Firm ESG Reputation Risk and Debt Choice

David Newton*, Steven Ongena**, Ru Xie*, and Binru Zhao*

*School of Management, University of Bath
**University of Zurich, Swiss Finance Institute, KU Leuven and CEPR

26 Oct, 2022

Motivation

- ESG risk and sustainable development have been widely discussed in the business world and incorporated into firms behaviours.
- Banks and institutional investors play a key role in the transition to a low-carbon, sustainable economy by funding and supporting environmentally and socially responsible projects and enterprises.
  - In 2020, over 250 banks representing over 40% of global banking assets have now committed to align with the vision society has set out for its future in the UN Sustainable Development Goals and the Paris Climate Agreement.
- The significance of different types of debt in shaping sustainable transformation remains unknown.

Research Questions

- Does firm's ESG reputation risk impact its financing choice?
- What are the potential mechanisms behind the choices?
- Which type of debt (loans or bonds) could effectively contribute to the sustainable transformation?

Potential Mechanisms (Demand Side)

- There are two opposite views on the relationship between financing choices and ESG risk.
- Firms with higher ESG risk exposure will tend to voluntarily rely on bank loans to improve their ESG reputation via bank monitoring.
- Firms with higher ESG risk exposure tend to avoid bank monitoring by issuing public bonds, because firms ESG related misbehavior or risk can be easily detected by banks (Ben-Nasr, 2019 JCF) and shaped by banks (Houston and Shan, 2020 RFS).

Potential Mechanisms (Supply Side)

- Banks shrink their loan supply or disrupt lending relationship to firms with high ESG risk exposure, because lending to firms that have scandals is an negative shock to banks reputation, which leads to depositor base volatility (Houston and Shan, 2021) and outflow of deposits (Homanen, 2018).
- The contraction in the supply of bank loans increases firms' reliance on public debt (Leary,2009 JF)
- Bond investors are willing to provide funding to high ESG firms due to diffusive bond holdings. They are less likely to be affected by firms ESG negative shocks.

Data Source and Sample Construction

- Sample period:
  - from 2007 to end 2020
- Data source
  - Capital IQ, RepRisk, Compustat, Refinitiv Eikon, LPC's DealScan and SDC.
- In the sample of debt structure level, we have 3,783 U.S. public firms including 71, 341 firm-year-quarter observations from 2007 to 2020 (exclude all financial firms, and observations with missing firms financial information)
- In the sample of loan deal and bond deal level, we have 14,383 loan facilities and 5,569 public bonds.

Empirical Setting

- Baseline estimation model

$$DebtChoice_{i,t} = \alpha_1 RRI_{i,t-1} + \beta_t X_{i,t-1} + \upsilon_t + \eta_i + \epsilon_{i,t} \quad (1)$$

- Where the dependent variable ***DebtChoice*** is the debt choice measures, capturing a firms reliance on bank debt or bond debt. It is proxied by either the proportion of bank debt in a firms total debt or the proportion of public debt in a firms total debt. ***RRI*** which captures the firms ESG risk exposure at the end of the quarter prior to the period end date of debt structure. We also include a set of control variables that may influence the choice of debt.

Baseline Result

Dependent Variable:	Bank Debt (%)	Public Debt (%)	Total Debt
	(1)	(2)	(3)
RRI	-0.242***	0.127***	0.234
	(0.04)	(0.05)	(0.02)
Controls	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
Obs.	62,586	62,586	62,586
Adj. R2	0.220	0.278	0.792

The Each Component of ESG Risk and Debt Choice

Dependent Variable:	Bank Debt (%)				Public Debt (%)			
	1	2	3	4	5	6	7	8
RRI_E	-0.265***			-0.153	0.068			0.003
	(0.10)			(0.10)	(0.11)			(0.11)
RRI_S		-0.334***		-0.300***		0.178**		0.174***
		(0.06)		(0.06)		(0.07)		(0.07)
RRI_G			-0.237***	-0.233***			0.156**	0.152**
			(0.06)	(0.06)			(0.07)	(0.07)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	62,586	62,586	62,586	62,586	62,586	62,586	62,586	62,586
Adj.R2	0.217	0.218	0.217	0.220	0.277	0.278	0.277	0.278

Panel A: Environemental Issues	(1) rri_cc	(2) rri_lp	(3) rri_iol	(4)rri_oaw	(5) rri_wi	(6) rri_am
Bank Debt (%)	-0.005	-0.000	0.001	-0.006	0.008	-0.033***
	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)

