	1660.00

Takeaway: Sentiment in news and in FSRs are highly correlated, but central banks in FS committees send a "calmer" message.

3. Communication strategies
Is CB communication coherent?

Is the message "calmer" because CBs implement prudential policies? **Yes**

$$Cumpru_{i,t+4} = \alpha + (\beta_1 + \beta_2 D_{i,t-1})FSS_{i,t} + ...$$

	Committee	Committee with power	Supervisory Oversight
FSS (β_1)	-0.38*	-0.04	-0.2
	(0.14)	(0.17)	(0.24)
D*FSS (β_2)	0.97**	0.86**	0.4
	(0.31)	(0.24)	(0.23)
R^2	0.09	0.03	0.03
N	764	764	764

3. Communication strategies

Robustness tests and additional explorations

- ▸ Financial stability communication also interacts with the monetary policy rate. Go

- ▸ After controlling for policy actions (monetary policy rate and macro prudential tools), communication remains a powerful policy tool for central banks in committees with powers to implement prudential policies. Go

4. Conclusions

- ▸ Financial stability communications by CBs in committees are relatively more effective at alleviating the deterioration of financial conditions and preventing financial crises.

- ▸ These central banks transmit a "calmer" message: their sentiment deteriorates **less** following a deterioration in news sentiment.

- ▸ A "calmer" message could be explained by the ability to implement prudential policies.

Thank you!

Aditional Slides

Why do we need a financial stability dictionary?

- ▸ Words in FSRs often have a different connotation compared to a general or finance context.

⇒ Convey a different sentiment: "*confined*" defined as limited negative spillovers as opposed to restricted

⇒ Describe historical events: "*crisis*" to refer to the global financial crisis

⇒ Technical terms: "*delinquency*" as part "*delinquency rates*"

Why do we need a financial stability dictionary?

Positive words		Negative words	
able	improving	abnormally	destabilizing
absorb	improve	abrupt	deteriorate
better	mitigate	bad	disrupted
brighter	rebound	burdened	escalated
broaden	succesfully	challenge	exacerbate
healthy	smooth	deficits	excessive
effective	sound	mipricing	unrest
enjoy	stabilize	overheated	volatile
excellent	upgraded	pessimism	weaken

Go back

Financial stability communication

Global aggregate FSS ($\frac{\#Negative\ words - \#Positive\ words}{\#Total\ words}$ **)**
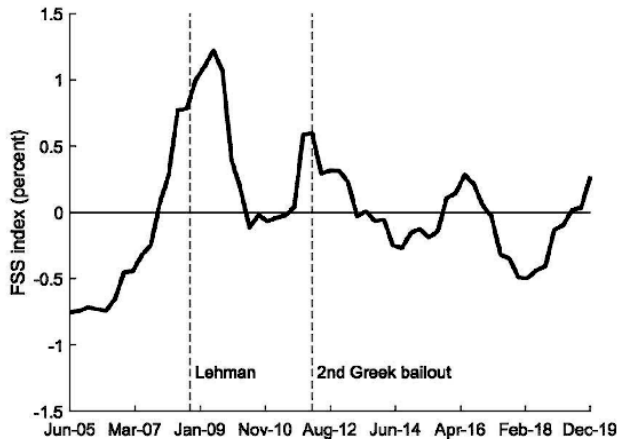
Go back

Financial stability communication and governance
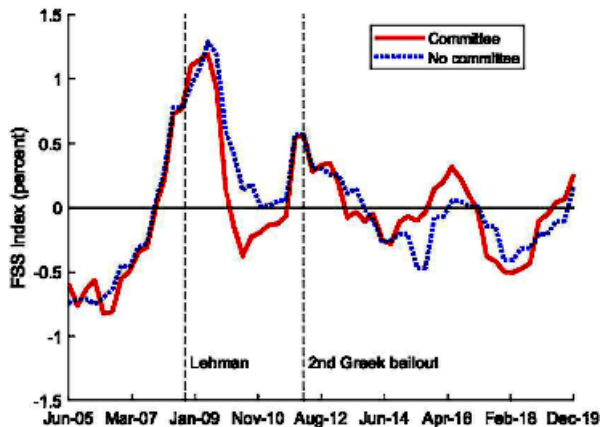
Go back

3. FS communication conditional on governance framework

FS communication and credit growth:

$$CGR_{i,t+4} = \alpha + (\beta_1 + \underbrace{\beta_2 D_{i,t-1}})FSS_{i,t} + \beta_{AR}FC_{i,t} + \epsilon_{t+4},$$

	Committee	Committee with power	Supervisory oversight
FSS (β_1)	0.92**	0.39	0.6
	(0.32)	(0.36)	(0.43)
D*FSS (β_2)	-1.37**	-0.52	-0.48
	(0.46)	(1.08)	(0.64)
R^2	0.1	0.07	0.07
N	1192	1192	1192

