Corporate status and supply chain relationships: Evidence on S&P 500 index Additions

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September 2016

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Abstract:

In this paper, we study how firm prestige affects supply chain relationships. We show that following a customer's addition to the S&P 500 Index, the number of supplier's increases and these new suppliers are more prestigious than the original suppliers. We also show a decrease in firm value and growth in sales for the original suppliers. Taken together, our results indicate that customers diversify their supplier-base when an increase in prestige occurs. These results also imply there are real economic consequences for supply-chain partners around inclusion into the S&P 500 Index.

September 2016

Status is an important determinant of outcomes in markets.[1] For instance, firms rely on the status of their investment banks to reduce adverse selection and mitigate valuation discounts around security offerings. Similarly, individuals tend to accept lower compensation in return for the glamor and status associated with working at prestigious institutions or companies (Focke, Maug, and Niessen-Ruenzi, 2016). Likewise, firms pay a premium to hire 'superstar' CEOs (Malmendier and Tate, 2009). While this line of research has largely focused on capital and labor markets, much less is understood about the effect of corporate status in product markets. We fill this gap in the literature by examining whether and how an organization's prestige or status affects its relationship with supply chain partners.

Experimental research suggests that status could potentially affect the degree of cooperation between supply chain partners. For instance, Bhattacharya and Dugar (2014) use the caste system in rural India to examine the role of status in partnership formation between individuals. Their findings suggest that if the status differential between two individuals is high, the partnership is less likely to be cooperative; and conversely, they find that cooperation is easiest if the partners share the same social status. Similarly, Ball, Eckel, Grossman, and Zame (2001) conduct experiments and find that economic exchange between subjects belonging to different status groups results in the higher status group capturing a larger share of the surplus.[2]

One implication of these experiments is that status matters in partnerships. However, there is no empirical evidence on how differences in status affect economic changes in the partnership. One difficulty in examining this empirically is measuring changes in status between

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[1] In general, prestigious companies and individuals with high status have opportunities that are not available to others. Anecdotal evidence including several prominent examples of the 'too big to fail' phenomenon, such as the government's bailout of AIG in 2009, suggest that corporate status affects outcomes in capital markets.
[2] Weiss and Fershtam (1998) and Heffetz and Frank (2008) provide surveys of the theoretical and empirical literature that ties status to economic behavior.

two firms/individuals, due to endogeneity. For instance, if supply chain partners share a similar corporate status, they may have gained the status by successfully partnering with each other, rather than choosing to work with each other based on each other's status. Likewise, a high status firm may choose to transact with a low status supplier in order to extract a larger share of the surplus created by the chain. As the choice of a supply chain partner is endogenous to the firm, the omission of unobservable variables that are correlated with both, the firm's status and with the firm's choice of supply chain partner, would lead to a bias in the econometric specifications.

We mitigate the omitted variable bias arising from endogeneity by examining the impact of a firm's inclusion in the S&P 500 index on its suppliers. Index additions present an ideal setting to examine the effect of firm prestige on stakeholders because inclusion in the index enhances the firm's prestige and is exogenous to the firm. A recent study by Maug, Niessen-Ruenzi, and Zhivotova (2014) reports a high correlation between S&P 500 membership and inclusion in the Fortune Most Admired Company list, and concludes that membership in the index is strongly related to the company's prestige.

In the context of our study, given that coordination between firms is essential to the efficiency and profitability of supply chains, an empirical question that arises is whether corporate status matters in supply chain relationships. An imbalance between the prestige of a supplier and that of a customer could potentially affect the relationship and the valuation of the respective firms. Firms could potentially benefit from associating with a prestigious supply chain partner due to positive spillover effects in the product market. The idea that association with a prestigious agent enhances the firm's (or individual's) credibility has been documented in different contexts. For instance, a vast literature on corporate financing events suggests that firms affiliated with prestigious investment banks or with prestigious audit firms experience higher

valuations at the IPO (e.g., Carter and Manaster, 1990).[3] Focke, Maug, and Niessen-Ruenzi (2016) find that the career prospects of executives (specifically, the likelihood of appointment to a board) improve following their employment as CEOs of prestigious firms. In the context of supply chains, Johnson, Kang, and Yi (2010) find that a firm's association with large customers provides certification about the firm's quality, and enhances the firm's valuation at the time of an IPO.

