Banks' Sustainability-Linked Pay and Financial Stability

Some initial reflections

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Background

- In recent years, a debate has emerged on the most effective **way to improve sustainability practices and disclosures**, and how **regulation** affects them.

- From a firm-specific perspective, **one of the main tools to** influence firm engagement in a new corporate goal is changing **managerial compensation** (Ongena et al., 2022).

- Because of the recent environmental transition momentum, investors have started to judge **managerial performance according to the achievement of sustainability targets** (Sustainalytics, 2022).

- Increasingly the focus on ESG issues is driven **by a variety of stakeholders** in addition to investors, namely, employees, consumers, business partners, ESG rating agencies, regulators (Spierrings, 2022).

Sustainability focus and reporting

- 2015 United Nations 17 SDGs

- Paris Agreement
  - The most significant and influential legally binding international treaty to combat climate change and reach higher level of sustainability whose primary objective is to keep global warming well below 2 degree Celsius

  In Europe:
- Non-Financial Reporting Directive NFRD Directive 2014/95/EU
- 2017 Guidelines EC to enhance business transparency
- European Green Deal (EC action plan towards climate neutrality)
- 2020 EU Taxonomy (criteria for economic activities aligned to net zero trajectory by 2050)
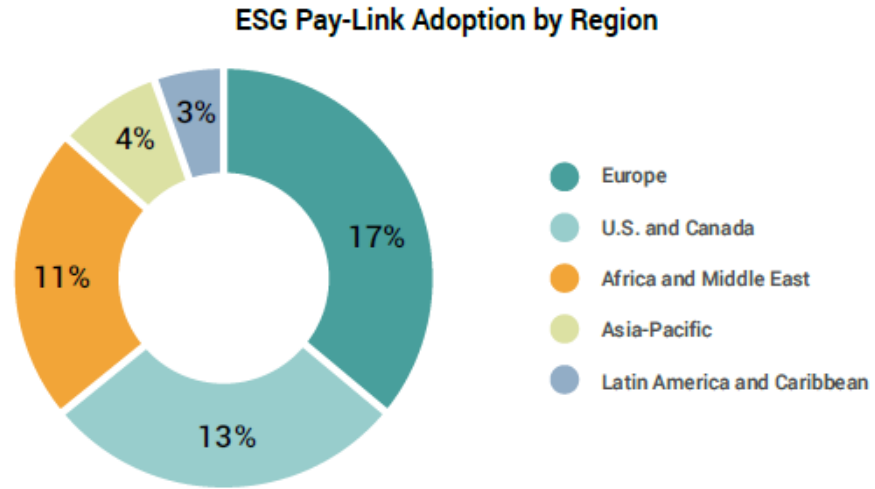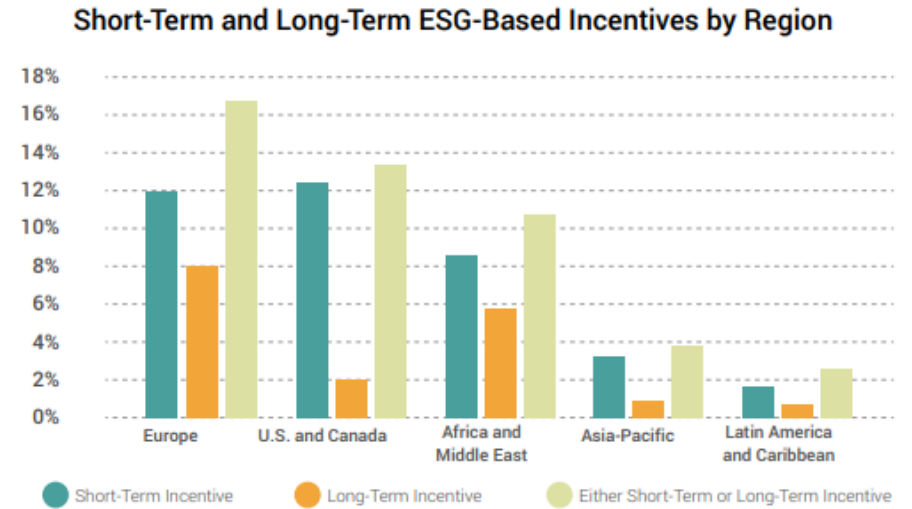
ESG pay link by region

ESG Pay-Link Adoption by Region

- Europe — 17%
- U.S. and Canada — 13%
- Africa and Middle East — 11%
- Asia-Pacific — 4%
- Latin America and Caribbean — 3%