3. FS communication conditional on governance framework

FS communication and debt-service ratio:

$$DSR_{i,t+4} = \alpha + (\beta_1 + \underbrace{\beta_2 D_{i,t-1}})FSS_{i,t} + \beta_{AR}FC_{i,t} + \epsilon_{t+4},$$

	Committee	Committee with power	Supervisory oversight
FSS (β_1)	0.27	0.13	0.48
	(0.39)	(0.33)	(0.40)
D*FSS (β_2)	-0.21	-1.61***	-0.95
	(0.33)	(0.37)	(0.57)
R^2	0.06	0.08	0.1
N	877	877	877

Effectiveness of Communication around crises

Does the interaction between communication and governance change around crises?

$$CGDG_{i,t+4} = \alpha + (\beta_1 + \beta_2 D_{i,t-1} + \underbrace{\beta_3 TP_{i,t+4} + \beta_4 TP_{i,t+4} D_{i,t-1}}) FSS_{i,t} + ..,$$

	Committee	Committee with power	Supervisory oversight
FSS (β_1)	2.76	1.53	4.37*
	(1.92)	(1.72)	(1.75)
D*FSS (β_2)	-3.67*	-5.91*	-6.50*
	(1.70)	(2.58)	(2.50)
TP*FSS (β_3)	4.19**	4.29***	3.20*
	(1.48)	(1.06)	(1.16)
D*TP*FSS (β_4)	-0.15	0.91	1.92
	(1.99)	(2.83)	(1.77)
R^2	0.24	0.23	0.26
N	1192	1192	1192

Takeaway: Central banks do "cry wolf before crises (β_3), but there are no differences driven by financial stability governance frameworks.

Go back

3. FS communication conditional on governance framework

Other characteristics

Is our main takeaway driven by characteristics other than financial stability governance characteristics?

$$CGDG_{i,t+4} = \alpha_i + (\beta_1 + \beta_2 D_{i,t-1} + \underbrace{\beta_3 X_{i,t-1}})FSS_{i,t} + \beta_{AR}FC_{i,t} + \epsilon_{t+4},$$

X is another characteristic (column headers).

	Transparency	Fnancial openness	Foreign bank ownership	Bank international claims	English native language
FSS (β_1)	6.01	0.88	2.68	2.47	4.05
	(6.08)	(2.58)	(2.37)	(2.19)	(2.26)
$D*FSS$ (β_2)	-5.12*	-3.82*	-3.91*	-3.56*	-3.87*
	(2.22)	(1.71)	(1.71)	(1.68)	(1.66)
$X*FSS$ (β_3)	-0.04	2.75	0.03	0.00	-2.55
	(0.45)	(2.51)	(0.03)	(0.00)	(2.09)
R^2	0.18	0.24	0.23	0.28	0.23
N	862	1035	1165	1136	1192

Takeaway: Relevance of a financial stability committee is independent of other central bank and country-specific characteristics. Go back

3. Strategies and effectiveness of communication

Is communication also related to the monetary policy rate?

$$MP_{i,t+4} = \alpha + (\beta_1 + \beta_2 D_{i,t-1})FSS_{i,t} + ...$$

	Committee	Committee with power	Supervisory Oversight
FSS (β_1)	-0.03	-0.31	-0.15
	(0.15)	(0.20)	(0.33)
D*FSS (β_2)	-0.74***	-0.81**	-0.46
	(0.18)	(0.25)	(0.46)
R^2	0.11	0.08	0.07
N	1035	1035	1035

3. Strategies and effectiveness of communication

Is communication still useful to predict crises after controlling for other policy instruments?

Augment the Probit setting for the predictive power of FSS for turning points adding macroprudential policies and policy rates:

$$C_{i,t+4} = f(FSS_{i,t}, PA_{i,t}, D_i)$$

	Committee		Committee wih power		Supervisory oversight	
	Yes	No	Yes	No	Yes	No
FSS	-0.05	0.29**	-1.96***	0.18*	-0.09	0.22**
	(0.14)	(0.09)	(0.14)	(0.07)	(0.22)	(0.08)
MP	0.05**	0.03	0.21***	0.04**	0.07**	0.02
	(0.02)	(0.04)	(0.02)	(0.02)	(0.03)	(0.01)
IR	0.00	0.05**	0.18*	0.03	0.02	0.05*
	(0.01)	(0.02)	(0.08)	(0.01)	(0.02)	(0.02)
R^2	0.02	0.05	0.29	0.03	0.03	0.03
N	500	496	51	945	455	541

Takeaway: Communication is a powerful policy tool for central banks in committees with powers to implement prudential policies, even after controlling for other policy actions. Go back