Financial stability governance and central bank communications*

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X Meeting on Financial Stability
Center for Latin American Monetary Studies (CEMLA)

September 10, 2020

*The views in this presentation are the responsibility of the authors and not those of the BIS or the Federal Reserve.

What we do in this paper

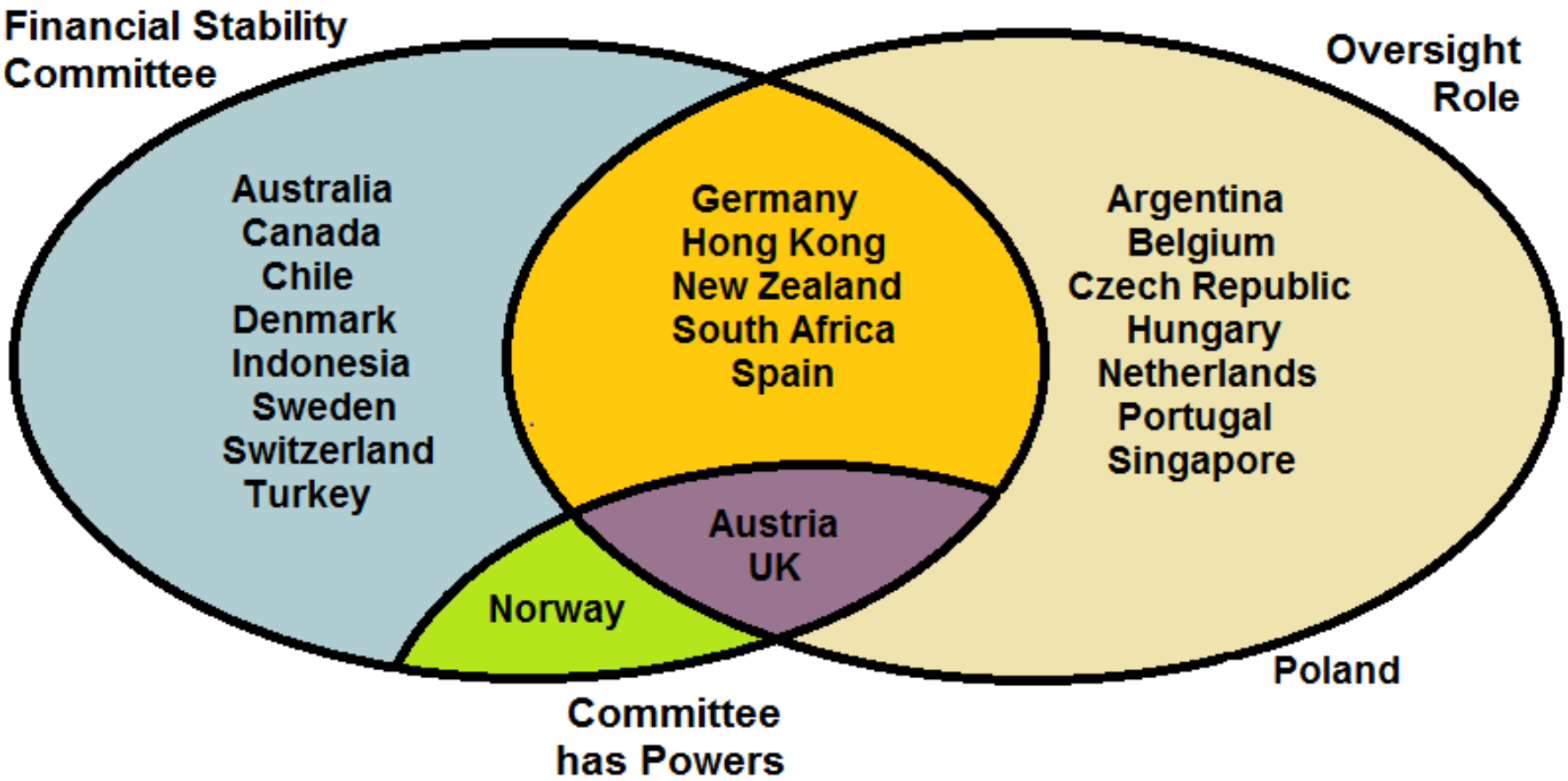
- Earlier work shows that the sentiment conveyed in central bank communications is associated with movements in financial cycle indicators, including quantities (e.g. credit) and asset prices (Correa et al., 2020).
- The sentiment in these reports is also a good predictor of banking crises.
- We investigate how differences in governance frameworks explain central banks' (CBs) financial stability communication strategies, their use of alternative instruments (e.g., prudential instruments), and the effect of these strategies on the evolution of the financial cycle.