Figure 1ˢᵗ | Source: Sustainalytics | For Informational Purposes Only

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ST and LT incentives

Short-Term and Long-Term ESG-Based Incentives by Region

- Short-Term Incentive
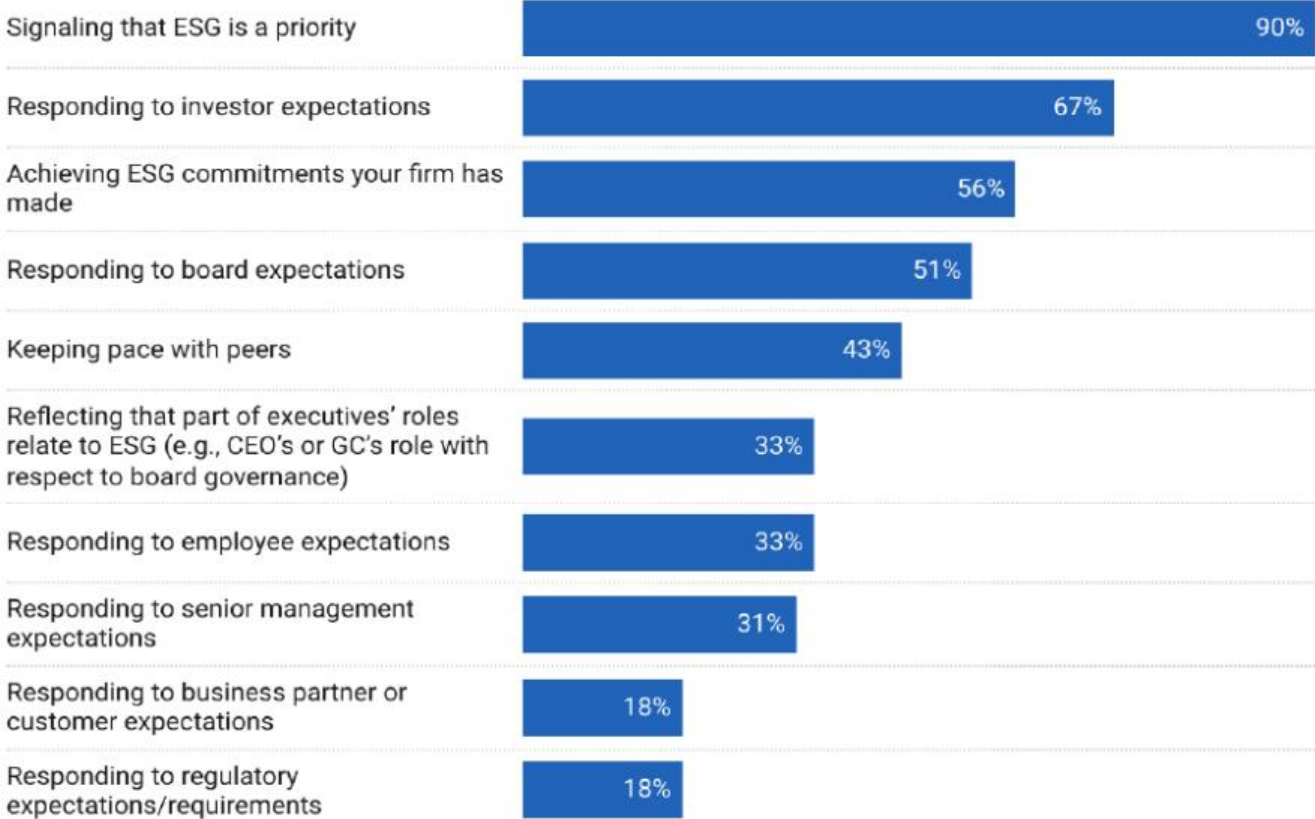- Long-Term Incentive
- Either Short-Term or Long-Term Incentive

Sustainalytics, (2022) "Real ESG Accountability: Tying Your Company's ESG Performance to Leadership Compensation)

Why firms adopt sustainability-linked pay?

