

**On-line Appendix to
“Which Financial Frictions? Parsing the
Evidence from the Financial Crisis of
2007-9”**

Tobias Adrian
Federal Reserve Bank of New York

Paolo Colla
Bocconi University

Hyun Song Shin
Princeton University

April 2, 2012

Table IA.1. **Characteristics of new issuances (selected quarters, private firms).** This table presents means aggregated across all firms for new debt issuances. Loan and bond issuances refer to non-financial U.S. private issuers. There are 2,120 new loan issuances (corresponding to 1,005 unique borrowers) and 672 bond issuances (408 unique borrowers). Amount is expressed in January 1998 constant \$bln, maturity is expressed in months, and spread is expressed in bps (relative to the reference rate).

	Total amount		Average amount	Number	Spread	Maturity sample	
	Loan issuances						
	(RC)	(TL)					
Q2:2007	40.16	37.06	2.64	0.543	74	53.87	47.59
Q2:2009	11.63	8.45	2.85	0.155	75	260.39	17.54
	Bond issuances						
Q2:2007	2.76			0.251	11	273.69	102.89
Q2:2009	3.06			0.255	12	465.13	85.35

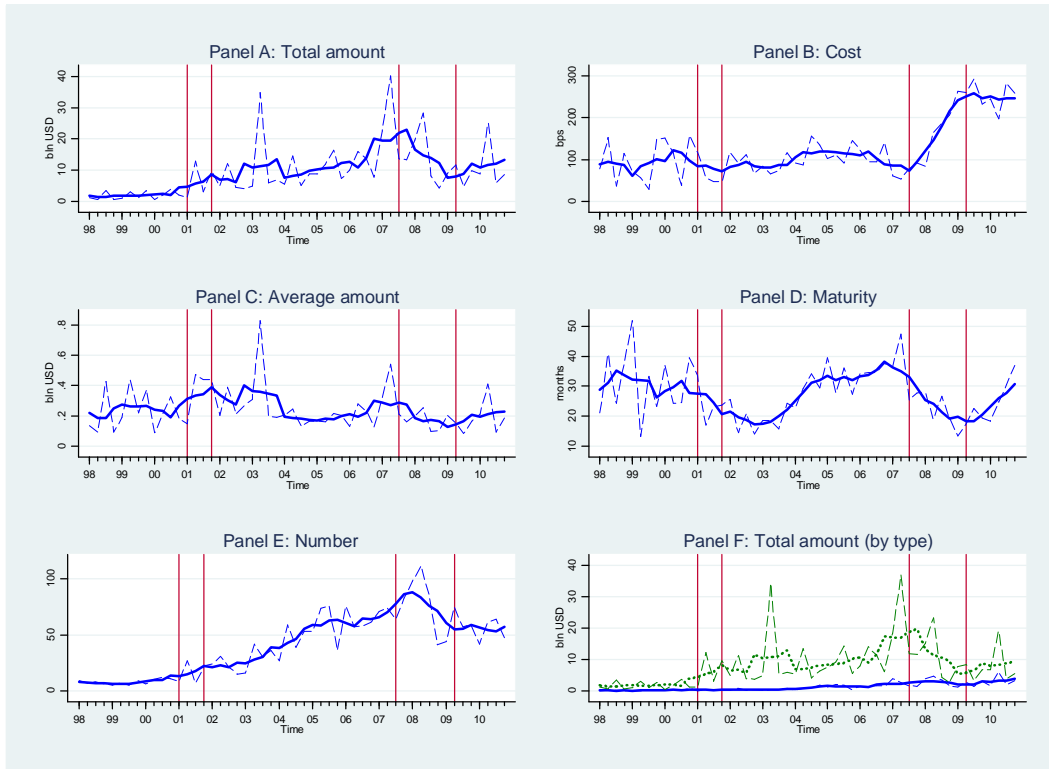


Figure IA.1. **New loan issuances (private firms).** Panel A: total amount of loans issued (billion of January 1998 USD). Panel B: cost of loans issued (in bps). Panel C: average amount of loans issued. Panel D: maturity of loans issued (in months). Panel E: number of loans issued. Panel F: total amount of credit lines (dotted) and term loans (solid). All panels report the raw series (dashed line) and its smoothed version (solid line).

