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**Does Financing of Chinese Mergers and Acquisitions Have
“Chinese Characteristics”?**

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Does Financing of Chinese Mergers and Acquisitions Have “Chinese Characteristics”?

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Abstract: This paper investigates two hypotheses about Chinese financing of mergers and acquisitions (M&As). The first hypothesis is that foreign ownership restrictions by the government cause Chinese acquirers to rely more on cash to finance their overseas M&A deals. The second hypothesis is that state-owned enterprises (SOEs) will rely more on cash to finance their M&A deals because they are able to secure better borrowing terms. We collate data from four databases to obtain a sample of over 6000 M&A deals that were completed during the 1997-2014 period. We find strong evidence to support the first hypothesis but not the second.

Keywords: Mergers and acquisitions (M&As), foreign ownership restrictions, state owned enterprises (SOEs), M&A financing, Chinese firms

JEL Classifications: G34, G28, N20

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I. INTRODUCTION

There is a large literature on how firms from developed countries finance their merger and acquisition (M&A) activity (Amihud, et al., 1990; Martin, 1996; Faccio and Masulis, 2005; Ismail and Krause, 2010; Netter et al., 2011; Alshwer et al., 2011; Boone et al., 2014; Karampatsas et al., 2014). In contrast, relatively little is known about how Chinese firms finance their M&As (Boateng et al., 2014). Two features of the Chinese economy make this subject of particular interest.

Foreign ownership of Chinese firms is heavily regulated by the government. *Ceteris paribus*, this should discourage equity financing of overseas M&As. In addition, the Chinese economy is characterized by heavy reliance on state owned enterprises (SOEs). SOEs reportedly face lower costs of borrowing than non-SOEs. This should encourage greater cash financing of M&As, both domestic and foreign. This study examines the financing behavior of over 6,000 Chinese M&A deals completed between 1997-2014, with particular focus on overseas M&As and the role of SOEs.

II. DATA

The initial sample for this study was drawn from the *Zephyr* database, which contains information on approximately 1.3 million M&A deals; as well as *Datastream*, *Wind*¹, and *CSMAR*². We deleted deals (i) completed outside the 1997-2014 window, or that involved (ii) finance target firms or (iii) acquiring firms that did not have an ISIN number or had a non-positive market-to-book ratio. This left 7903 deals, though our estimation samples were somewhat smaller due to missing values for some variables.³

M&A deals are typically financed via cash, equity, and/or debt. TABLE 1 reports financing details for 7047 domestic M&A deals, and 234 overseas M&A deals. The variable

1 *Wind* is a Chinese financial database. It is described here: <http://www.wind.com.cn/En/Default.aspx>.

2 *CSMAR* is a Chinese financial database described here (in Chinese): <http://www.gtarsc.com/Home>.

³ All the data used in this study, along with the Stata do files used to generate the results, are available upon request from the authors.

CASH1 takes the value 3 if financing is entirely by cash, 2 if it is a mixture of cash and other means, and 1 if no cash is involved.

Given the relatively small percent of mixed deals, the subsequent analysis creates two categories of deals: those where deals are primarily financed by cash (*CASH2* = 1), and others (*CASH2* = 0). This facilitates the interpretation of marginal effects in the subsequent probit analysis. However, all the significant results from our analysis are confirmed with (i) a two-sided Tobit that uses the actual percent of cash-financing for each deal; and (ii) an ordered probit procedure that accounts for the three levels of financing present in the variable *CASH1*.⁴

Guided by the extensive literature on M&A financing, we assembled a large number of control variables. TABLE 2 defines the variables used in this study, along with their predicted effects. A positive prediction indicates that the respective variable is expected to increase the probability a deal is financed with cash.

The main variables of interest are *FOREIGN* and *SOE*. Overseas M&As are expected to rely on cash financing to a greater degree than domestic M&As due to foreign ownership restrictions. SOEs are thought to be able to secure cash financing from Chinese banks at more favorable rates than non-SOE firms, and thus we expect to see these firm rely more on cash financing. Testing these two hypotheses is the main motivation for this study.

There are a large number of acquirer-related and target-related control variables. Accordingly, we only discuss those that will be significant in the later analysis. *MARGINAL CONTROL* takes the value 1 if the largest shareholder in the Chinese acquirer firm controls between 35 and 50 percent of the firm's shares. Martin (1996), Faccio and Maulis (2005), and others argue that primary shareholders are more likely to use cash financing when their ownership control is at risk. Firms that list shares on overseas share markets (*LISTED*

⁴ The Tobit and Ordered Probit results are reported in an accompanying appendix.

OVERSEAS) should find it easier to have target firms accept their shares as payment, and thus be more likely to finance with cash. The more cash on hand an acquiring firm has (*CASH HOLDINGS*), the lower the opportunity costs of using cash to pay for a deal. The larger the firm (*TOTAL ASSETS*), the more willing lenders should be to finance cash payments via loans. The larger the *DEAL SIZE* relative to the firm's valuation, the greater the risk to the lender, and hence the less likely the firm will finance with cash. Finally, *EXPENSES* can be interpreted as a measure of managerial inefficiency, indicating greater risk for the lender.

