Paper 1

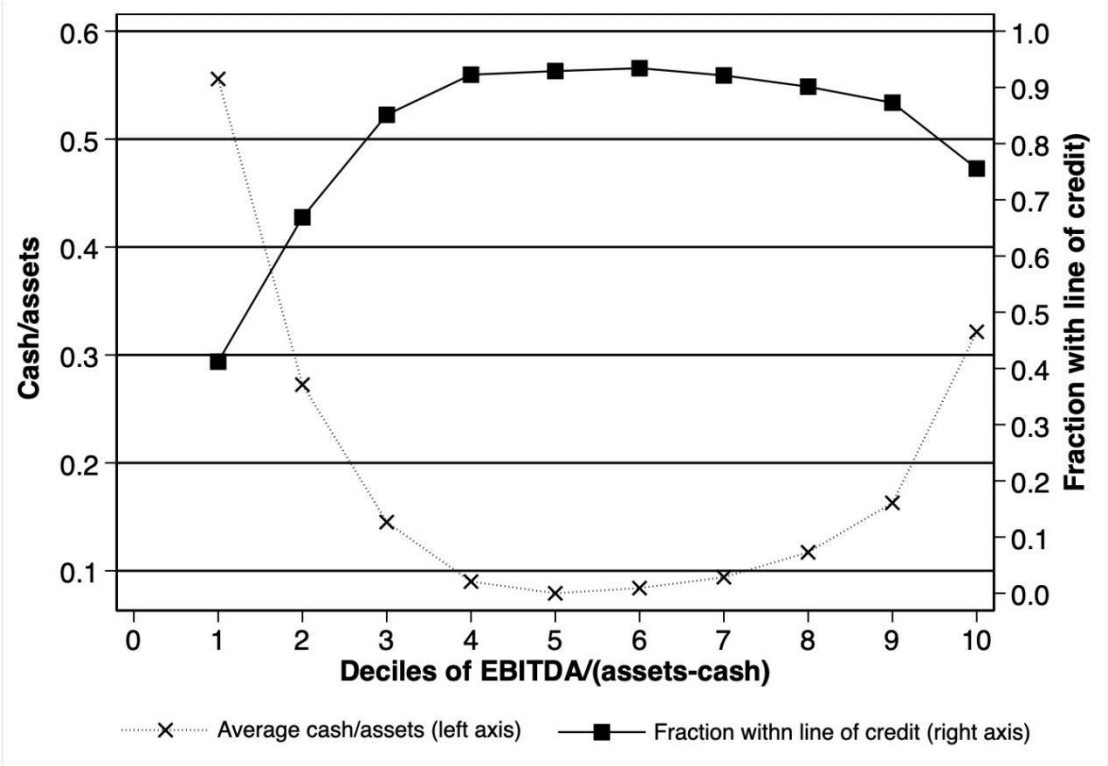
Table 1

Full sample				Random sample			
Variable	Mean	Median	St. Dev.	Variable	Mean	Median	St. Dev.
Line of credit variables				*Line of credit variables*			
Has line of credit {0,1}	0.817	1.000	0.387	Has line of credit {0,1}	0.748	1.000	0.434
				Total line of credit/assets	0.159	0.112	0.169
				Unused line of credit/assets	0.102	0.069	0.125
				Used line of credit/assets	0.057	0.000	0.097
				Total line/(total line + cash)	0.512	0.569	0.388
				Unused line/(unused line + cash)	0.450	0.455	0.373
				Violation of financial covenant {0,1}	0.080	0.000	0.271
Firm characteristics				*Firm characteristics*			
Book debt/assets	0.204	0.171	0.19	Book debt/assets	0.205	0.169	0.196
EBITDA/(assets − cash)	0.026	0.125	0.358	EBITDA/(assets − cash)	0.034	0.126	0.353
Tangible assets/(assets − cash)	0.340	0.277	0.239	Tangible assets/(assets − cash)	0.330	0.274	0.226
Net worth, cash adjusted	0.443	0.452	0.235	Net worth, cash adjusted	0.457	0.468	0.232
Assets − cash	1,608	102	10,672	Assets − cash	1,441	116	7,682
Market-to-book, cash adjusted	2.995	1.534	3.580	Market-to-book, cash adjusted	2.847	1.510	3.434
Industry sales volatility	0.043	0.033	0.148	Industry sales volatility	0.045	0.036	0.032
Cash-flow volatility	0.097	0.045	0.858	Cash-flow volatility	0.095	0.042	0.187
Not in an S&P index {0,1}	0.708	1.000	0.455	Not in an S&P index {0,1}	0.703	1.000	0.457
Traded over the counter {0,1}	0.185	0.000	0.388	Traded over the counter {0,1}	0.208	0.000	0.406
Firm age (years since IPO)	15	10	13	Firm age (years since IPO)	15	9	13