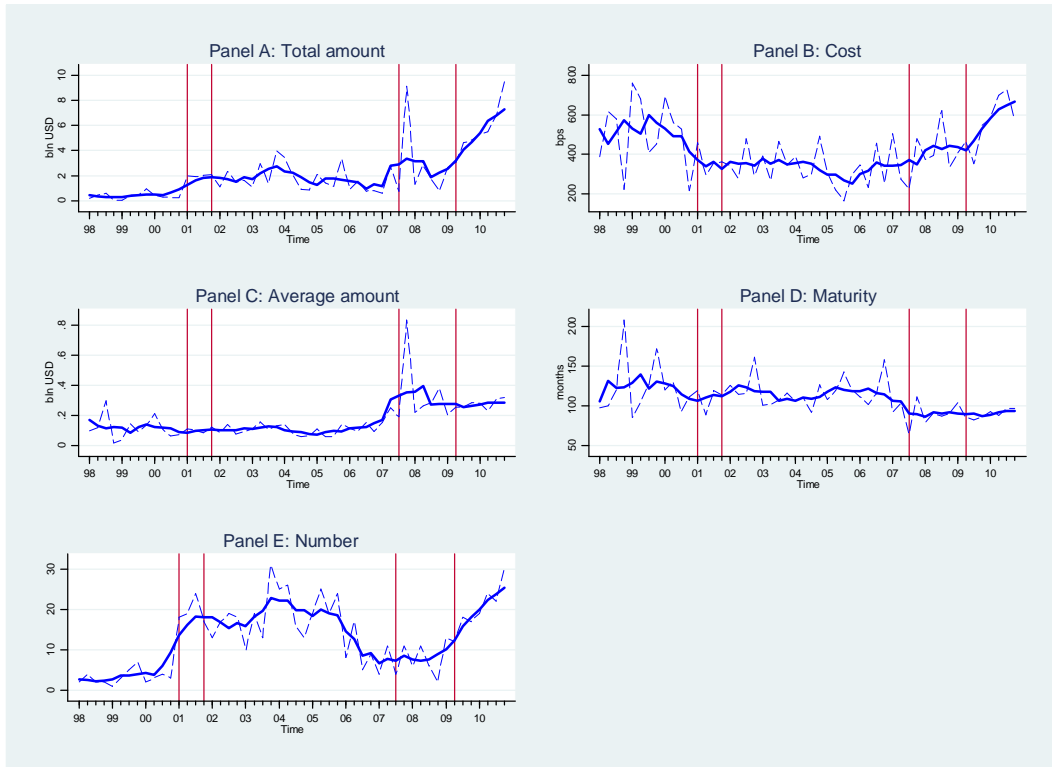


Figure IA.2. **New bond issuances (private firms)**. Panel A: total amount of bonds issued (billion of January 1998 USD). Panel B: cost of bonds issued (in bps). Panel C: average amount of bonds issued. Panel D: maturity of bonds issued (in months). Panel E: number of bonds issued. All panels report the raw series (dashed line) and its smoothed version (solid line).

Table IA.2. **Corporate financing choices and bank credit supply contraction/1.** Firms that simultaneously issue loan(s) and bond(s) in the same quarter are excluded (191 firm-quarter observations). Table 7 contains the detailed description.

	Dependent variable: Probability of bond versus loan issuance						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Bank credit supply		Crisis	Monetary policy	BD leverage	Lending practice	Non-perf. loans	EBP
Panel A: logit regressions							
Size	0.384*** (0.044)	0.364*** (0.044)	0.363*** (0.045)	0.393*** (0.044)	0.354*** (0.045)	0.340*** (0.046)	0.381*** (0.045)
Tobin's Q	0.086 (0.078)	0.087 (0.079)	0.055 (0.078)	0.144* (0.080)	0.097 (0.080)	0.196** (0.083)	0.106 (0.079)
Tangibility	-0.247 (0.223)	-0.266 (0.221)	-0.258 (0.227)	-0.220 (0.225)	-0.292 (0.223)	-0.210 (0.232)	-0.218 (0.229)
Rating	0.056*** (0.020)	0.059*** (0.020)	0.068*** (0.021)	0.051** (0.020)	0.065*** (0.021)	0.093*** (0.022)	0.046** (0.021)
Profitability	11.368*** (2.620)	11.052*** (2.618)	10.995*** (2.662)	11.625*** (2.613)	10.965*** (2.650)	10.032*** (2.794)	12.413*** (2.656)
Leverage	0.963*** (0.264)	1.033*** (0.263)	1.073*** (0.267)	0.830*** (0.273)	1.051*** (0.266)	1.026*** (0.281)	0.840*** (0.267)
Bank credit supply		0.608*** (0.090)	0.245*** (0.032)	-0.010*** (0.001)	0.015*** (0.001)	0.423*** (0.025)	0.579*** (0.047)
Observations	4,085	4,085	4,085	4,085	4,085	4,085	3,972
Pseudo R-squared	0.077	0.084	0.088	0.091	0.094	0.142	0.104
Panel B: changes in implied probabilities							
Size	0.346	0.329	0.327	0.353	0.320	0.302	0.338
Tobin's Q	0.038	0.038	0.024	0.064	0.042	0.086	0.046
Tangibility	-0.041	-0.043	-0.042	-0.035	-0.048	-0.033	-0.035
Rating	0.119	0.126	0.143	0.109	0.139	0.193	0.095
Profitability	0.161	0.157	0.155	0.165	0.156	0.139	0.173
Leverage	0.116	0.125	0.129	0.100	0.126	0.121	0.100
Bank credit supply	–	0.135	0.164	-0.195	0.254	0.441	0.231

Table IA.3. **Corporate financing choices and bank credit supply contraction/2.** Firm characteristics are measured eight quarters prior to debt issuance. Table 7 contains the detailed description.