However, firms also bear a cost in return for associating with a prestigious agent/partner. A vast stream of research in finance and accounting indicates that firms incur higher fees to engage the services of prestigious investment bankers or prestigious accounting firms. Focke, Maug, and Niessen-Ruenzi (2016) find that CEOs are willing to accept lower compensation in return for being employed at a prestigious firm. Likewise, Malmendier and Tate (2009) find that firms pay a premium to employ 'superstar' CEOs. Whether the benefits of association with a high status supply chain partner outweigh the costs is an empirical issue.

If a firm's inclusion in the S&P 500 index enhances the credibility of its supplier, the supplier is likely to experience greater market power, which would result in lower input costs and/or higher output prices. Consequently, in this scenario, we expect the suppliers of firms added to the S&P 500 index to display better operating performance following the index addition. On the other hand, upon gaining prestige from inclusion in the S&P 500 index, a firm could lower its input costs and garner a larger share of the surplus created by the supply chain either by dictating the terms of future transactions with its existing suppliers, or by attracting new suppliers and thereby subjecting the existing suppliers to greater competition in the input market.

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[3] Beatty (1989) reports higher valuations at IPO when firms are affiliated with more prestigious auditors. Masulis and Mobbs (2014) show that board of directors exert more effort at firms that are more prestigious.

Accordingly, suppliers would suffer a decline in firm value and in their operating performance following the addition of a firm into the index.

We examine a sample of 448 additions to the S&P 500 index during the period from 1976 to 2008. The multivariate analyses are based on difference-in-difference regressions around the fiscal year in which a firm is added to the index. The key findings are as follows. First, the number of suppliers for which the added firm is a major customer increases significantly following the index addition. On an unconditional basis, the average number of suppliers increases from 2 to 4.67 following the index addition. Controlling for the characteristics of the added firm, including size, growth opportunities, and profitability, and controlling for year fixed effects, we find a statistically significant increase in the number of suppliers. This finding suggests that firms attract additional (i.e., new) suppliers following the inclusion in the index, consistent with the idea that index membership enhances the firm's prestige, and hence improves its ability to reduce dependence on a concentrated supplier base.

Given that the customer gains in status following the index inclusion, we examine whether the customer chooses new suppliers that may have a higher status relative to that of the existing suppliers. The results suggest that the status of the new suppliers is largely similar to that of the existing suppliers. Using index membership as a measure of the supplier's status, we find that about 13.6 percent of the new suppliers belong to one of the S&P index groups, while the corresponding frequency for the existing suppliers is 9.5 percent.

The addition of new suppliers increases the competition faced by existing suppliers, and could therefore have potentially negative consequences for the existing suppliers. The multivariate results, controlling for economic factors and for year and industry fixed effects, indicate that the added firm's existing suppliers experience a significant decline in value

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(measured as Tobin's Q) following the inclusion of the firm in the index. This finding suggests that changes in the composition of the S&P 500 index have real consequences for the added firm's supply chain partners. One reason for the existing supplier's firm value to decline following the inclusion of the customer to the index could be that the increase in competition arising from the new suppliers affects the existing supplier's sales. We find that following the index addition of the customer, growth in sales of existing supplier's decreases.

Another potential explanation for the loss in firm value for existing suppliers could be a decline in profit margins. This could happen if the added customer offers lower input prices to the supplier as a consequence of achieving higher status and the accompanying bargaining power following the inclusion in the index. However, the results do not support this possibility, as the multivariate analyses indicate that the existing supplier's profit margin is unrelated to the customer's inclusion in the index. Collectively, the evidence in our study suggests that it is more important for the customer to use its higher status to diversify across suppliers and thereby reduce its supplier concentration risk, than it is to extract a larger share of the surplus from existing suppliers.

This paper contributes to the literature on how status affects economic exchange between companies. To the best of our knowledge, we are the first paper to document how changes in a supply-chain partner's status affects the prospects of the firm. We show a real economic cost when a strategic partner has an increase in stature. This compliments the evidence provided in Johnson, Kang, and Yi (2010), who point out the benefits of being associated with a high-status supply chain parent in the context of IPOs. Finally, we also contribute to the literature on S&P 500 index additions. Implications from our work show that additions to the S&P 500 have economic implications for supply-chain partners.