Q: If you have included ESG performance goals in your programs since 2020, or are thinking of doing so, what factors are driving your decision? (Choose all that apply)

Factor	Percentage
Signaling that ESG is a priority	90%
Responding to investor expectations	67%
Achieving ESG commitments your firm has made	56%
Responding to board expectations	51%
Keeping pace with peers	43%
Reflecting that part of executives' roles relate to ESG (e.g., CEO's or GC's role with respect to board governance)	33%
Responding to employee expectations	33%
Responding to senior management expectations	31%
Responding to business partner or customer expectations	18%
Responding to regulatory expectations/requirements	18%

Note: 61 respondents

Source: ESG Performance Metrics in Incentive Plans Roundtable, The Conference Board, 2022 • Created with Datawrapper

Role of banks in the transition to net zero
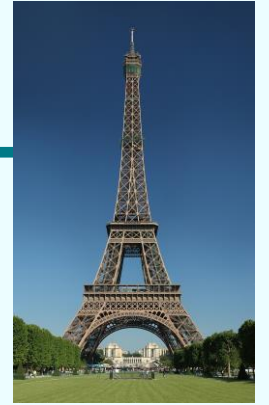
- **Banks have a crucial role** in financing sustainable growth because they are the biggest providers of capital for countries all over the world

- Banks' decisions to lend or invest in businesses that are unsustainable (e.g. fossil fuel industry) can support the switch to a low carbon economy **in line with the Paris Agreement (2015)**

- **ECB (2022)**'s thematic review on climate related and environmental risks of banks, specifies supervisory expectations about managing sustainable and climate transition, which includes the integration of such risks into banks' risk appetite frameworks, **as well as remuneration incentives aligned with environmental and sustainability objectives**

Selected literature: Sustainability, crises and resilience

- Recent research has shown that **companies that are more sustainable are less risky /more stable** as they have lower default risk but also systemic risk

- **In banks**, studies on social performance are scarce and those on the relationship between sustainability and bank risk-taking are **typically limited on single aspects of CSR**. Examples include Anginer et al., (2018) on governance and Gangi et al., (2019) on the environmental dimension and Casu et al. (2021) on social

- Chiaramonte et al (2021) provide evidence that this greater focus on social performance for banks ultimately **mitigates the effect of the financial crisis on bank stability**

Selected literature: possible effects

Sustainability-linked compensations for executives **may have two opposite effects** on banks' performance

- (1) in line with the agency theory framework, it could **signal** to firms' stakeholders the commitment of the CEO and senior management on sustainability (Bonham and Criggs-Cragun, 2022).
- (2) following the neo-institutional theories, incorporating sustainability objectives into executive pay incentives **may be a symbolic ('legitimation')** rather than substantive ('efficiency') corporate board policy, without effectively strengthen firms' performance (Cordeiro and Sarkis, 2008; Haque and Ntim, 2020).

- However, there is a **substantial lack of empirical contribution** on this topic so far, so its effect is not clear
- No studies specifically on the effects on **riskiness/ stability**

Key objective and main hypothesis

- This paper's main objective is to examine the impact of introducing sustainability-linked compensation policies on banks' riskiness and stability

- We use as exogenous shock the **Paris Agreement** and aim to test different measures of riskiness/ soundness

- Specifically, our main hypothesis is as follows:

  - H1: ***The adoption of sustainability-linked compensation policies is associated with lower bank riskiness after the 2015 Paris Agreement.***

Data (preliminary study)

- The final sample consists of **105 listed banks, headquartered in 19 European countries**, 2011-2019

- Banks' sustainability-linked compensation policies data are drawn from Thomson Reuters Refinitiv (yes/no dummy and score as **percentile ranking** among the industry)*

- Banks' **accounting data** for all listed banks (for which we have available data) signatory of the 2015 Paris Agreement over the period of interest, as well as quarterly banks' probability of default (PD) are taken from the **Bloomberg** database.

- We also collected data that may affect bank riskiness/stability such as size, capitalisation, efficiency, profitability, liquidity, diversification, board gender diversity, the number of years of the board, GDP growth

- *The exact definition is: Is the senior executive's compensation linked to CSR/H&S/Sustainability targets?