	Dependent variable: Probability of bond versus loan issuance						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Bank credit supply		Crisis	Monetary policy	BD leverage	Lending practice	Non-perf. loans	EBP
Panel A: logit regressions							
Size	0.406*** (0.043)	0.380*** (0.044)	0.382*** (0.044)	0.405*** (0.043)	0.367*** (0.044)	0.342*** (0.045)	0.402*** (0.044)
Tobin's Q	0.217*** (0.065)	0.193*** (0.065)	0.199*** (0.064)	0.216*** (0.066)	0.184*** (0.065)	0.230*** (0.067)	0.197*** (0.067)
Tangibility	-0.155 (0.220)	-0.179 (0.217)	-0.155 (0.221)	-0.146 (0.222)	-0.195 (0.219)	-0.093 (0.230)	-0.179 (0.232)
Rating	0.006 (0.020)	0.017 (0.020)	0.021 (0.020)	0.010 (0.020)	0.027 (0.020)	0.061*** (0.021)	0.003 (0.021)
Profitability	13.805*** (2.508)	13.346*** (2.561)	13.523*** (2.554)	14.034*** (2.515)	12.950*** (2.593)	12.209*** (2.806)	14.135*** (2.653)
Leverage	0.488* (0.268)	0.731*** (0.266)	0.658** (0.269)	0.444 (0.273)	0.827*** (0.268)	0.778*** (0.283)	0.513* (0.270)
Bank credit supply		0.704*** (0.094)	0.172*** (0.033)	-0.008*** (0.001)	0.016*** (0.002)	0.404*** (0.025)	0.601*** (0.048)
Observations	3,838	3,838	3,838	3,838	3,838	3,838	3,705
Pseudo R-squared	0.075	0.085	0.080	0.086	0.095	0.139	0.107
Panel B: changes in implied probabilities							
Size	0.357	0.335	0.337	0.355	0.323	0.297	0.346
Tobin's Q	0.111	0.099	0.101	0.111	0.093	0.116	0.100
Tangibility	-0.026	-0.028	-0.025	-0.023	-0.032	-0.015	-0.028
Rating	0.013	0.034	0.042	0.021	0.054	0.120	0.005
Profitability	0.189	0.182	0.185	0.191	0.176	0.163	0.189
Leverage	0.055	0.083	0.075	0.051	0.093	0.087	0.056
Bank credit supply		0.156	0.121	-0.163	0.269	0.415	0.236

Table IA.4. **Sensitivity of firm characteristics during the crisis.** Firm characteristics are measured eight quarters prior to debt issuance. Table 8 contains the detailed description.

Firm characteristic	Dependent variable: Probability of bond versus loan issuance					
	(1) Size	(2) Tobin's Q	(3) Tangibility	(4) Rating	(5) Profitability	(6) Leverage
Size	0.332*** (0.047)	0.381*** (0.044)	0.380*** (0.044)	0.374*** (0.044)	0.380*** (0.044)	0.378*** (0.044)
Tobin's Q	0.209*** (0.065)	0.181*** (0.068)	0.191*** (0.065)	0.203*** (0.065)	0.193*** (0.065)	0.196*** (0.065)
Tangibility	-0.151 (0.218)	-0.176 (0.217)	-0.251 (0.232)	-0.138 (0.218)	-0.179 (0.218)	-0.172 (0.217)
Rating	0.014 (0.020)	0.017 (0.020)	0.018 (0.020)	0.000 (0.021)	0.017 (0.020)	0.017 (0.020)
Profitability	12.926*** (2.557)	13.332*** (2.566)	13.349*** (2.571)	13.272*** (2.538)	13.227*** (2.720)	13.203*** (2.553)
Leverage	0.721*** (0.266)	0.726*** (0.267)	0.740*** (0.266)	0.688*** (0.266)	0.732*** (0.266)	0.845*** (0.287)
Crisis	0.588*** (0.102)	0.689*** (0.096)	0.704*** (0.093)	0.647*** (0.098)	0.701*** (0.095)	0.665*** (0.098)
Crisis × Firm characteristic	0.283*** (0.073)	0.089 (0.128)	0.362 (0.359)	0.101*** (0.033)	0.796 (5.163)	-0.790 (0.626)
Observations	3,838	3,838	3,838	3,838	3,838	3,838
Pseudo R-squared	0.089	0.085	0.086	0.088	0.085	0.086