Related literature

This paper bridges a gap between the literature on financial stability governance frameworks and the literature on financial stability communication strategies and their effectiveness

- Renewed interest in financial stability governance: Edge and Liang (2017); Masciandaro and Volpicella (2016)
- Central bank communication mostly focused on monetary policy: Blinder et al. (2008); Ericsson (2016); and Stekler and Symington (2016)
- Most literature on financial stability communications is descriptive: Allen et al. (2004); Cihak (2006 and 2012)
- Financial stability communication strategies are homogenous: Osterloo et al. (2011); Born et al. (2014); Harris et al. (2019); Correa, Garud, Londono, and Mislang (2020)
- Other literature on news-based early-warning indicators: Huang et al. (2019)

Governance characteristics (2017)



Source: Correa, Edge, Liang, Londono, Mislang

Financial stability communication

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

Financial stability communication

Why do we need a financial stability dictionary?

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

- $\Rightarrow$ Convey a different sentiment: "*confined*" defined as limited negative spillovers as opposed to restricted
- $\Rightarrow$ Describe historical events: "*crisis*" to refer to the global financial crisis
- $\Rightarrow$ Technical terms: "*delinquency*" as part "*delinquency rates*"

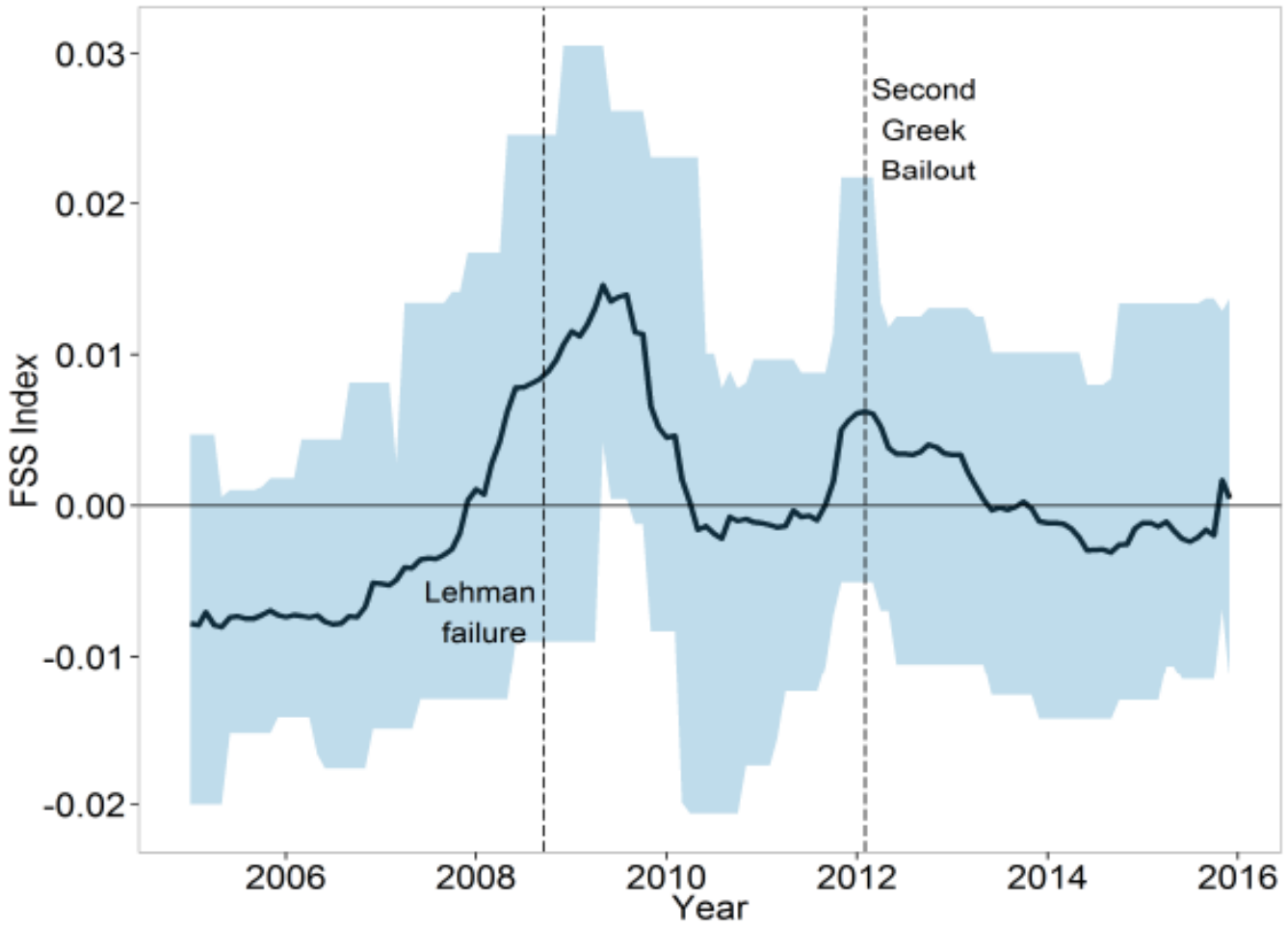
Financial stability communication

Why do we need a financial stability dictionary?