Panel B: Community Issues	(1)rri_hra	(2) rri_ioc	(3) rri_lpi	(4) rri_sd
Bank Debt (%)	-0.009***	0.001	0.008	-0.027**
	(0.00)	(0.00)	(0.01)	(0.01)

Panel C: Employee Issues	(1) rri_fl	(2) rri_cl	(3)rri_foa	(4) rri_die	(5) rri_oh	(6)rri_pec
Bank Debt (%)	-0.021***	-0.023***	-0.017***	-0.029***	-0.005	-0.010***
	(0.01)	(0.01)	(0.00)	(0.01)	(0.00)	(0.00)

Panel D: Governance Issues	(1)rri_cbe	(2) rri_ec	(3)rri_mc	(4) rri_fd	(5) rri_te	(6) rri_to	(7)rri_ap
Bank Debt (%)	-0.001	-0.060***	-0.022***	-0.003	-0.028***	-0.035***	-0.008**
	(0.00)	(0.01)	(0.01)	(0.00)	'(0.01)	'(0.01)	(0.00)

Panel E:Cross-Cutting Issues	(1) rri_cp	(2)rri_phe	(3)rri_voi	(4)rri_von	(5)rri_sci
Bank Debt (%)	-0.014***	-0.005**	-0.011	-0.003*	-0.012***
	(0.00)	(0.00)	-0.01	(0.00)	(0.00)

ESG Risk, Bank Monitoring and Debt Instruments

Dependent Variable:	Bank Debt (%)		Bond Debt (%)		
	Term Loan (%)	Revolvers (%)	Senior Bonds and Notes (%)	Subordinated Bonds and Notes (%)	Commercial Paper (%)
	(1)	(2)	(3)	(4)	(5)
RRI	-0.187***	-0.055**	0.104**	-0.011	0.034***
	(0.03)	(0.02)	(0.05)	(0.01)	(0.01)
Controls	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes
Obs.	62,586	62,586	62,586	62,586	62,586
Adj. R2	0.093	0.179	0.262	0.054	0.083

Negative News and Debt Switching

Dependent Variable:	Sample of firms that issues either bonds or loans, or both			
	New Loan Issuance	New Bond Issuance	Same Loan Issuance	Same Bond Issuance
	(1)	(2)	(3)	(4)
Ln_Nr_News	-8.475***	4.917***	-11.992***	6.894*
	(2.01)	(1.25)	(3.19)	(3.77)
Controls	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Obs.	62,586	62,586	62,408	62,260
Pseudo R2	0.037	0.040	0.053	0.046
Dependent Variable:	**Sample of firms that issues either bonds or loans**			
	New Loan Issuance	**New Bond Issuance**	**Same Loan Issuance**	**Same Bond Issuance**
	(1)	(2)	(3)	(4)
Ln_Nr_News	-8.863***	6.471***	-10.798***	8.526**
	(2.28)	(1.42)	(3.26)	(3.89)
Controls	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Obs.	48,639	48,639	48,565	48,447
Pseudo R2	0.044	0.052	0.051	0.051

Dependent Variable:	1st stage	2nd stage	
	RRI	Bank debt (%)	Bond debt (%)
	(1)	(2)	(3)
Variables of Interest			
RRI		-0.016***	0.036***
		(0.003)	(0.004)
Instrumental Variables			
Canada border	-0.542***		
	(0.15)		
High religious	-1.729***		
	(0.16)		
Cragg-Donald Wald F-stat	60.361		
(Stock-Yogo weak ID test critical value)	(19.93)		
Controls	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
Obs.	71,341	71,341	71,341

Robustness Check

- Using Oster Test (2019), we find our results are not impacted by the potential omitted variables.
- We rely on our loan and bond sample constructed by DealScan and SDc databases, and show that ESG reputation risk is priced in both loan contracts and bond contracts.
- We use the the level of institutional ownership to proxy the degree of information asymmetry. We find our results are more pronounced when firms have a high level of institutional ownership.
- Our results are still robust and consistent when we re-estimate our results based on the loan level and bond level samples. Also, our results are robust when we control for firm fixed effects and use a different proxy to measure firm ESG risk reputation.

Conclusion

- We show that firms with higher ESG risk exposure rely more on the public bond rather than bank debt as a way to evade bank scrutiny and monitoring.
- Firms with higher ESG risk borrow less from banks, probably for avoiding bank scrutiny, which is reflected on the reduced reliance on term loans.
- We also demonstrate that firms suffering higher numbers of negative ESG reputation shocks are less likely to continue to rely on bank credit in response to the threat of disrupted lending relationship.
- The reliance on public bond market is more pronounced when firms with relatively lower adverse selection costs.