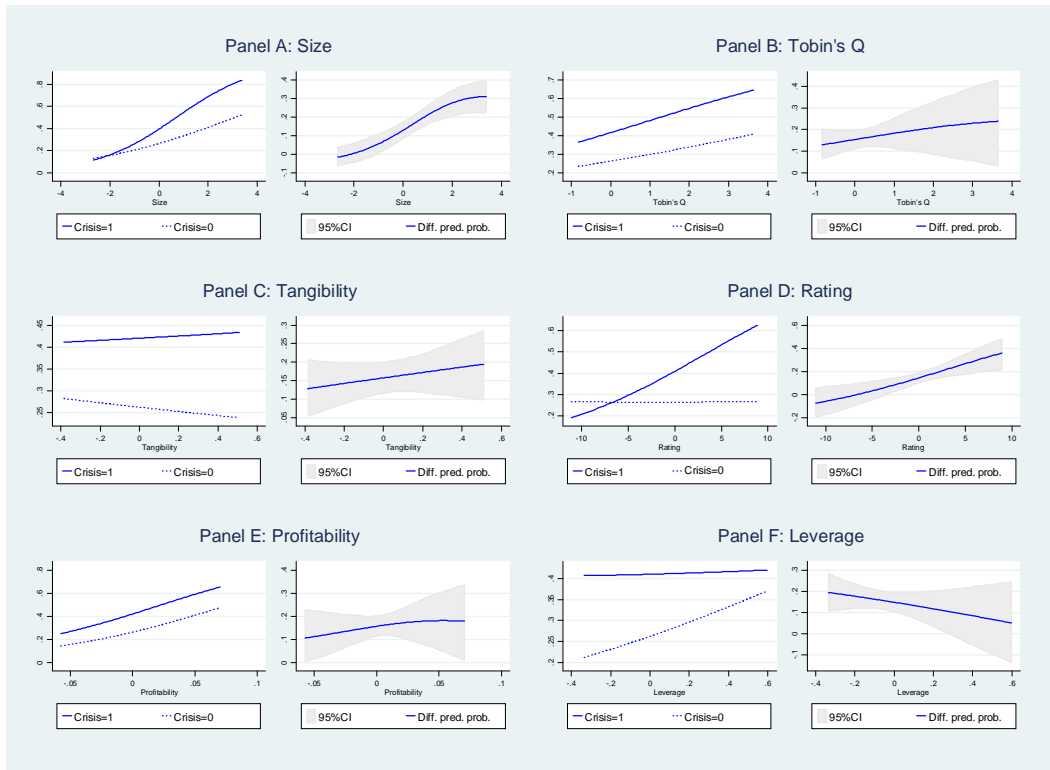


Figure IA.3. **Sensitivity during crisis.** Firm characteristics are measured eight quarters prior to debt issuance. Figure 11 contains the detailed description.

Table IA.5. **Monetary policy and firm characteristics** Table 8 contains the detailed description.

Firm characteristic	Dependent variable: Probability of bond versus loan issuance					
	(1) Size	(2) Tobin's Q	(3) Tangibility	(4) Rating	(5) Profitability	(6) Leverage
Size	0.337*** (0.042)	0.336*** (0.042)	0.337*** (0.042)	0.336*** (0.042)	0.337*** (0.042)	0.337*** (0.042)
Tobin's Q	0.035 (0.074)	0.031 (0.074)	0.033 (0.074)	0.027 (0.074)	0.030 (0.074)	0.033 (0.074)
Tangibility	-0.269 (0.207)	-0.267 (0.207)	-0.270 (0.207)	-0.276 (0.207)	-0.272 (0.207)	-0.272 (0.207)
Rating	0.061*** (0.019)	0.061*** (0.019)	0.061*** (0.019)	0.062*** (0.019)	0.061*** (0.019)	0.061*** (0.019)
Profitability	11.164*** (2.544)	11.137*** (2.554)	11.223*** (2.546)	11.380*** (2.552)	11.182*** (2.520)	11.239*** (2.541)
Leverage	1.039*** (0.257)	1.034*** (0.256)	1.038*** (0.256)	1.036*** (0.256)	1.036*** (0.256)	1.040*** (0.257)
Monetary policy	0.230*** (0.031)	0.235*** (0.031)	0.232*** (0.031)	0.239*** (0.032)	0.235*** (0.031)	0.232*** (0.031)
Mon. policy × Firm char.	0.011 (0.023)	-0.044 (0.037)	0.042 (0.131)	-0.014 (0.010)	-1.418 (1.508)	0.074 (0.176)
Observations	4,276	4,276	4,276	4,276	4,276	4,276
Pseudo R-squared	0.077	0.077	0.077	0.078	0.077	0.077

