

多评级模式与债券融资成本

——基于银行间市场债券的实证研究（附录）

附表 1 描述性统计

变量	观测值	均值	标准差	最小值	中位数	最大值
Spread	43127	1.829	1.100	0.214	1.536	9.750
Multiple	43127	0.795	0.404	0.000	1.000	1.000
Split	43127	0.644	0.479	0.000	1.000	1.000
Rating	43127	20.132	0.930	11.000	20.000	21.000
Scale	43127	11.483	12.722	0.100	9.000	250.000
Guarantee	43127	0.061	0.239	0.000	0.000	1.000
Term	43127	2.176	2.319	0.019	1.000	20.000
Size	43127	6.427	1.394	0.928	6.322	11.680
Growth	43127	15.579	31.912	-46.320	9.299	177.807
Leverage	43127	62.443	14.163	0.080	64.418	97.196
ROE	43127	5.092	6.475	-16.278	3.426	26.704
OCFR	43127	3.833	10.092	-29.760	3.590	34.980
List	43127	0.167	0.373	0.000	0.000	1.000
State	43127	0.874	0.332	0.000	1.000	1.000
Reputation	43127	0.635	0.482	0.000	1.000	1.000

附表 2 回归结果

	(1) Spread	(2) Spread	(3) Spread	(4) Spread 多评级样本
Multiple	-0.674*** (-53.03)	-0.140*** (-11.04)	-0.037*** (-2.61)	
Split			0.079*** (7.07)	0.055*** (4.80)
Rating		-0.080*** (-41.62)	-0.645*** (-94.62)	-0.662*** (-81.61)
Scale		-0.002*** (-4.70)	-0.004*** (-9.87)	-0.004*** (-9.98)
Guarantee		0.211*** (11.55)	-0.100*** (-5.80)	-0.129*** (-5.39)
Term		0.107*** (52.78)	0.101*** (53.54)	0.091*** (41.11)
Size		-0.207*** (-45.12)	0.051*** (9.84)	0.052*** (9.03)
Growth		-0.001*** (-6.32)	-0.001*** (-4.40)	-0.001*** (-5.22)
Leverage		0.006*** (17.55)	0.006*** (17.86)	0.008*** (21.08)
ROE		-0.023*** (-32.18)	-0.016*** (-23.65)	-0.017*** (-22.25)
OCFR		-0.003*** (-7.38)	-0.000 (-0.32)	0.000 (0.72)
List		-0.176*** (-14.88)	-0.069*** (-6.19)	-0.058*** (-4.67)
State		-0.974*** (-70.13)	-0.732*** (-55.27)	-0.795*** (-51.29)
Reputation		-0.084*** (-9.63)	-0.075*** (-9.35)	-0.064*** (-6.90)
_cons	2.364*** (208.71)	6.050*** (71.53)	14.984*** (114.20)	15.048*** (101.90)
Year	No	Yes	Yes	Yes
Industry	No	Yes	Yes	Yes
N	43127	43096	43096	34257
R ²	0.06	0.44	0.52	0.47
Adj. R ²	0.06	0.44	0.52	0.47

附表 3 按照发债成本分组的回归结果

	高发债成本组		低发债成本组	
	(1) Spread	(2) Spread	(3) Spread	(4) Spread
Multiple	-0.185*** (-11.00)	-0.041** (-1.98)	-0.017*** (-3.10)	-0.009 (-1.37)
Split		0.058*** (3.08)		0.034*** (8.10)
Rating	-0.086*** (-27.61)	-0.540*** (-49.17)	-0.010*** (-13.62)	-0.141*** (-41.81)
Scale	-0.006*** (-5.97)	-0.005*** (-5.01)	-0.000 (-0.88)	-0.000*** (-3.65)
Guarantee	0.073*** (3.44)	-0.115*** (-5.51)	0.013 (1.14)	-0.079*** (-6.90)
Term	0.061*** (20.84)	0.066*** (23.25)	0.042*** (49.25)	0.042*** (51.46)
Size	-0.122*** (-15.76)	0.156*** (16.23)	-0.069*** (-41.60)	-0.031*** (-16.82)
Growth	-0.001*** (-5.63)	-0.001*** (-5.96)	0.000*** (2.60)	0.000*** (3.67)
Leverage	0.002*** (3.45)	0.001 (1.07)	0.003*** (21.41)	0.003*** (22.90)
ROE	-0.020*** (-19.43)	-0.015*** (-15.47)	-0.003*** (-11.12)	-0.002*** (-6.34)
OCFR	-0.002*** (-3.46)	0.000 (0.44)	-0.001*** (-7.34)	-0.001*** (-3.68)
List	-0.090*** (-4.73)	-0.011 (-0.59)	-0.040*** (-9.37)	-0.023*** (-5.47)
State	-0.817*** (-45.40)	-0.708*** (-40.22)	-0.140*** (-19.07)	-0.124*** (-17.30)
Reputation	-0.090*** (-7.42)	-0.087*** (-7.44)	-0.006* (-1.73)	-0.005 (-1.52)
_cons	4.986*** (60.52)	12.269*** (65.17)	2.034*** (74.87)	4.461*** (66.80)
Year	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes
N	21550	21550	21546	21546
R ²	0.24	0.29	0.42	0.46
Adj. R ²	0.24	0.29	0.42	0.46

附表 4 按照信用评级等级分组的回归结果

	优信用等级组		次信用等级组	
	(1) Spread	(2) Spread	(3) Spread	(4) Spread
Multiple	-0.030** (-1.96)	0.031* (1.80)	-0.186*** (-8.35)	0.025 (0.99)
Split		0.144*** (11.95)		0.012 (0.48)
Rating	-0.063*** (-34.23)	-0.651*** (-60.46)	-0.101*** (-15.78)	-0.752*** (-33.88)
Scale	-0.004*** (-10.62)	-0.005*** (-13.28)	-0.016*** (-6.08)	-0.012*** (-4.50)
Guarantee	0.061 (1.57)	-0.063* (-1.66)	-0.268*** (-11.52)	-0.420*** (-18.27)
Term	0.077*** (36.23)	0.072*** (35.04)	0.166*** (37.20)	0.175*** (40.29)
Size	-0.092*** (-18.94)	0.060*** (11.19)	-0.042*** (-2.92)	0.101*** (6.90)
Growth	-0.001*** (-4.03)	-0.000*** (-3.13)	-0.000** (-2.06)	-0.000** (-2.20)
Leverage	0.008*** (22.06)	0.008*** (22.39)	0.002*** (3.67)	0.002*** (3.12)
ROE	-0.020*** (-27.36)	-0.016*** (-22.19)	-0.017*** (-11.19)	-0.015*** (-9.77)
OCFR	-0.001 (-1.61)	0.001 (0.95)	-0.001 (-1.01)	0.001* (1.69)
List	-0.126*** (-10.47)	-0.041*** (-3.47)	-0.128*** (-4.75)	-0.104*** (-4.00)
State	-0.874*** (-53.32)	-0.765*** (-47.92)	-0.991*** (-40.56)	-0.888*** (-37.25)
Reputation	-0.070*** (-7.47)	-0.053*** (-5.87)	-0.092*** (-5.54)	-0.088*** (-5.49)
_cons	4.323*** (50.49)	15.073*** (70.95)	4.967*** (34.59)	16.807*** (42.75)
Year	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes
N	31151	31151	11945	11945
R ²	0.32	0.37	0.34	0.39
Adj. R ²	0.32	0.37	0.34	0.38

注：括号内数值为回归系数 t 统计量；***、**和*分别表示在 1%、5% 和 10% 的显著性水平下显著。