Variable definitions

Variables	Definition	Source
PD	9 months probability of default (quarterly)	Bloomberg
TREATED	Dummy variable equal to 1 for banks adopting higher sustainability-linked compensation before the sign of 2015 Paris agreement and 0 otherwise.	Thomson Reuters Refintiv'
Paris	Dummy variable equal to 1 for post Paris Agreement quarters and 0 otherwise.	
Board years	Variable which takes the value one for fiscal years when a board change occurred	
Board CEO	Dummy variable which takes the value one if CEO is a board member, zero otherwise.	
Board gender diversity	the percentage of female on board.	
Executive compensation	Is a score measuring the amount of total executive compensation	
Size	Natural logarithm of total asset	
Cash	Cash holding to total asset	
Eq_ta	Equity to total assets ratio	
Cir	Cost to income ratio	
Div	Non-interest income to net operating revenues	
Llr_Gl	Loan Loss reserves to gross loans ratio	
GDP_Grwt	Gross domestic product growth ratio	World Bank database

Data (preliminary observations)
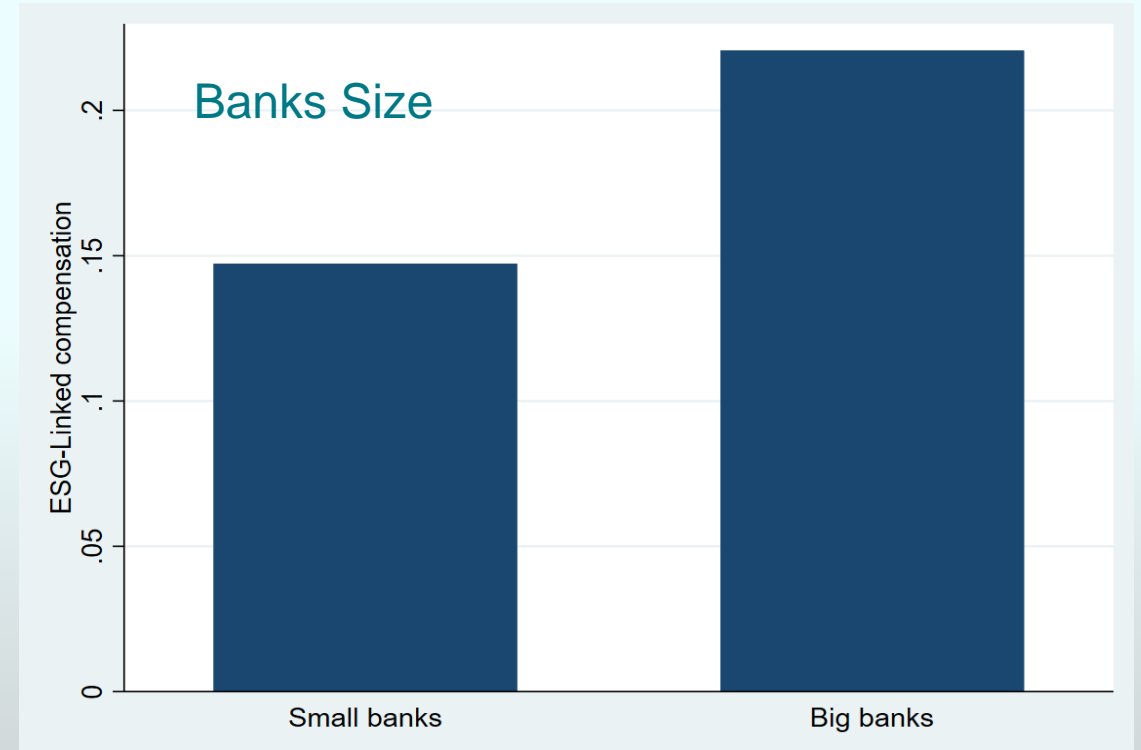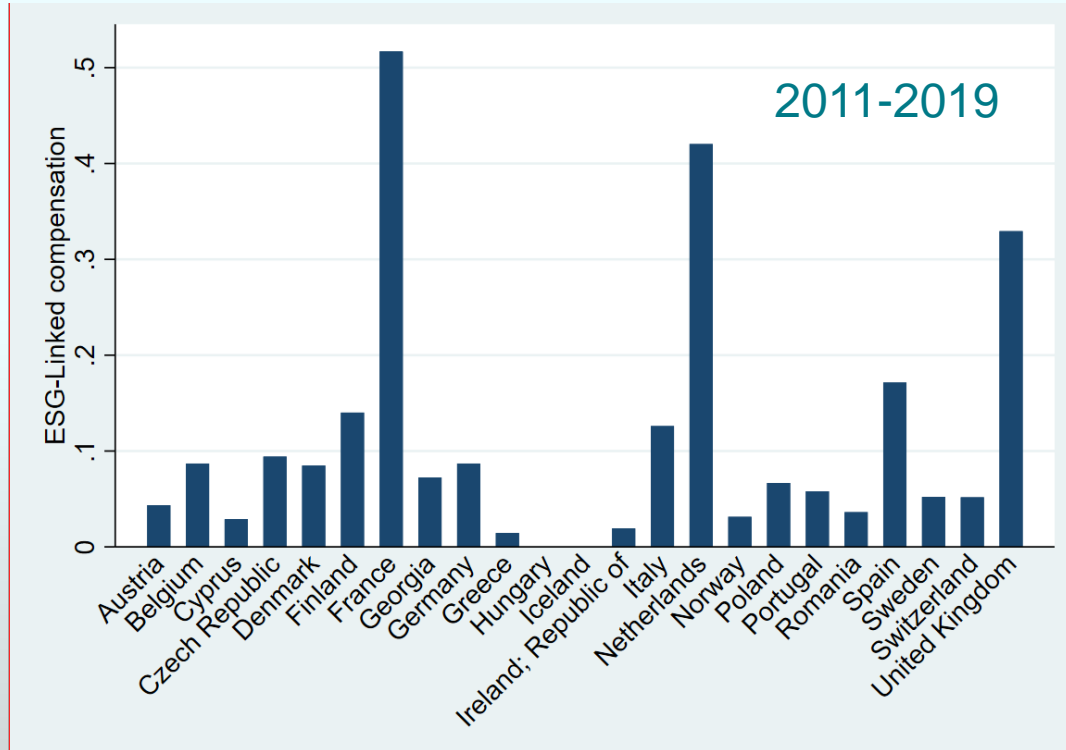
Empirical method