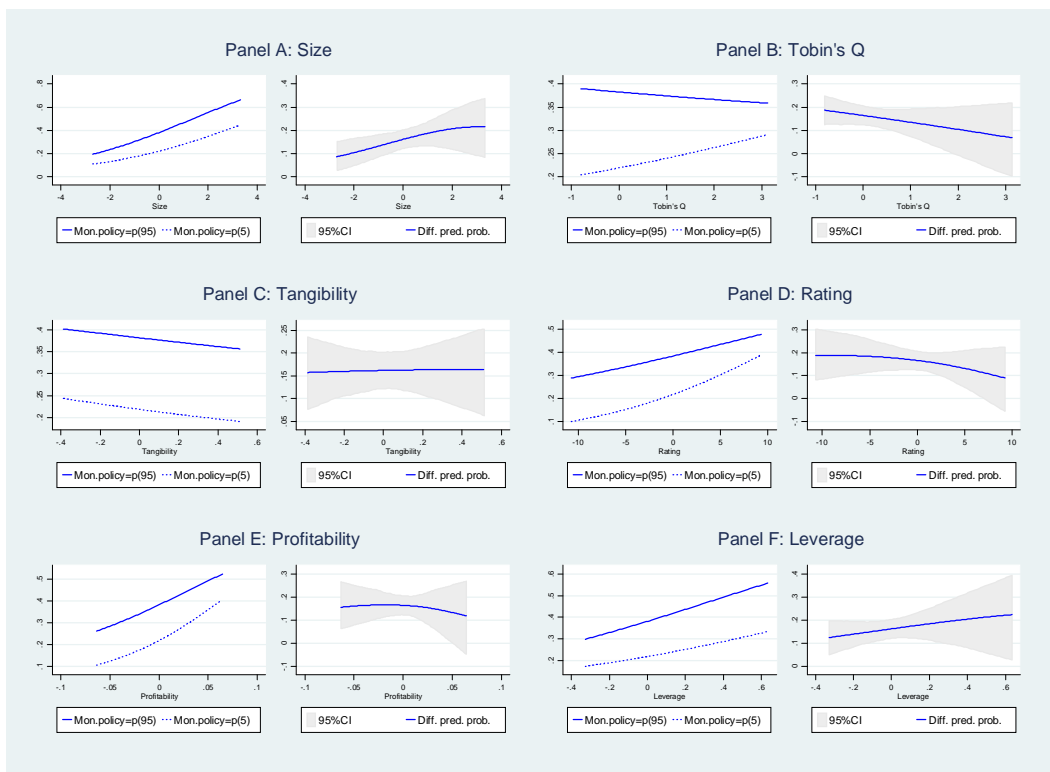


Figure IA.4. **Monetary policy and firm characteristics.**

Table IA.6. **Broker-dealer leverage and firm characteristics.** Table 8 contains the detailed description.

Firm characteristic	Dependent variable: Probability of bond versus loan issuance					
	(1)	(2)	(3)	(4)	(5)	(6)
	Size	Tobin's Q	Tangibility	Rating	Profitability	Leverage
Size	0.367*** (0.042)	0.365*** (0.042)	0.366*** (0.042)	0.363*** (0.042)	0.364*** (0.042)	0.367*** (0.041)
Tobin's Q	0.118 (0.076)	0.091 (0.078)	0.119 (0.076)	0.113 (0.076)	0.105 (0.076)	0.119 (0.076)
Tangibility	-0.235 (0.206)	-0.255 (0.207)	-0.236 (0.206)	-0.248 (0.206)	-0.294 (0.209)	-0.235 (0.206)
Rating	0.045** (0.019)	0.047** (0.019)	0.045** (0.019)	0.046** (0.019)	0.049** (0.019)	0.045** (0.019)
Profitability	11.750*** (2.500)	12.049*** (2.528)	11.717*** (2.509)	11.839*** (2.526)	11.665*** (2.466)	11.766*** (2.513)
Leverage	0.797*** (0.263)	0.820*** (0.262)	0.798*** (0.263)	0.799*** (0.262)	0.862*** (0.265)	0.795*** (0.262)
BD leverage	-0.009*** (0.001)	-0.009*** (0.001)	-0.009*** (0.001)	-0.009*** (0.001)	-0.009*** (0.001)	-0.009*** (0.001)
BD leverage × Firm char.	-0.001 (0.001)	0.003** (0.001)	0.000 (0.005)	0.001** (0.000)	0.182*** (0.048)	0.002 (0.006)
Observations	4,276	4,276	4,276	4,276	4,276	4,276
Pseudo R-squared	0.079	0.080	0.079	0.080	0.082	0.079