The rest of the paper proceeds as follows. In Section I, we describe the sample formation, methodology, and discuss the descriptive statistics. In Section II, we discuss the empirical findings and conclude the paper in Section III.

I. Sample, data description, and methodology

Our research methodology uses changes in the status of supply chain partners. One challenge in examining this relationship is endogeneity. This stems from the fact that it is difficult to disentangle whether status may be gained due to the strategic alliance or whether the strategic alliance is formed based on each other's status. Similarly, it is possible that high status firms could choose to partner with low status suppliers in order to extract a larger share of the surplus created by the strategic alliance. This choice is endogenous, creating a potential omitted variable bias that would bias econometric specifications.

To overcome the endogeneity issue we study changes in status coming from the impact of a firm's inclusion in the S&P 500 index on its supply-chain partners. Being included in the S&P 500 index enhances the prestige of the company. Inclusion in the S&P 500 index provides an ideal setting because the change in prestige is exogenous to the firm. Hence, we study the effect of S&P 500 index addition on suppliers. We first study the number of suppliers per customer both before and after addition to the S&P 500 index in a univariate and multivariate setting. Next, we study the performance of the suppliers associated with the added customer prior to addition to the S&P 500 index both before and after addition. We analyze Tobin's Q, sales growth, and profit margin. All variables are defined in Appendix A.

To construct the sample, we begin with the 821 firms that were added to the S&P 500 index between September 22, 1976 and December 31, 2008. The announcement dates and effective dates of S&P 500 additions prior to 2000 are obtained from Professor Jeffrey Wurgler's

website.[4] We obtain the list of additions (along with the effective date of the addition) between 2000 and 2008 from Standard and Poor's. To identify the announcement date for each index addition, we manually search Lexis Nexis Academic and retrieve the earliest news report announcing the particular firm's planned addition to the S&P 500 index.[5]

In order to identify the suppliers of the added firms, we merge the set of firms added to the index with a dataset identifying firms' major customers. In accordance with FASB Accounting Standards Codification, ASC 280-10-50-42, public firms may disclose the identity of any customer whose purchases represent more than ten percent of the firm's total revenues.[6] We collect this data from the Compustat Customer file in the Compustat Segment Database for the period beginning in 1976 and ending in 2008.[7] The intersection of the index addition sample and firms reported in the Compustat Customer file results in a sample of 448 customers that are added to the S&P 500 index.

Table 1 provides descriptive statistics for our sample. Panel A reports the average number of suppliers per customer prior to being added to the S&P 500. In the full sample, we include all firms in the customer-supplier database. Those customers which are never added to the S&P 500 index only have observations prior to S&P 500 addition. Following index addition, the number of suppliers per customer increases.

[TABLE I ABOUT HERE]

Panel B of Table I presents descriptive statistics for variables used in the regression analyses for the suppliers and Panel C reports descriptive statistics of those variables for the customer. The

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[4] We thank Professor Jeffrey Wurgler for making his data available (http://people.stern.nyu.edu/jwurgler/).
[5] We search the source "All News (English)" and search for the company name and "S&P" for all articles before the effective date. We use the same algorithm for all manual searches.
[6] Previously known to as SFAS 131, the statement of ASC 280-10-50-42 is reproduced in Appendix B.
[7] The procedure we follow to identify the customer-supplier relationships is similar to that used in Fee and Thomas (2004) and Raman and Shahrur (2008). We describe our specific procedure in detail in Appendix B.

definitions of the variables can be found in Appendix A. Consistent with the findings in prior research, these results suggest that the suppliers in our sample are roughly one-tenth the size of customers, on average (e.g., Kale and Shahrur (2007), Raman and Shahrur (2008)).

II. Empirical Results

To answer our first research question, we employ a multivariate regression model explaining the total number of suppliers per customer. Table 2 reports our results. Our variable of interest is a dummy variable equal to one if the year is after a customer has been added to the S&P 500 and zero otherwise. We control for the size (measured as market capitalization), annual sales growth, return on assets of the customer, and year fixed effects. In model (1), we use the entire sample of firms in the customer-supplier dataset. This includes customers who are never added to the S&P 500 index. In models (2)-(6), we only include those customers who are added to the S&P 500 index. We also restrict the time frame we analyze in models (3)-(6). In model (3), we restrict the sample to three years before and three years after the addition to the index, model (4), five years before and five years after, model (5), three years before and five years after, and model (6), five years before and three years after. In all models, we find a positive and significant increase in the number of suppliers per customer following addition to the S&P 500 index. This result shows that the number of suppliers increases when the status of the partner firm increases.