Table 3

Dependent variable Regression type	Firm has line of credit {0,1} Probit (marginal effects)		Total line/ (total line + cash) OLS		Unused line/(unused line + cash) OLS	
Sample	Full (1)	Random (2)	Random (3)	With line of credit (4)	Random (5)	With line of credit (6)
[EBITDA/ (assets - cash)]$_{t-1}$	0.104**	0.158*	0.126**	0.149**	0.100*	0.163**
	(0.012)	(0.064)	(0.045)	(0.057)	(0.041)	(0.055)
[Tangible assets/ (assets - cash)]$_{t-1}$	0.018	0.0612	-0.011	-0.075	-0.010	-0.080
	(0.019)	(0.092)	(0.079)	(0.070)	(0.075)	(0.076)
[Ln(assets - cash)]$_{t-1}$	0.044**	0.048**	0.049**	0.014	0.050**	0.026*
	(0.003)	(0.017)	(0.012)	(0.010)	(0.011)	(0.011)
[Net worth, cash adjusted]$_{t-1}$	-0.101**	-0.042	-0.122	-0.152*	-0.058	-0.045
	(0.018)	(0.077)	(0.066)	(0.060)	(0.060)	(0.061)
[Market-to-book, cash adjusted]$_{t-1}$	-0.014**	-0.024**	-0.035**	-0.046**	-0.029**	-0.038**
	(0.001)	(0.006)	(0.004)	(0.005)	(0.004)	(0.006)
[Industry sales volatility]$_{t-1}$	0.761**	3.386**	1.037*	-0.013	1.188*	0.302
	(0.224)	(0.880)	(0.475)	(0.433)	(0.490)	(0.476)
[Cash-flow volatility]$_{t-1}$	0.005	-0.286*	-0.098	-0.393	-0.039	-0.235
	(0.007)	(0.136)	(0.079)	(0.247)	(0.069)	(0.253)
[Not in an S&P index{0,1}]	0.055**	0.068	0.040	-0.011	0.007	-0.031
	(0.014)	(0.067)	(0.046)	(0.039)	(0.045)	(0.041)
[Trade over the counter{0,1}]	-0.006	-0.038	-0.005	0.008	-0.043	-0.046
	(0.011)	(0.052)	(0.042)	(0.040)	(0.041)	(0.044)
Ln[Firm age (years since IPO)]$_{t-1}$	0.010*	-0.002	-0.016	-0.026	-0.003	-0.009
	(0.005)	(0.021)	(0.018)	(0.016)	(0.017)	(0.016)
Number of observations	22674	1498	1498	1126	1496	1124
Number of firms	4503	300	300	255	300	255
R^2	0.21	0.30	0.39	0.29	0.36	0.24