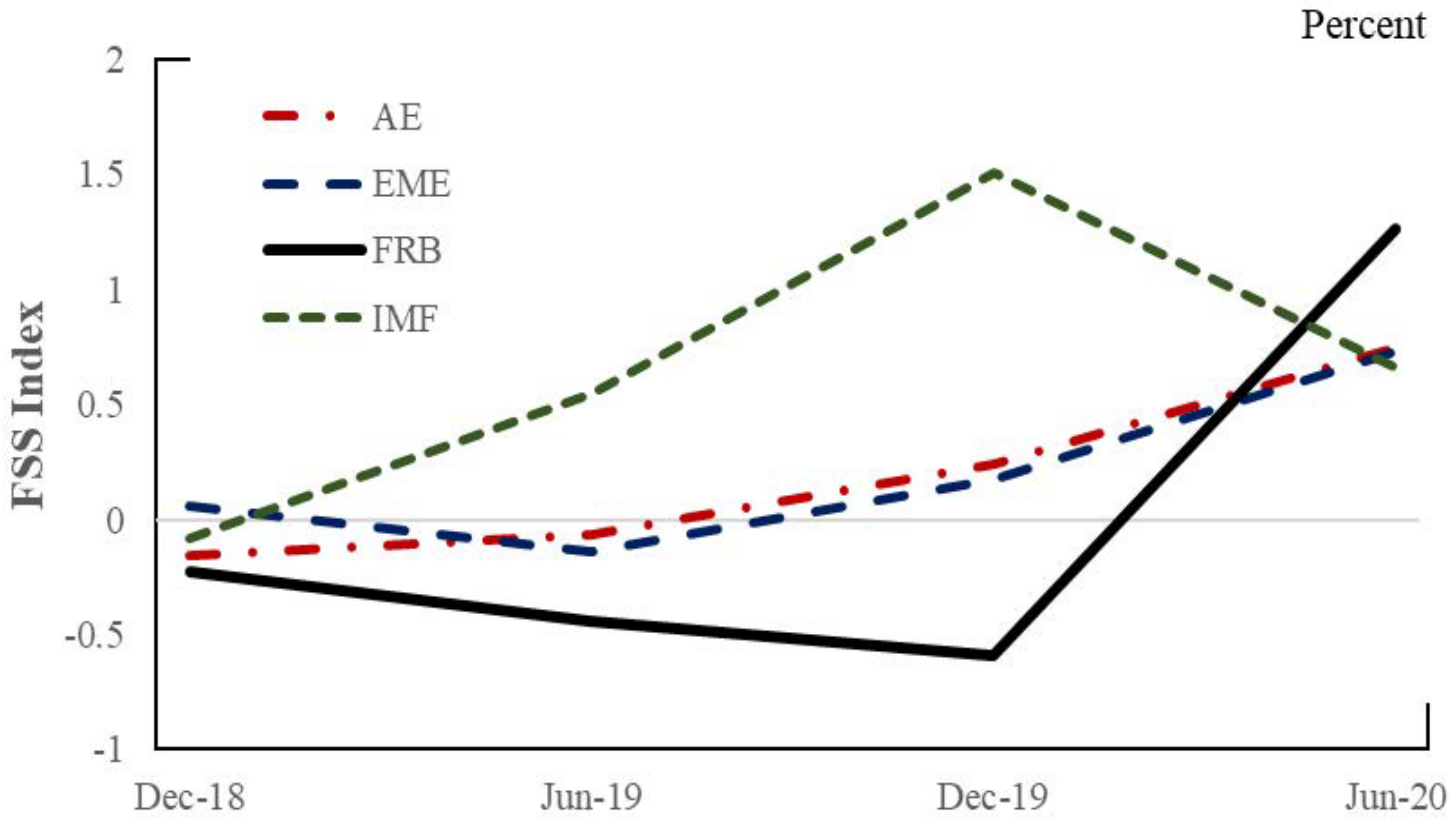
Positive words		Negative words	
able	improving	abnormally	destabilizing
absorb	improve	abrupt	deteriorate
better	mitigate	bad	disrupted
brighter	rebound	burdened	escalated
broaden	succesfully	challenge	exacerbate
healthy	smooth	deficits	excessive
effective	sound	mipricing	unrest
enjoy	stabilize	overheated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