[TABLE 2 ABOUT HERE]

Given that the customer gains in status following the index inclusion, we examine whether the customer chooses new suppliers that may have a higher status relative to that of the existing suppliers. The results suggest that the status of the new suppliers is largely similar to that of the existing suppliers. Using index membership as a measure of the supplier's status, we

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find that about 13.6 percent of the new suppliers belong to one of the S&P index groups, while the corresponding frequency for the existing suppliers is 9.5 percent.

[TABLE 3 ABOUT HERE]

In Tables 4 and 5, we report results that answers the question, what happens to the suppliers of firms who are added to the S&P 500 index and see an exogenous increase to their prestige. For brevity, we use the time period between three years before and three years inclusion to the S&P 500 index. Table 4 reports our results on the Tobin's Q of suppliers. In models (1), (3), and (5), we use the suppliers Tobin's Q as the dependent variable and in models (2), (4), and (6), we adjust the Tobin's Q of the supplier by subtracting the median Tobin's Q of the two-digit SIC industry code. In all models, we control for the market capitalization, debt, annual sales growth, and the return on assets of the supplier. We also control for the percent of total sales coming directly from the customer. In models (1) and (2), we control for industry fixed effects, in models (3) and (4) we control for industry and year fixed effects, and in models (5) and (6) we control for firm fixed effects.

In all specifications, we find Tobin's Q (and the industry-adjusted Tobin's Q) decline following the customer's addition to the S&P 500 index. This finding indicates there is a decline in firm value of supply-chain partners following addition to the S&P 500 index. This finding implies that changes to the S&P 500 index have real economic consequences for the added firm's supply chain partners.

[TABLE 4 ABOUT HERE]

Since the value of suppliers decreases following an increase in prestige of their major customers, we next aim to find the channel where this lost value comes from. One reason for the existing supplier's firm value to decline following the inclusion of the customer to the index

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could be that the level of the supplier's sales and/or the growth rate of the supplier's sales declines as the customer gains additional suppliers following the elevated status achieved from inclusion in the index. Another potential explanation for the loss in firm value for existing suppliers could be a decline in profit margins. This could happen if the added customer offers lower input prices to the supplier as a consequence of achieving higher status and the accompanying bargaining power following the inclusion in the index.

Table 5 reports results on the potential channel where the lost value comes from. In Panel A, our dependent variable is sales growth (models (1), (3), and (5)) and adjusted sales growth (models (2), (4), and (6)). Adjusted sales growth subtracts the median sales growth of the 2-digit SIC firm. The independent variable of interest is a dummy variable equal to one following the customer being added to the S&P 500 and zero otherwise. We control for the market capitalization and debt of the supplier as well as the percent of sales coming from that customer. In models (1) and (2), we control for industry fixed effects, in models (3) and (4) we control for industry and year fixed effects, and in models (5) and (6) we control for firm fixed effects. Our main finding in all models is that the sales growth of the supplier declines following the addition to the S&P 500 index of their customer. This implies that firms use prestige to diversify their supply-chain partners.

In Panel B of Table 5, we report results where our dependent variable is profit margin and adjusted profit margin. Adjusted profit margin subtracts the median profit margin of the 2-digit SIC firm. The independent variable of interest is a dummy variable equal to one following the customer being added to the S&P 500 and zero otherwise. We control for the market capitalization, sales growth, and debt of the supplier as well as the percent of sales coming from that customer. In models (1) and (2), we control for industry fixed effects, in models (3) and (4)

we control for industry and year fixed effects, and in models (5) and (6) we control for firm fixed effects. In all models, we do not find a statistically significant relationship between a customer's addition to the S&P 500 index and the existing supplier's profit margin. However, we note that directionally, there is a decline in all models.

Overall, our results indicate that firms add more supply-chain partners following an exogenous increase in status, measured by inclusion into the S&P 500 index. Suppliers of firms who are added to the index experience a loss in value, as measured by Tobin's Q. This loss in value appears to come from a decline in sales growth, but not a decline in profit margin. Hence, it appears that firms use an increase in prestige to diversify their supply-chain partners, but not to squeeze out previous partners.