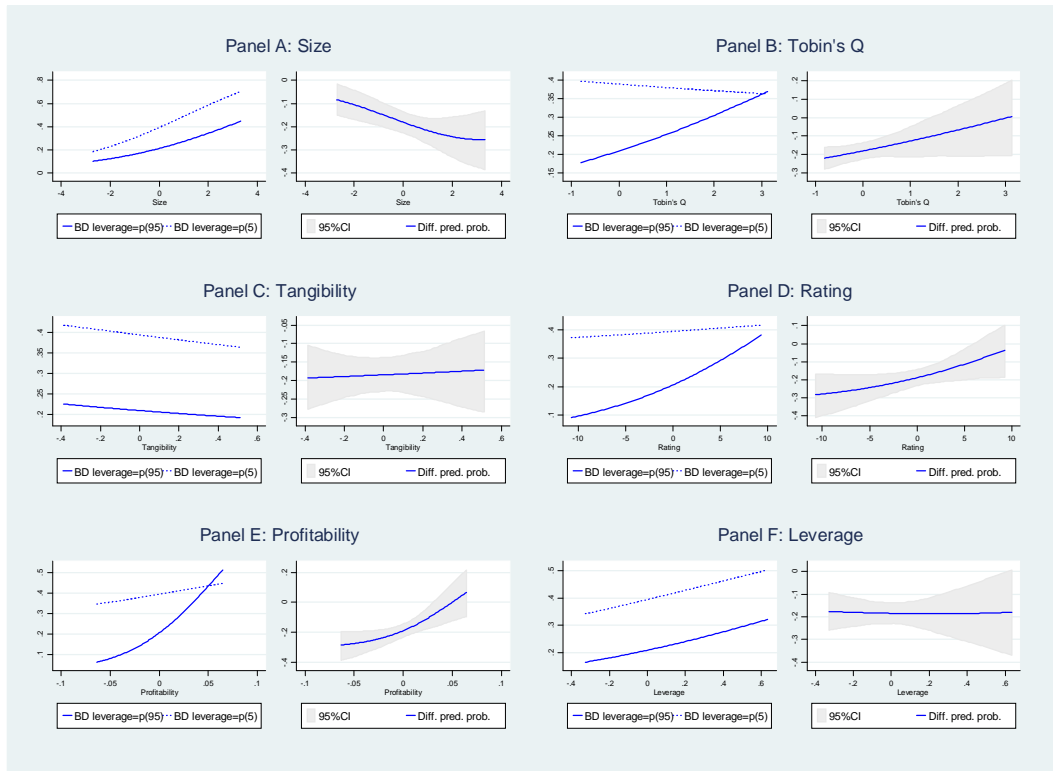


Figure IA.5. **Broker-dealer leverage and firm characteristics.**

Table IA.7. **Lending practice and firm characteristics.** Table 8 contains the detailed description.

Firm characteristic	Dependent variable: Probability of bond versus loan issuance					
	(1) Size	(2) Tobin's Q	(3) Tangibility	(4) Rating	(5) Profitability	(6) Leverage
Size	0.283*** (0.045)	0.327*** (0.042)	0.327*** (0.042)	0.325*** (0.042)	0.328*** (0.042)	0.325*** (0.042)
Tobin's Q	0.075 (0.076)	0.091 (0.078)	0.070 (0.076)	0.073 (0.075)	0.069 (0.076)	0.073 (0.076)
Tangibility	-0.288 (0.206)	-0.314 (0.205)	-0.291 (0.228)	-0.287 (0.206)	-0.310 (0.204)	-0.300 (0.205)
Rating	0.058*** (0.020)	0.059*** (0.020)	0.058*** (0.020)	0.048** (0.021)	0.059*** (0.020)	0.059*** (0.020)
Profitability	11.043*** (2.527)	11.345*** (2.533)	11.178*** (2.532)	11.100*** (2.524)	11.520*** (2.911)	11.144*** (2.534)
Leverage	1.026*** (0.258)	1.038*** (0.258)	1.026*** (0.258)	1.011*** (0.257)	1.029*** (0.257)	1.261*** (0.274)
Lending practice	0.014*** (0.001)	0.015*** (0.001)	0.015*** (0.001)	0.015*** (0.001)	0.015*** (0.001)	0.015*** (0.001)
Lending practice × Firm char.	0.004*** (0.001)	-0.002 (0.002)	-0.001 (0.005)	0.001* (0.000)	-0.022 (0.074)	-0.021** (0.009)
Observations	4,276	4,276	4,276	4,276	4,276	4,276
Pseudo R-squared	0.087	0.085	0.085	0.085	0.085	0.086

