Long-Term Financing for star Suppliers

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Abstract. To gain further insight into the impact of centralized supply chain relationships on superstar suppliers, we conduct a comprehensive analysis of financial data from North American listed companies. Our findings suggest that these relationships can have a significant impact on superstar suppliers' long-term financing decisions Specifically, we find that linkages between superstar suppliers and superstar firms can lead superstar suppliers to increase their absorption of foreign capital, issue more equity, and increase their long-term debt. Overall, this study highlights the importance of studying the role of concentrated supply chain relationships in shaping superstar suppliers' financing decisions and capital structures.

Keywords: superstar firm, supply chain, long-term financing

1 Introduction

The existing supply chain literature has sufficient research on the influence of superstar customers (buyers) and superstar suppliers in the supply chain (Wang and Yi, 2022), but not enough research has been done on the financing impact of superstar firms on their suppliers.

We test our hypothesis above by examining whether the connection between superstar firm and its suppliers affects the long-term financing behavior of the superstar supplier. Using the data of North American listed companies from Compustat, we have recorded that the connection between superstar companies and its suppliers will promote the long-term financing of superstar suppliers, which is reflected in the net equity issuance value and long-term debt issuance value of superstar suppliers. This link is associated with a 10.3% and 15.4% increase in the value of net equity issued and long-term debt issuance, respectively, and we have reason to suspect that the influence of leading firms on superstar suppliers is a long-term effect. Overall, this study emphasizes the significance of examining the role of concentrated supply chain relationships in shaping superstar suppliers' financing decisions and capital structures.

2 Literature review

Several studies have also examined the link between inter-firm linkages and firms' ability to obtain credit. Hertzel, Li, Officer and Rodgers(2008) found that a link to a large firm can strengthen an SME's capacity to obtain credit, potentially due to the reputational effect of working for a larger company or the provision of future cash flow and orders[5]. Wu, Zhang and Zhou(2022) discovered that a weak-brand firm may advertise its relationship with a strong-

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brand firm in order to promote its own product, a phenomenon known as the brand spillover effect[10].

The supplier's relationships with customers and suppliers can significantly impact its capital structure and financing policy. Many studies have explored the influence of supply chain relationships on financial decision-making, including capital structure[1] , equity financing[3], and Shaikh, 2016), and debt financing[2] .

Additionally, studies have shown that supplier issuance decisions can have negative spillover effects for large customers[6]. These decisions may undermine customer incentives to maintain supplier relationships, leading to shorter post-issuance trading relationships and larger declines in relationship-specific investments. This highlights the importance of understanding the effects of supplier financing decisions on customer firms, and the potential for these decisions to impact the overall health and stability of business relationships.

3 Theoretical Analysis and Research Assumptions

3.1 Superstar suppliers and long-term financing

There is a positive relationship between corporate debt levels and the concentration of the supplier/customer industry[7]. The supplier's decision to issue debt can have a negative impact on large customers, weakening their motivation to maintain the supplier relationship and leading to a shorter transaction relationship and a decrease in relationship-specific investment[6]. Supplier managers question all available information when making important company policy decisions, in the case of long-term debt, new information can be gained from the stock prices of customers[4]. If learning from successful companies helps supplier managers make better financing decisions, then long-term financing should be positive. These findings lead to two additional hypotheses:

H1: The financing policies of suppliers cooperating with superstar companies are not affected by leading companies

H2: The financing policies of suppliers cooperating with superstar companies will be affected, and this impact is reflected in long-term financing policies

4 Research Design

4.1 Sample Selection

We follow Wang and Yi(2022) starting with all firms in Compustat with non-missing value of total assets from 1980 to 2009[9]. and construct a control sample through one-on-one propensity score matching resulting in a sample of listed suppliers, each matched with one or more of the listed trading primary buyer companies, aggregated to unique supply merchants and superstar buyer companies.

4.2 Basic Model and Variable Measurment

We use the following regression model to test the external financing behavior of superstar suppliers:

$$Financing_{i,t} = \alpha + \beta_1 Superstar\_sup_t + Controls + \gamma_t + \eta_t + \varepsilon_t \quad (1)$$

where i indexes firm and t indexes year. Dependent variable Financingi,t represents long-term financing of supplier i in year t. Long-term financing proxies are net equity issue and net long-term debt issue, measured as in Lemmon and Roberts (2010). Net long-term debt issuance is defined as long-term debt issuance minus long-term debt reductions on opening assets. Net equity outstanding is defined as sales of common stock and preferred stock less purchases of common stock and preferred stock, calculated as opening assets[8].