Financial stability communication

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

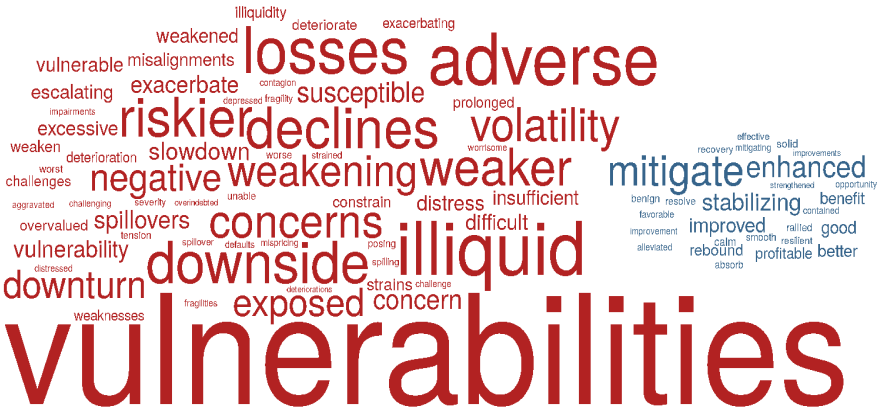


Financial stability communications during the COVID-19 pandemic



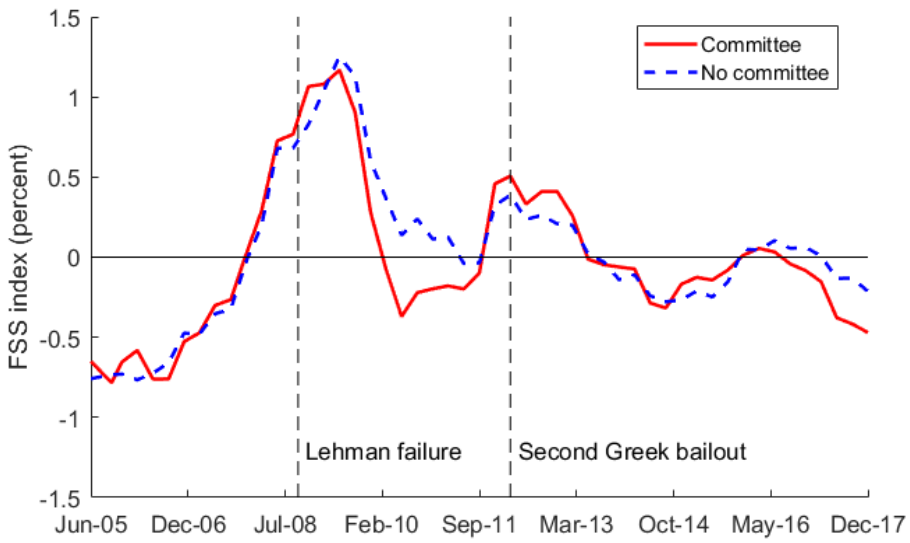
Financial stability communications during the COVID-19 pandemic (word clouds)