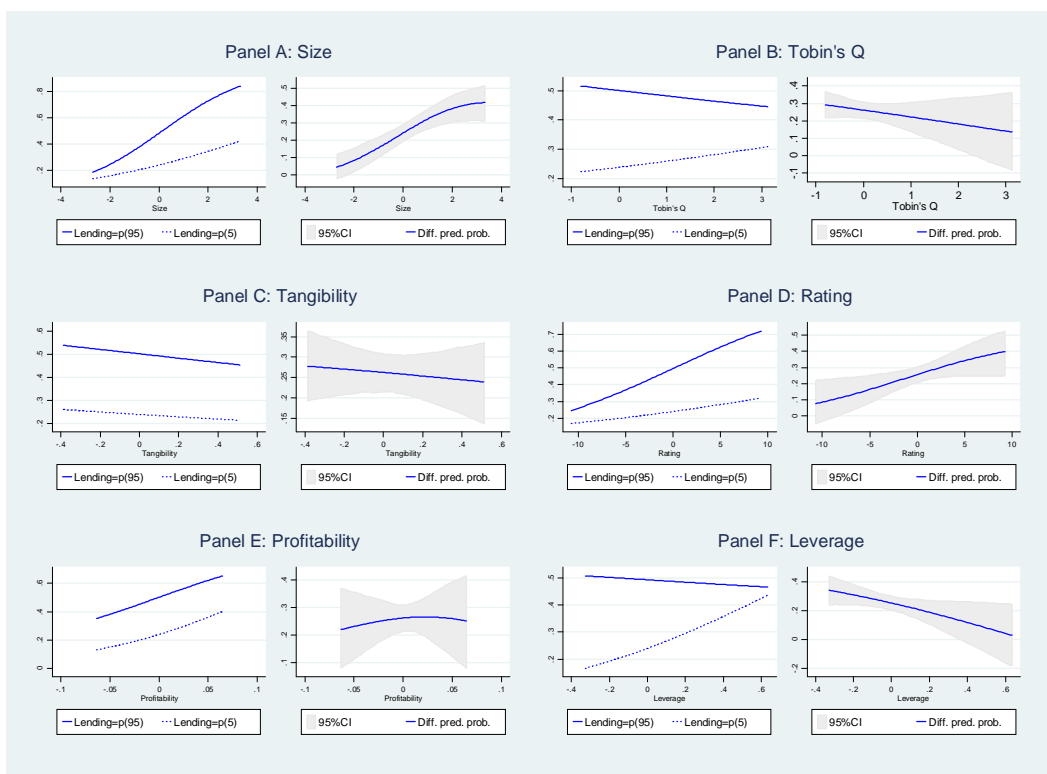


Figure IA.6. **Lending practice and firm characteristics.**

Table IA.8. **Non-performing loans and firm characteristics.** Table 8 contains the detailed description.

Firm characteristic	Dependent variable: Probability of bond versus loan issuance					
	(1) Size	(2) Tobin's Q	(3) Tangibility	(4) Rating	(5) Profitability	(6) Leverage
Size	0.288*** (0.057)	0.313*** (0.043)	0.313*** (0.043)	0.312*** (0.043)	0.312*** (0.043)	0.314*** (0.043)
Tobin's Q	0.175** (0.078)	0.042 (0.101)	0.174** (0.079)	0.172** (0.079)	0.177** (0.079)	0.176** (0.078)
Tangibility	-0.208 (0.213)	-0.189 (0.214)	-0.209 (0.311)	-0.215 (0.214)	-0.205 (0.213)	-0.210 (0.213)
Rating	0.087*** (0.021)	0.084*** (0.021)	0.087*** (0.021)	0.093*** (0.026)	0.086*** (0.021)	0.086*** (0.021)
Profitability	10.039*** (2.644)	9.594*** (2.650)	10.062*** (2.632)	10.073*** (2.657)	9.114** (3.814)	10.193*** (2.649)
Leverage	0.976*** (0.270)	0.938*** (0.275)	0.974*** (0.270)	0.972*** (0.271)	0.965*** (0.273)	1.199*** (0.376)
Non-performing loans	0.403*** (0.024)	0.423*** (0.026)	0.404*** (0.023)	0.401*** (0.024)	0.404*** (0.024)	0.405*** (0.023)
Non-perf. loans × Firm char.	0.013 (0.018)	0.098** (0.048)	-0.001 (0.087)	-0.003 (0.007)	0.483 (1.236)	-0.110 (0.124)
Observations	4,276	4,276	4,276	4,276	4,276	4,276
Pseudo R-squared	0.128	0.129	0.128	0.128	0.128	0.128

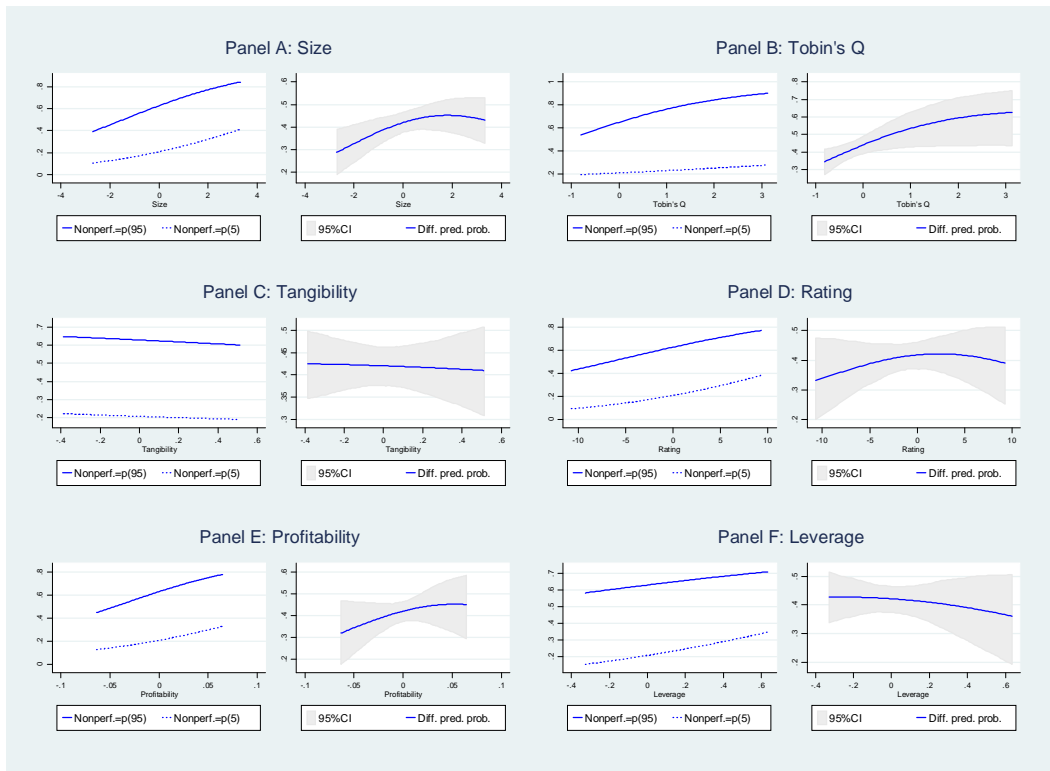


Figure IA.7. **Non-performing loans and firm characteristics.**

Table IA.9. **EBP and firm characteristics.** Table 8 contains the detailed description.