We follow Wang and Yi(2022) to define Independent variable Superstar_sup, which is a dummy variable that equals one if a firm is a supplier of a superstar firm.Control variables include financial-related variables that affect a firm's investment and financing decisions. Control variables include firm size (SIZE), debt level (LEV), listing year (AGE), leverage, research & development expenses (RD), market-to-book ratio (MTB). We also control for firm, and year fixed effects in the model.

5 Emprical result

5.1 Descriptive Statistics

Table 1. Descriptive statistics

Variables	N	mean	sd	min	p50	max
net_equity_issue	11973	0.27	8.46	-1.39	0.00	912.90
net_long_term_debt	12431	0.03	0.95	-26.63	0.00	98.52
Superstar_sup	13138	0.50	0.50	0.00	0.50	1.00
age	13138	2.49	0.77	1.10	2.49	4.11
size	13138	4.90	2.23	-3.86	4.77	13.38
mtb	13138	2.61	4.88	-19.31	1.77	35.95
lev	13138	0.27	0.33	0.00	0.20	3.00
rd	13138	0.07	0.14	0.00	0.01	0.87

Table 1 presents the summary statistics of main variables used in this paper. The sample contains the observation results of 13,138 supplier company years. The main suppliers in the sample are divided into two parts due to propensity score matching. In the total sample, most of them are enterprises with an average age of 2.49years, with an average leverage level of 26.9% and a positive book-to-market value ratio. The average equity issuance value is 0.27, but the maximum equity issuance value has reached 912.9. Similarly, the average long-term loan value is 0.03, but the maximum equity distribution value reached 98.52.

5.2 Regression Analysis

Table 2. regression result

	equity	equity	debt	debt
Superstar_sup	0.101**	0.103**	0.155***	0.154***
	(0.04)	(0.04)	(0.05)	(0.05)
size	0.130***	0.097***	-0.123***	-0.147***
	(0.02)	(0.02)	(0.02)	(0.02)
age	-0.398***	-0.663***	0.172***	-0.014
	(0.04)	(0.06)	(0.04)	(0.07)
lev	0.169***	0.177***	0.276***	0.281***
	(0.05)	(0.05)	(0.06)	(0.06)
mtb	0.006*	0.003	0.007*	0.007*
	(0.00)	(0.00)	(0.00)	(0.00)
rd	6.272***	6.141***	-0.027	-0.127
	(0.19)	(0.19)	(0.19)	(0.19)
_cons	0.101	0.390**	0.038	0.345**
	(0.09)	(0.15)	(0.10)	(0.16)
Time FE	No	Yes	No	Yes
Firm FE	Yes	Yes	Yes	Yes
R2	0.177	0.187	0.010	0.019
Adj. R2	-0.56	-0.55	-0.86	-0.86
N	11973	11973	12431	12431

Table 2 presents the results of this analysis. Column (1-4) shows that there is a positive and statistically significant relationship between superstar supplier and long-term financing. First, the R2 value of Column (1)-(2) shows that the model has high explanatory power. second, we use equity issue value(equity) and long-term debt value(debt) as the dependent variable, The results of Column (1) and column (3) show a positive and significant association between Superstar_sup and the value of equity issuance (β= 0.101, $p < .10$), and a positive and significant association with the value of long term debt (β= 0.155, $p < .10$) Under firm fixed effects. Column (2) and column (4) is equity and debt under the company fixed effect and time fixed effect, The results are all significantly positive. It shows that the suppliers of superstar firms will issue larger equity and get more long-term financing.

6 Conclusion

In conclusion, our analysis of financial data from North American listed companies suggests that centralized supply chain relationships can significantly impact superstar suppliers' financing decisions. We found that linkages between superstar suppliers and leading firms can lead to an increase in equity issuance, and long-term debt for superstar suppliers. Overall, this study

emphasizes the importance of examining the role of concentrated supply chain relationships in shaping superstar suppliers' financing decisions and an unexplored line of research could focus on the impact of this linkage on supplier investment.

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