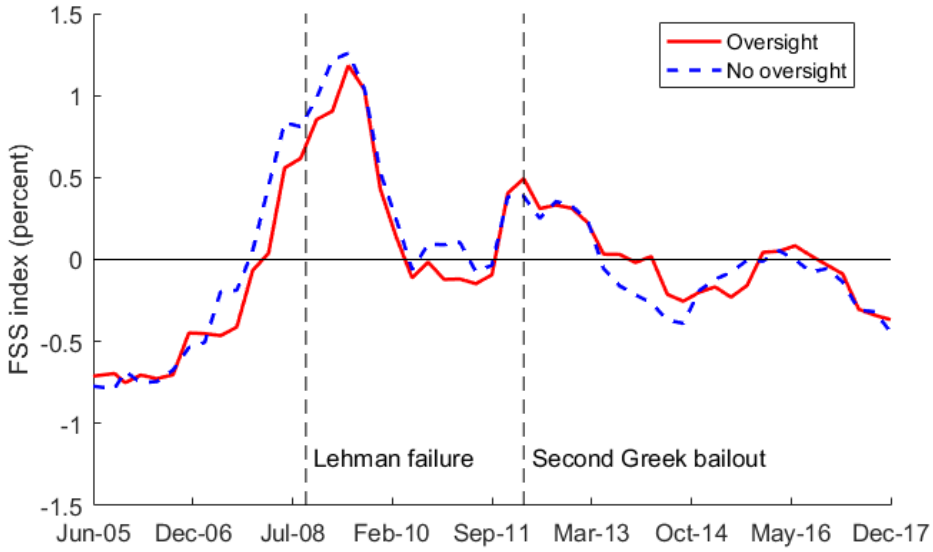
IMF 2019



IMF 2020

Financial stability communication and governance





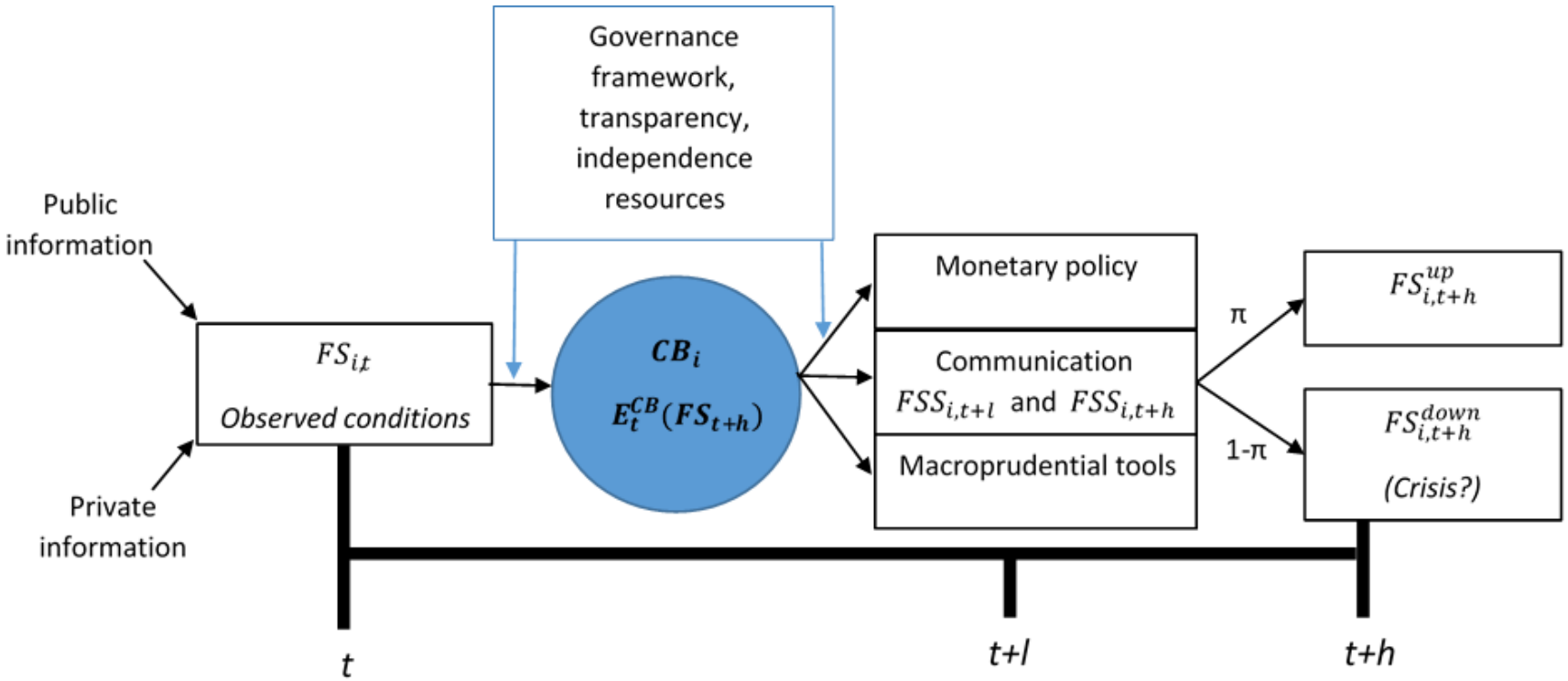
Financial stability conditions

- Financial cycle characteristics:
  - $\Rightarrow$ Slow-moving credit variables: Credit-to-GDP gap (CGDG), debt-service ratio (DSR), total credit to the private nonfinancial sector
  - $\Rightarrow$ High-frequency financial cycle characteristics: bank credit default swap (CDS) spreads , SRISK-to-GDP ratio as proxy for systemic risk, measures of valuation pressures
- Financial stability events:
  - $\Rightarrow$ Turning points in credit-to-GDP gap (local maximums followed by one-year drops in the gap)