IV. Conclusion

This paper studies what happens to supply-chain partners when there is an exogenous change to the prestige of one of the partners. We examine what happens to suppliers when a major customer is added to the S&P 500 Index. First, we find that the number of suppliers per customer increases following the index addition. This finding suggests that firms are able to attract new supply chain partners when there is an increase in their own prestige. These new suppliers are also more prestigious than the previous partners.

We next analyze what happens to the suppliers of the customer prior to being added to the S&P 500 Index. These suppliers now face increased competition. We find that there is a significant decline in value of suppliers after a major customer is added to the S&P 500 Index. We also find that existing suppliers see a decline in sales growth but not a decline in profit margins. Taken together, this paper shows that changes in firm prestige have real economic consequences for supply-chain partners. The evidence suggests that customers use their higher

prestige to diversify across suppliers, reducing the supplier concentration risk rather than extracting a larger share of the surplus from existing suppliers.

This paper contributes to the literature on how status affects economic exchange between companies. We show a real economic cost when a strategic partner has an increase in stature. We also contribute to the literature on S&P 500 index additions. Our work implies that additions to the S&P 500 have economic implications for supply-chain partners.

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Table 1
Descriptive statistics

We report descriptive statistics about our sample in this table. Panel A reports the average number of suppliers per customer both prior to and after the customer is added to the S&P 500 Index for the entire customer/supplier database as well as only for those customers that are added to the S&P 500 Index. We also report the total number of customers that are added to the S&P 500 Index. Panel B reports characteristics of the suppliers. *Supplier market cap* is the market capitalization of the supplier, *Supplier growth* is the sales growth of the supplier, *Supplier debt* is the total debt of the supplier scaled by total assets and *Supplier ROA* is the ROA of the supplier. *CSALE / Sup_SALE* is the percent of the suppliers total sales attributed to the added customer.

Panel A: S&P 500 additions and customer/supplier relationships

	Full Sample	S&P 500 Addition Sample
Average suppliers per customer prior to S&P 500 addition	3.07	2.00
Average suppliers per customer following S&P 500 addition	4.65	4.65
Total number of customers added to S&P 500 in sample	448	

Panel B: Supplier variables

	Mean	Median	St.Dev.
Supplier debt	0.159	0.0800	0.245
Supplier ROA	0.0405	0.108	0.269
Supplier market cap	1,880	116.3	12,687
Supplier growth	0.157	0.119	0.146
CSALE / Sup_SALE	0.174	0.132	0.164

Panel C: Customer variables

	Mean	Median	St.Dev.
Customer debt	0.186	0.157	0.145
Customer ROA	0.160	0.160	0.0834
Customer market cap	19,143	7,260	31,429
Customer growth	0.131	0.133	0.0836
CSALE / Customer COGS	2.008	1.561	1.673

Table 2
Explaining the total number of suppliers per customer

The dependent variable is the natural log of one plus the total suppliers per customer. *Post S&P 500 Addition Dummy* is a dummy variable equal to one after the customer has been added to the S&P 500 Index and zero otherwise. *Size* is the market capitalization of the customer, *Growth* is the sales growth of the customer, and *ROA* is the ROA of the customer. Model (1) includes the full sample of customers while models (2)-(6) include only the sample of customers that are added to the S&P 500 at some point in time. Model (2) includes all firm years while models (3)-(6) restrict the number of firm years included where year zero is the year the firm is added to the S&P 500 Index. Robust standard errors are reported in parenthesis. We denote statistical significance at levels of 10%, 5%, and 1% by *, **, and *** respectively. All variables are defined in Appendix A.