Figure1



Paper 2

Table 2

	Mean	Median	*SD*
Capital structure variables			
Net debt issuance (basis points)	73.8	0.0	478.3
Net equity issuance (basis points)	40.3	0.2	114.4
Covenant control variables			
Book debt$_t$/assets$_t$	0.265	0.232	0.236
Net workig capital$_t$/assets$_t$	0.452	0.478	0.329
Cash$_t$/assets$_t$	0.192	0.173	0.302
EBITDA$_t$/assets$_{t-1}$	0.174	0.064	0.226
Cash flow$_t$/assets$_{t-1}$	0.000	0.024	0.077
Net income$_t$/assets$_{t-1}$	-0.016	0.015	0.089
Interest expense$_t$/assets$_{t-1}$	-0.030	0.004	0.090
	0.006	0.004	0.007
Other control variables			
Market-to-book ratio$_t$	2.422	1.614	3.086
Tangible assets$_t$/assets$_t$	0.313	0.238	0.257
Ln(assets$_t$)	4.622	4.635	2.286

Table 3

Panel A: Fixed Effects				
Dependent Variable: Net debt issuance$_t$/assets$_{t-1}$ (Basis Points)				
	(1)	(2)	(3)	(4)
Covenant violation$_t$	13.9	8.3	12.5	9.4
	(8.1)	(8.1)	(8.1)	(8.2)
Covenant violation$_{t-1}$	-93.3**	-79.6**	-75.6**	-75.0**
	(7.8)	(7.9)	(7.9)	(7.8)
Covenant control variables	None	Covenant control variables	Covenant control variables, covenant interaction control variables	Control variables, control variables squared, control variables to the third power, and quintile indicators for each control
Number of firm-quarters	105,764	97,396	97,396	97,396
Number of firms	6,270	5,875	5,875	5,875
R^2	0.009	0.110	0.120	0.148

Panel B: First Differences				
Dependent Variable: Change in Net debt issuance$_t$/assets$_{t-1}$ (Basis Points)				
	(1)	(2)	(3)	(4)
Covenant violation$_t$	25.7	17.1	20.9	19.1
	(10.6)	(10.2)	(10.4)	(9.9)
Covenant violation$_{t-1}$	-74.3**	-70.1**	-78.1**	-56.9**
	(11.0)	(10.3)	(10.5)	(10.1)
Covenant control variables	None	Covenant control variables	Covenant control variables, covenant interaction control variables	Control variables, control variables squared, control variables to the third power, and quintile indicators for each control
Number of firm-quarters	105,673	91,724	86,274	86,274
Number of firms	6,269	5,815	5,713	5,713
R^2	0.004	0.173	0.189	0.314

Brief summary

1) Overall, the replication results of the first paper are generally consistent with the original outcomes. However, there are some differences between the replication results of the second paper and its original conclusions. Thankfully, these differences are not very significant, which mainly concentrate on small numerical gaps rather than on the magnitude. This shows that my replication is relatively successful and my results have a similar economic significance as the paper.

2) Regarding the slight difference in the replication results of the first paper, I think it

is due to the changes in variables or indicators of the Compustat database. Through summary statistics, it can be clearly observed that ‘cash and short-term investment’ have many omitted values, as well as ‘operating income before depreciation’ and others. The absence of these values directly leads to substantial changes in the panel data, thus affecting the regression results. In addition, the detailed calculation processes of ‘Not in an S&P index {0,1}’, ‘Traded over the counter {0,1}’, and ‘Firm age (years since IPO)’ are not given by Professor Sufi, which is also one of the sources of differences. Regarding the second paper, I think the obvious differences between the replication results and the original conclusions come from the changes in Compustat data and the unavailability of Professor Sufi's detailed research steps. When replicating the first paper, the log file published by Professor Sufi helped me clarify many details, such as the definition of variables and regression methods. However, when facing with the second paper, I could only determine each step through the brief description of the paper. There are some variables that even the professor did not give very clear definitions, such as "has S&P rating" indicator, which seriously affects the results of the replication.

3) Regarding variable selection, I can't provide constructive suggestions. The main reason is that as a first-year master's student, I did not read a lot of literature. Many of the variables in the papers are pretty new to me. On the contrary, I am very surprised that Professor Sufi used text analysis method to conduct empirical research before 2009. This is extremely innovative and leading.

4) Through the paper replication, I want to explore the difference between bank lending to large and small businesses in the post-epidemic period, which is an extension of the paper in this age.