FS communication, governance frameworks, and financial stability conditions

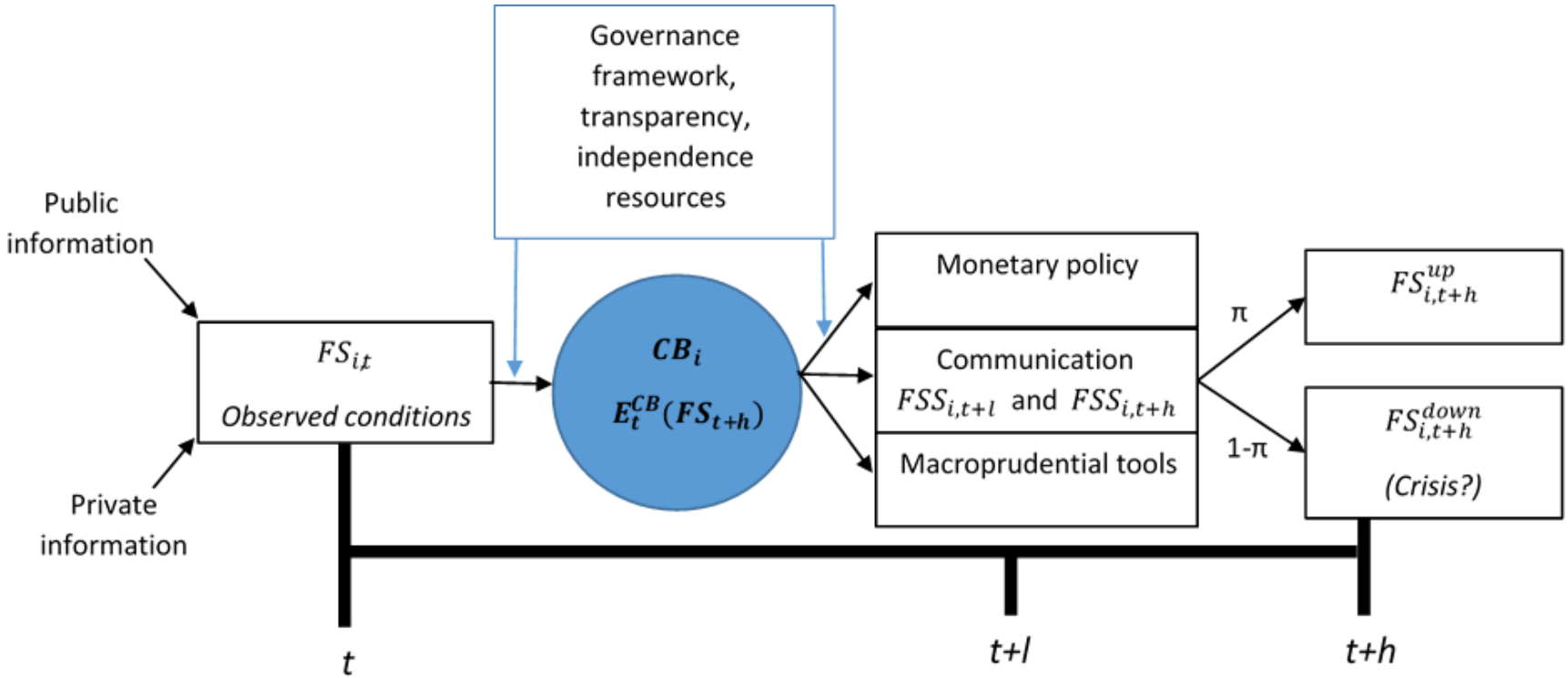
Communication Strategy: How close was the wolf when the message was sent out? What type of message? [Credibility]
Effectiveness of Communication: Is the wolf gone? Did it cause any damages?

FS communication, governance frameworks, and financial stability conditions



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

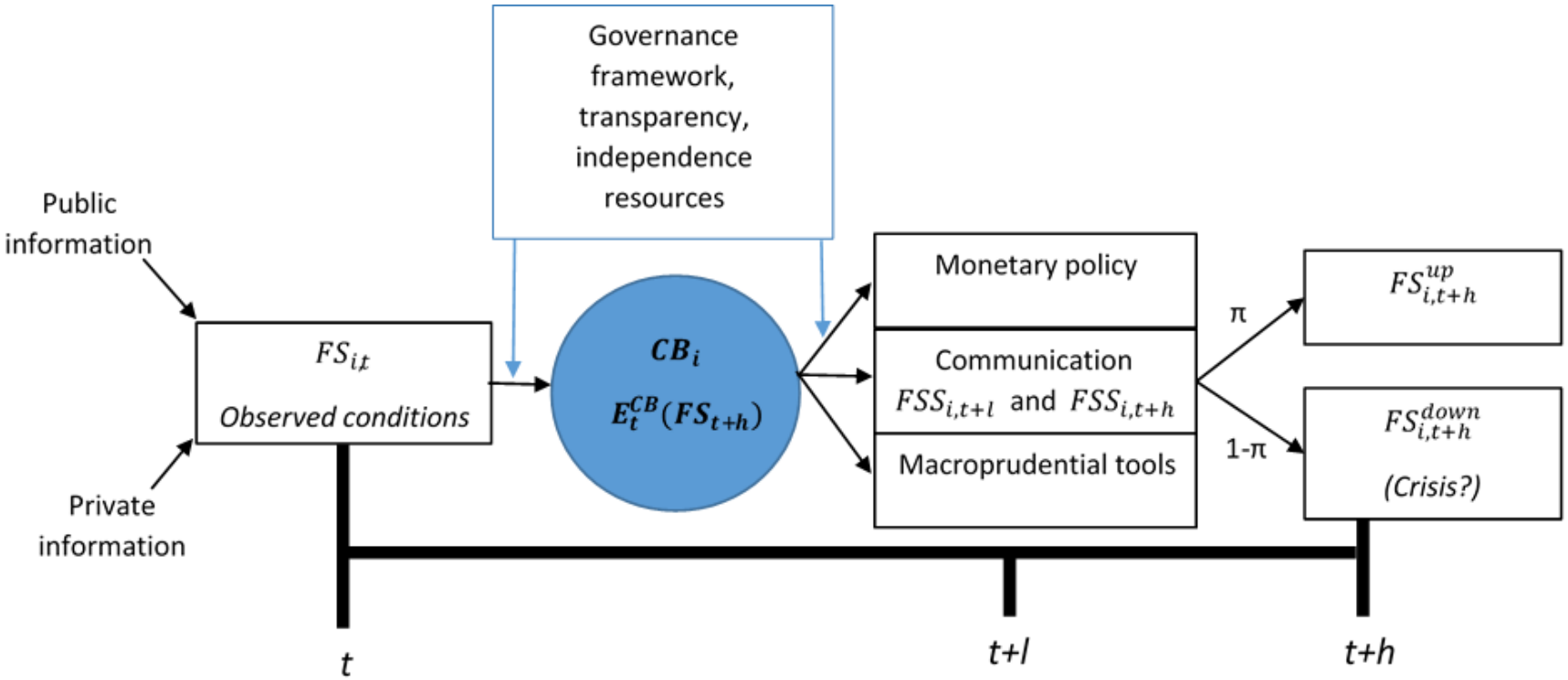
FS communication, governance frameworks, and financial stability conditions