- To test H1 we estimate the following difference-in-difference regression model:

$$PD_{i,t}=c+\beta_1 Paris*TREATED_{i,t}+\beta_2 Paris_{i,t}+ \beta_3\ TREATED+ \beta_4 X_{i,t-1} + \upsilon i + \varepsilon i,t$$

  where the dependent variable is the 9-month probability of default (*PD*) which measures banks' riskiness.

- The variable *Paris* is a dichotomous variable equal to 1, in the period after the 2015 Paris Agreement was signed (December 2015), and 0 otherwise;

- *TREATED* is a dummy variable equal to 1 for banks adopting higher (above the mean value of the sample) sustainability-linked compensation score before the signing of the 2015 Paris Agreement, and 0 otherwise.

- *X* is a vector of banks' controls to be included in all models.

- Finally, υ_t ,and $\varepsilon_{i,t}$ represent country and time fixed effects and the error terms, respectively.

H1: *The adoption of sustainability-linked compensation policies is associated with lower bank riskiness after the 2015 Paris Agreement.*

	PROBABILITY OF DEFAULT							
Variables	Total period (2003-2019)		2011-2019					
Paris*TREATED	-0.720**	-0.541**	-0.643**	-0.614**	-0.611**	-0.615**	-0.582*	-0.594*
	(0.0194)	(0.00920)	(0.281)	(0.282)	(0.293)	(0.291)	(0.302)	(0.301)
TREATED			0.234	0.204	0.217	0.168	0.103	0.103
			(0.428)	(0.434)	(0.503)	(0.495)	(0.495)	(0.486)
Paris			-0.250	-1.378***	0.322	-1.335***	0.288	-1.486***
			(0.230)	(0.362)	(0.211)	(0.340)	(0.254)	(0.443)
Size (-1)					0.184*	0.198*	0.151	0.155
					(0.109)	(0.112)	(0.120)	(0.124)
Eta (-1)					-4.862	-4.130	-3.692	-2.954
					(5.051)	(4.884)	(4.397)	(4.316)
Llr_Gl (-1)					42.53***	45.23***	44.11***	46.33***
					(10.88)	(11.04)	(10.10)	(10.22)
Cash (-1)					-4.717**	-4.187**	-3.960**	-3.416*
					(1.961)	(1.925)	(1.891)	(1.852)
Div (-1)					-4.385***	-4.288***	-4.564***	-4.489***
					(1.390)	(1.368)	(1.332)	(1.313)
Cir (-1)					0.0972	0.0546	0.188	0.156
					(0.249)	(0.251)	(0.212)	(0.213)
GDP (-1)					-7.012**	3.007	-6.438*	3.374
					(3.408)	(3.133)	(3.252)	(3.228)
Executive compensation (-1)							0.0138***	0.0145***
							(0.00423)	(0.00432)
Board years (-1)							-0.0200	-0.0257
							(0.0484)	(0.0474)
CEO Board (-1)							0.246	0.0488
							(0.384)	(0.387)
Board diversity (-1)							-0.00633	-0.00116
							(0.0102)	(0.0110)
Country fe	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Quarter fe	No	No	No	Yes	No	Yes	No	Yes
Cluster S.E Bank	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4,484	2,273	2,273	2,273	1,645	1,645	1,645	1,645
R-squared			0.523	0.633	0.612	0.702	0.626	0.715