		S&P 500 Addition Sample				
	Full Sample	No time restriction	Time (-3,+3)	Time (-5, +5)	Time (-3, +5)	Time (-5, +3)
	(1)	(2)	(3)	(4)	(5)	(6)
Post S&P 500	0.111**	0.122***	0.093**	0.136***	0.131***	0.094**
Addition Dummy	(0.051)	(0.046)	(0.040)	(0.043)	(0.042)	(0.040)
	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***
Size	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
	0.196	0.483**	0.663***	0.696***	0.689***	0.686***
Growth	(0.145)	(0.243)	(0.236)	(0.242)	(0.242)	(0.242)
	0.105	-0.515*	-0.631**	-0.647**	-0.596**	-0.704**
ROA	(0.088)	(0.266)	(0.286)	(0.279)	(0.289)	(0.285)
	0.680***	0.583***	0.689***	0.552***	0.681***	0.505***
Constant	(0.076)	(0.070)	(0.080)	(0.107)	(0.085)	(0.122)
Observations	9,039	2,738	824	1,230	1,093	961
R-squared	0.320	0.471	0.414	0.382	0.397	0.400
Year FE	Y	Y	Y	Y	Y	Y

Table 3
Comparing new suppliers to old suppliers

N			Supplier market cap	Supplier debt	Supplier growth	Supplier ROA	CSALE / Sup_SALE	Tobin's Q	Supplier sales growth	% in SP 500	% in SP 400	% in SP 600	% in SP 1500
98	Old suppliers	Mean	455	0.1427	0.1712	0.0407	0.2270	1.81	0.1823	0.05	0.04	0.09	0.18
		Median	97	0.1162	0.1306	0.1278	0.1726	1.49	0.1641				
357	New suppliers	Mean	1670	0.1717	0.1540	0.0425	0.1766	2.57	0.3796	0.02	0.05	0.08	0.15
		Median	170	0.0834	0.1181	0.0988	0.1337	1.74	0.1659				
		p-value (mean)	0.0223	0.1424	0.3375	0.9478	0.0385	<.0001	0.2981	0.3360	0.7341	0.7359	0.5412
		p-value (median)	0.0406	0.7374	0.1241	0.4769	0.0214	0.0082	0.4767				

Table 4
Tobin's Q of suppliers when a customer is added to the S&P 500 Index

The dependent variable in models (1), (3), and (5) is the Tobin's Q of the supplier and the dependent variable in models (2), (4), and (6) is an industry adjusted Tobin's Q where we subtract the two digit SIC median from the supplier's Tobin's Q. *Post S&P 500 Addition Dummy* is a dummy variable equal to one after the customer has been added to the S&P 500 Index and zero otherwise. *Supplier market cap* is the market capitalization of the supplier, *Supplier growth* is the sales growth of the supplier, *Supplier debt* is the total debt of the supplier scaled by total assets and *Supplier ROA* is the ROA of the supplier. *CSALE / Sup_SALE* is the percent of the suppliers total sales attributed to the added customer. Models (1)-(4) have industry fixed effects at the 2-digit SIC level, models (3) and (4) have year fixed effects, and models (5) and (6) control for firm fixed effects. Robust standard errors are reported in parenthesis. We denote statistical significance at levels of 10%, 5%, and 1% by *, **, and *** respectively. All variables are defined in Appendix A.

	Tobin's Q (1)	Adjusted Tobin's Q (2)	Tobin's Q (3)	Adjusted Tobin's Q (4)	Tobin's Q (5)	Adjusted Tobin's Q (6)
Post-SP500 Addition Dummy	-0.390**	-0.492***	-0.430**	-0.461***	-0.611***	-0.696***
	(0.150)	(0.148)	(0.173)	(0.174)	(0.209)	(0.206)
Supplier market cap	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Supplier debt	-1.334***	-1.083***	-1.138***	-1.080***	-0.702	-0.498
	(0.424)	(0.391)	(0.414)	(0.407)	(0.487)	(0.412)
Supplier growth	2.664**	2.739**	2.647**	2.649**	4.004*	4.073**
	(1.194)	(1.225)	(1.108)	(1.136)	(2.114)	(2.047)
Supplier ROA	-0.136	-0.010	-0.059	-0.055	0.666	0.616
	(0.796)	(0.846)	(0.836)	(0.865)	(0.910)	(0.926)
CSALE / Sup_SALE	0.616	0.659	0.705	0.742	0.857	1.027
	(0.606)	(0.622)	(0.628)	(0.646)	(1.118)	(1.106)
Constant	1.245***	-0.113	1.411***	0.024	1.449***	-0.127
	(0.188)	(0.264)	(0.242)	(0.228)	(0.388)	(0.385)
Observations	717	717	717	717	717	717
R-squared	0.339	0.232	0.388	0.277	0.642	0.595
Industry FE	Y	Y	Y	Y		
Year FE			Y	Y		
Firm FE					Y	Y