Period 2 (t+l): CB communicates assessment of current and expected conditions, $FSS_{i,t+l}$ and $FSS_{i,t+h}$

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

FS communication, governance frameworks, and financial stability conditions



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

Effectiveness of communication: prevent financial crises

The rest of this presentation

1. The effects of financial stability communicationconditional on the governance framework
2. Financial stability communication around crises
3. Communication strategies
4. Conclusions

1. FS communication conditional on governance framework

- Correa et al. (2020) document that finacial cycle conditions are influenced by financial stability communications.
- **Objective**: Assess whether the association between financial stability communications and the financial cycle depends on the financial stability governance framework?
- Financial stability communications may be influenced by the governance framework (e.g., does the central bank have supervisory powers?).
- We use a sample of 24 countries between 2005 and 2017.

1. FS communication conditional on governance framework

FS communication and the credit-to-GDP gap:

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

where $D_{i,t}$ equals 1 if central bank has governance characteristic.

		Committee	Committee Powers	Oversight	Committee+ Oversight
β_1	-0.27	0.55	-0.65	-0.04	-0.14
β_2		-1.73**	0.74	-0.42	-0.73
$\beta_1+\beta_2$		-1.19*	0.09	-0.46	-0.87
R^2	0.69	0.69	0.79	0.69	0.69
N	1544	1522	1522	1522	1522

Takeaway: The credit-to-GDP is smaller in countries that communicate negative sentiment and have a financial stability committee.

1. FS communication conditional on governance framework

FS communication and the debt service ratio:

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

		Committee	Committee Powers	Oversight	Committee+ Oversight
β_1	-0.17	-0.05	-0.21	-0.03	-0.15
β_2		-0.25**	-0.50^{***}	-0.42	-0.21
$\beta_1+\beta_2$		-0.30*	-0.71^{***}	-0.44*	-0.36
R^2	0.54	0.55	0.55	0.55	0.54
N	1153	1136	1136	1136	1136

Takeaway: The debt service ratio is smaller in countries that communicate negative sentiment and have a financial stability committee, the committee has powers, and the central bank has supervisory oversight.

1. FS communication conditional on governance framework

FS communication and credit growth:

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

		Committee	Committee Powers	Oversight	Committee+ oversight
β_1	-0.42	0.12	-0.42	-0.20	-0.37
β_2		-1.25**	0.00	-0.50	-0.45
$\beta_1+\beta_2$		-1.13**	-0.42	-0.71	-0.82
R^2	0.06	0.08	0.06	0.06	0.06
N	1,230	1,230	1,230	1,230	1,230

Takeaway: The credit growth is lower in countries that communicate negative sentiment and have a financial stability committee.

1. FS communication conditional on governance framework

Other characteristics

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

where $D_{i,t}$ equals 1 if *central bank participates in a committee*; X is another characteristic.

	Transparency	Independence	Financial openness	Foreign bank ownership	Bank international claims	English native language
β_1	2.76	2.21*	-0.47	0.1	0.36	0.17
β_2	-1.83**	-2.36***	-1.55**	-1.46**	-1.58**	-1.58***
β_3	-0.21	-3.20	0.62	-0.01	0.00	-0.30
R^2	0.75	0.67	0.80	0.80	0.80	0.80
N	1,019	849	1,301	1,271	1,301	1,301

Takeaway: The importance of having a financial stability committee seems to be independent of other central bank and country-specific characteristics.

2. Financial stability communication around crises

Are the effects of FS communication different around crises?

$$CGDPG_{i,t+4} = \alpha_i + (\beta_1 + \beta_2 C + (\beta_3 + \beta_4 C) D_{i,t-1}) FSS_{i,t} + ...,$$

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

	Committee	Committee Powers	Oversight	Committee+ Oversight
β_1	0.08	-0.89*	-0.33	-0.49
β_2	3.94*	2.08***	1.90***	3.11**
β_3	-1.43**	1.06	-0.46	-0.52
β_4	-2.56	-4.29***	3.33	-2.59

Takeaway: Sentiment more negative around crises, but less so for central banks in committees, especially with powers.