Parallel-trend
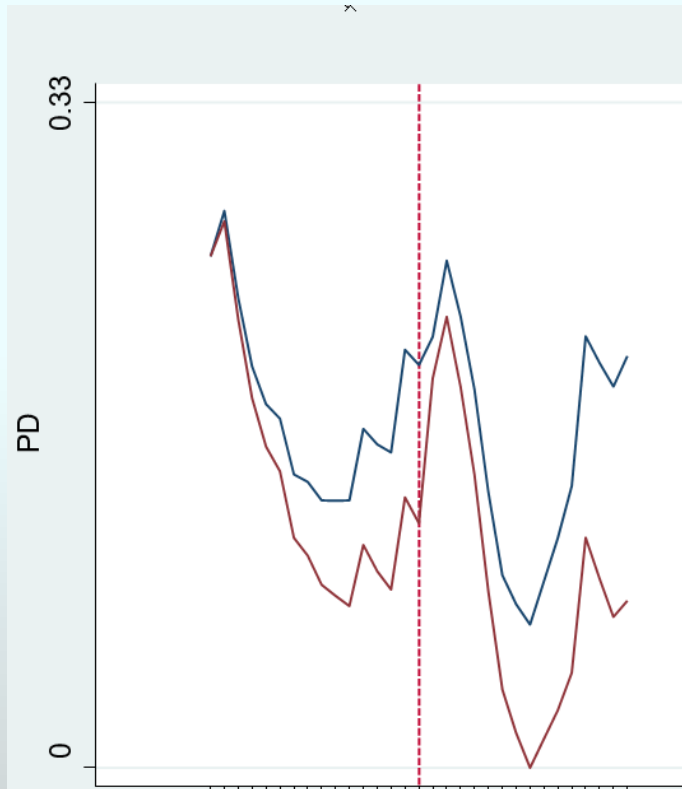
- **Red line->** Treated banks (banks with sustainability-linked compensation policy before the 2015 Paris agreement)

- **Blu line->** control banks (all other banks in the sample)

- **Red dashed line->** December 2015, the month of Paris agreement passage (shock)

Moderating effect of NPLs

Variables	Npl_Loans	PD	
Paris*TREATED*NPLs		4.363*	4.604*
		(2.271)	(2.412)
Paris*TREATED	-0.0205**	-0.588*	-0.579*
	(0.00832)	(0.319)	(0.321)
TREATED	0.0124	0.00657	-0.0158
	(0.0193)	(0.457)	(0.460)
Paris	0.0313***	0.170	-1.638***
	(0.00968)	(0.284)	(0.472)
Controls (-1)	Yes	Yes	Yes
Country fe	Yes	Yes	Yes
Quarter fe	Yes	No	Yes
Cluster S.E Bank	Yes	Yes	Yes
Observations	2,041	1,541	1,541
R-squared	0.628	0.638	0.729

Other tests

- Placebo test: Random selection of a «fake» year of the shock
- PSM DiD regression

Conclusions - First preliminary results

- These are all very preliminary results, the data we use are **limited** and we will be collecting relevant data manually

- Empirical investigation shows that the implementation of a sustainability-linked compensation policy **decreased banks' riskiness** following the signing of the 2015 Paris agreement.

- This result seems to support the stakeholders' theory framework, were banks adopting higher sustainability-linked compensation **signal** to the market a strong engagement on long-term value creation etc.

- This prediction is also **confirmed when we use the NPLs,** that shows that banks adopting such policy have lower non-performing loans ratio.

- We will test alternative measures of risks/ bank stability (Z score)

Limitations

- Data – There is a need **for reliable data** to quantify sustainability-linked compensation effects on overall performance

- Business case – Some large institutional investors are **sceptical** about sustainability linked pay, especially if there is not a strong business case for doing so and if the ESG goals are not sufficiently challenging or specific.

- Cost – banks may adopt less costly approaches to **signal** sustainability such as for example, by enhancing disclosure on ESG performance.

- **More transparency and harmonisation** of non financial reporting – crucial to make progress