Firm characteristic	Dependent variable: Probability of bond versus loan issuance					
	(1) Size	(2) Tobin's Q	(3) Tangibility	(4) Rating	(5) Profitability	(6) Leverage
Size	0.350*** (0.043)	0.350*** (0.042)	0.354*** (0.042)	0.353*** (0.042)	0.353*** (0.042)	0.353*** (0.043)
Tobin's Q	0.082 (0.075)	0.076 (0.077)	0.087 (0.075)	0.089 (0.075)	0.095 (0.076)	0.086 (0.075)
Tangibility	-0.240 (0.212)	-0.239 (0.211)	-0.243 (0.212)	-0.232 (0.212)	-0.226 (0.212)	-0.240 (0.212)
Rating	0.039** (0.020)	0.039** (0.020)	0.039* (0.020)	0.037* (0.020)	0.038* (0.020)	0.039** (0.020)
Profitability	12.568*** (2.549)	12.718*** (2.551)	12.615*** (2.540)	12.441*** (2.551)	12.043*** (2.585)	12.617*** (2.545)
Leverage	0.793*** (0.258)	0.787*** (0.262)	0.795*** (0.259)	0.768*** (0.260)	0.774*** (0.262)	0.784*** (0.260)
EBP	0.566*** (0.047)	0.602*** (0.046)	0.592*** (0.046)	0.573*** (0.047)	0.594*** (0.046)	0.588*** (0.046)
EBP × Firm char.	0.089** (0.035)	0.182** (0.071)	-0.018 (0.181)	0.031** (0.014)	5.682** (2.406)	-0.376 (0.273)
Observations	4,153	4,153	4,153	4,153	4,153	4,153
Pseudo R-squared	0.096	0.096	0.095	0.096	0.096	0.095

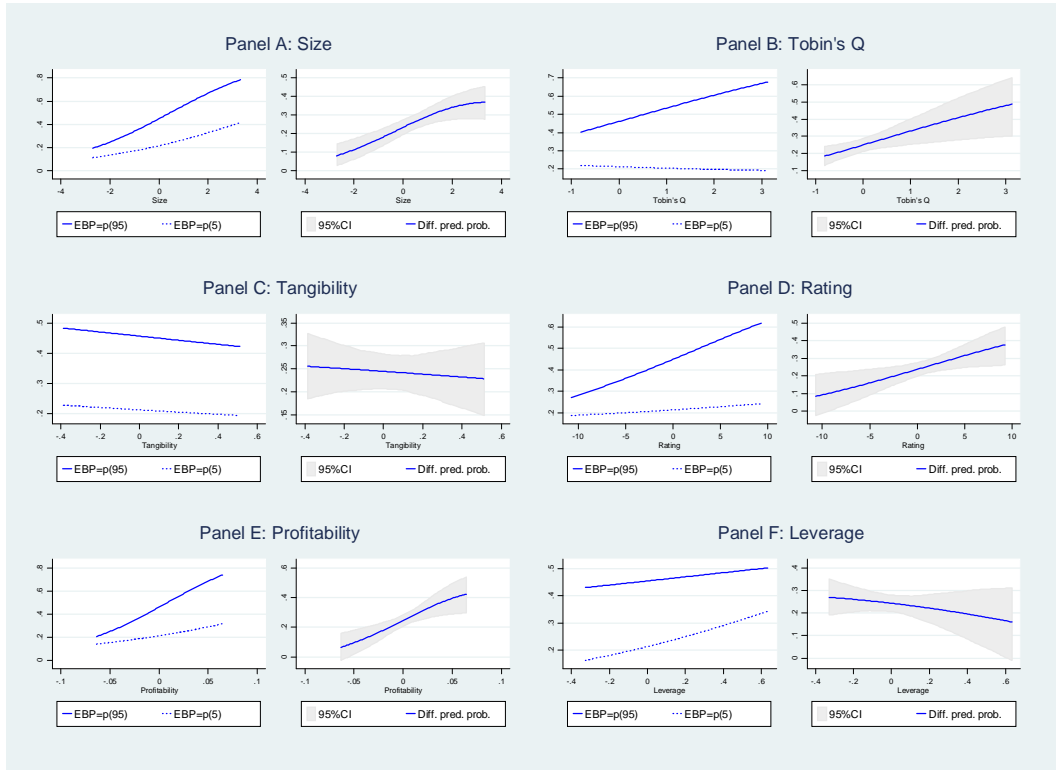


Figure IA.8. **EBP and firm characteristics.**