2. 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		Oversight	
	Yes	No	Yes	No	Yes	No
FSS	0.06	0.24**	-1.67***	0.21***	-0.05	0.32***
	[0.14]	[0.09]	[0.20]	[0.06]	[0.14]	[0.05]

Potential identification problem: very "succesful" CBs will be able to prevent all crises. Our results hold if we consider turning points that are not accompanied or followed by (Laeven and Valencia) financial crises

2. Financial stability communication around crises

Robusntess tests

- Results are robust to considering control variables (useful predictors of banking crises)
- Results are robust to considering alternative FSS indexes: a negativity index and an index calculated using only summaries.

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

	Committee		Committee powers		Oversight	
	Yes	No	Yes	No	Yes	No
FSS with controls	0.17***	0.25**	-1.49***	0.24***	0.18	0.25***
	[0.05]	[0.08]	[0.12]	[0.06]	[0.12]	[0.06]
FSS negativity	0.08	0.24*	-0.97**	0.20*	-0.13	0.31***
	[0.13]	[0.12]	[0.35]	[0.09]	[0.17]	[0.07]
FSS summary	0.06	0.14***	-0.43***	0.13***	-0.01	0.19***
	[0.07]	[0.04]	[0.05]	[0.03]	[0.08]	[0.04]

3. Communication strategies

- Assess whether communication strategies, while conditional on governance, differ across the financial cycle.
- Explore whether access to other instruments, such as prudential policies matter.
- Test for relation between financial stability communications and monetary policy.

3. Communication strategies

Does CB communication deviate from observed financial cycle characteristics?

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

where $D = 1$ for CBs in interagency committees

	CGDP gap	log CGDP	DSR	SRISK	Bank CDS	Bank Volatility	log house prices	log hsehold credit
β_1	0.01**	0.41	0.10**	0.08***	0.09	0.02***	0.00	0.37
β_2	0.00	-0.06**	-0.02*	-0.01	0.05	0.00	-0.07**	-0.08**
$\beta_1 + \beta_2$	0.01	0.43	0.08**	0.08***	0.13*	0.02***	-0.31	0.35
R^2	0.10	0.08	0.15	0.12	0.11	0.18	0.10	0.09
N	1550	1553	1153	1550	1138	1764	1847	1544

Takeaway: Some evidence that central banks in FS committees try to convey a "calmer" message (β_2).

3. Communication strategies

Is CB communication coherent?

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

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

		Committee	Committee powers	Oversight	Committee+ Oversight
β_1	-0.04	-0.15*	-0.06	-0.02	-0.03
β_2		0.25*	0.61***	-0.06	-0.10
$\beta_1+\beta_2$		0.10	0.54***	-0.08	-0.13
R^2	0.68	0.68	0.68	0.68	0.68
N	1414	1387	1387	1387	1387

3. Communication strategies

Is CB communication coherent?

Do CBs change their monetary policy stance after sentiment deteriorates?

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

		Committee	Committee powers	Oversight	Committee+ Oversight
β_1	-0.47***	-0.38***	-0.46***	-0.37***	-0.45***
β_2		-0.21**	-0.29	-0.25*	-0.14
$\beta_1+\beta_2$		-0.59***	-0.75**	-0.62***	-0.59***
R^2	0.45	0.45	0.44	0.45	0.45
N	2017	1959	1959	1959	1993

Takeaway: CBs in committees and with supervisory generally mantain lower rates as sentiment deteriorates.

3. Communication strategies

Is CB communication coherent?

Are changes in monetary policy rates different around crises?

$$IR_{i,t+4} = \alpha_i + (\beta_1 + \beta_2 C + (\beta_3 + \beta_4 C) D_{i,t-1}) FSS_{i,t} + \beta_{AR} IR_{i,t} + \epsilon_{i,t+4},$$

	Committee	Committee powers	Oversight	Committee oversight
β_1	-0.44***	-0.52***	-0.43***	-0.51***
β_2	-0.08	0.01	-0.09	-0.02
β_3	-0.17*	-0.14	-0.24*	-0.14
β_4	0.21	1.34**	0.41*	1.05*
R^2	0.47	0.47	0.47	0.47
N	1,152	1,152	1,152	1,152

4. Conclusions

- Financial stability communications by CBs in committees or with an oversight role are relatively more effective at alleviating the deterioration of financial conditions and preventing financial crises.
- CB with these characteristics transmit a "calmer" message: sentiment deteriorates **less** following a deterioration in financial indicators.
- A "calmer" message could be explained by the ability to implement prudential policies, which also allows them to maintain lower monetary policy rates.

Thank You