Table 5
Sales growth and profit margin of suppliers when a customer is added to the S&P 500 Index

In Panel A, the dependent variable in models (1), (3), and (5) is the sales growth of the supplier and the dependent variable in models (2), (4), and (6) is industry adjusted sales growth where we subtract the two digit SIC median from the supplier's sales growth. In Panel B, the dependent variable in models (1), (3), and (5) is the profit margin of the supplier and the dependent variable in models (2), (4), and (6) is industry adjusted profit margin where we subtract the two digit SIC median from the supplier's profit margin. In Panel B, *Supplier growth* is the sales growth of the supplier. For Panels A and B, *Post S&P 500 Addition Dummy* is a dummy variable equal to one after the customer has been added to the S&P 500 Index and zero otherwise. *Supplier market cap* is the market capitalization of the supplier, *Supplier debt* is the total debt of the supplier scaled by total assets and *Supplier ROA* is the ROA of the supplier. *CSALE / Sup_SALE* is the percent of the suppliers total sales attributed to the added customer. Models (1)-(4) have industry fixed effects at the 2-digit SIC level, models (3) and (4) have year fixed effects, and models (5) and (6) control for firm fixed effects. Robust standard errors are reported in parenthesis. We denote statistical significance at levels of 10%, 5%, and 1% by *, **, and *** respectively. All variables are defined in Appendix A.

Panel A: Sales Growth

	Sales Growth (1)	Adjusted Sales Growth (2)	Sales Growth (3)	Adjusted Sales Growth (4)	Sales Growth (5)	Adjusted Sales Growth (6)
Post-SP500 Addition Dummy	-0.146***	-0.133***	-0.158***	-0.162***	-0.108***	-0.095***
	(0.040)	(0.040)	(0.053)	(0.053)	(0.035)	(0.033)
Supplier market cap	-0.000	-0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Supplier debt	-0.194	-0.184	-0.211	-0.200	-0.290	-0.241
	(0.132)	(0.129)	(0.145)	(0.144)	(0.203)	(0.195)
CSALE / Sup_SALE	0.512	0.520	0.592	0.593	0.273	0.294
	(0.344)	(0.345)	(0.366)	(0.367)	(0.252)	(0.249)
Constant	0.151***	0.021	0.176*	0.043	0.260***	0.137**
	(0.042)	(0.050)	(0.094)	(0.077)	(0.061)	(0.060)
Observations	723	723	723	723	723	723
R-squared	0.065	0.064	0.099	0.093	0.410	0.410
Industry FE	Y	Y	Y	Y		
Year FE			Y	Y		
Firm FE					Y	Y

Panel B: Profit Margin

	Profit Margin (1)	Adjusted Profit Margin (2)	Profit Margin (3)	Adjusted Profit Margin (4)	Profit Margin (5)	Adjusted Profit Margin (6)
Post-SP500 Addition Dummy	-0.120	-0.111	-0.054	-0.054	-0.115	-0.105
	(0.108)	(0.106)	(0.140)	(0.138)	(0.097)	(0.095)
Supplier market cap	0.000***	0.000***	0.000***	0.000***	0.000**	0.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Supplier debt	-0.370	-0.370	-0.460	-0.451	-0.357	-0.325
	(0.408)	(0.406)	(0.428)	(0.424)	(0.340)	(0.335)
Supplier growth	-1.375**	-1.360**	-1.388**	-1.375**	-1.878**	-1.839**
	(0.676)	(0.670)	(0.682)	(0.678)	(0.795)	(0.790)
CSALE / Sup_SALE	-1.123**	-1.119**	-1.128**	-1.131**	-1.356	-1.367
	(0.515)	(0.503)	(0.491)	(0.480)	(0.861)	(0.846)
Constant	0.457*	0.314	0.473**	0.329	0.584*	0.472
	(0.252)	(0.260)	(0.236)	(0.246)	(0.325)	(0.322)
Observations	717	717	717	717	717	717
R-squared	0.329	0.314	0.360	0.343	0.820	0.816
Industry FE	Y	Y	Y	Y		
Year FE			Y	Y		
Firm FE					Y	Y