III. RESULTS

TABLE 3 reports marginal effects calculated from probit estimates where the dependent variable is *CASH2*. Model 1 includes only the main variables of interest, *FOREIGN* and *SOE*. Model 2 adds acquirer characteristics, target-related variables, and annual time dummy variables. Dummy variables are indicated with a superscript *D*. All other variables have been standardized to facilitate comparison of economic importance.

Overall, the models do well, correctly predicting approximately 87% of the observations. However, both models struggle to correctly predict deals that are not primarily financed with cash. All of the significant variables have the expected signs. The marginal effects indicate their economic importance. The largest effects are associated with the variables *EXPENSES*, *DEAL SIZE*, *MARGINAL CONTROL*, *TOTAL ASSETS*, and *LISTED OVERSEAS*.

Of the two "Chinese characteristics" variables, only *FOREIGN* is statistically significant. As hypothesized, overseas M&A deals are more likely to be primarily financed with cash. Compared to domestic deals, the probability that a foreign deal is primarily financed by cash is approximately 6 percentage points greater. This is comparable in size to the most significant control variables. It is consistent with the hypothesis that financing of

M&A deals by Chinese acquirers is influenced by the government's foreign ownership restrictions, and that this effect is economically important.

In contrast, the marginal effect associated with SOEs is statistically insignificant and of small economic importance. This result differs from Boateng and Xi (2014), who report a significantly positive relationship. Our analysis differs from theirs in that we analyse a much larger set of deals (6151 versus 1082), and we employ a larger number of control variables. One explanation for our finding is that the effect of better financing terms is balanced by the fact that shares from SOEs may have relatively high tradeable value for the targets of Chinese acquirers.

IV. CONCLUSION

Two distinctive features of the Chinese economy are foreign ownership restrictions and the importance of state owned enterprises (SOEs). Using a sample of over 6000 domestic and overseas M&A deals, we find that overseas M&As are significantly less likely to be financed with cash than domestic M&As. Further, the size of the effect is large relative to most other determinants of M&A financing. This suggests that the Chinese government's policy of foreign ownership restrictions has an economically important impact on how Chinese firms finance their overseas M&A activities. On the other hand, we do not find any evidence that SOEs are more likely to finance their deals with cash.

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TABLE 1
Financing of Deals

<i>CASH1</i>			<i>CASH2</i>		
<i>Values</i>	<i>Domestic</i>	<i>Foreign</i>	<i>Values</i>	<i>Domestic</i>	<i>Foreign</i>
3	5916 (83.9%)	212 (90.6%)	1	6168 (87.5%)	214 (91.5%)
2	539 (7.7%)	4 (1.7%)	0	879 (12.5%)	20 (8.5%)
1	592 (8.4%)	18 (7.7%)	Total	7047 (100%)	234 (100%)
Total	7047 (100%)	234 (100%)			

NOTE: The variable *CASH1* takes the value 3 if financing is entirely by cash, 2 if it is a mixture of cash and other means, and 1 if no cash is involved. The variable *CASH2* takes the value 1 if more than 50 percent of the value of the deal is financed by cash; otherwise it takes a value of 0.

TABLE 2
Variable Definitions and Predictions

VARIABLE	DEFINITION	PREDICTION
<i><u>Variables of Interest</u></i>		
FOREIGN¹	Takes value 1 if M&A target firm is foreign; 0 otherwise	+
SOE¹	Takes value 1 if parent firm is government; 0 otherwise	+
<i><u>Acquirer-related characteristics</u></i>		
MARGINAL CONTROL²	Takes the value 1 if the largest equity holder holds more than 35 but less than 50 percent of the acquirer's shares	+
LISTED OVERSEAS³	Takes value 1 if acquirer is listed overseas; 0 otherwise	-
CASH HOLDINGS⁴	Percent of total assets held as cash	+
PAYOUT⁴	Payout ratio	+
TOTAL ASSETS⁴	Log of acquirer's total assets	+
COLLATERAL ASSETS⁴	Share of acquirer's total assets held in the form of property, plant, and equipment	+
PROFITABILITY⁴	Earnings before interest and taxes as a share of previous two years' total assets	+
MB RATIO⁴	Acquirer's market to book ratio	-
DEAL SIZE^{1,4}	Ratio of deal value over (deal value + acquirer's market capitalization)	-
EXPENSES⁴	Selling, general, and administrative expenses as a share of net revenues	-
DEBT⁴	Debt as a share of total assets	-
INTEREST⁴	Interest payments as a share of total assets	-
TAXES⁴	Taxes as a share of total assets	-

VARIABLE	DEFINITION	PREDICTION
<u>Target-related characteristics</u>		
RELATED INDUSTRY ¹	Takes the value 1 if acquirer and target firms are in the same three-digit SIC category; 0 otherwise	-
HIGH TECH INDUSTRY ¹	Takes the value 1 if target firm is a “high technology” firm; 0 otherwise	?
RESOURCE INDUSTRY ¹	Takes the value 1 if target firm is a “resource” firm; 0 otherwise	?
TARGET UNLISTED ¹	Takes the value 1 if the target firm is unlisted; 0 otherwise	+

¹ Data source is *Zephyr*.

² Data source is *Wind*.

³ Data source is *CSMAR*.

⁴ Data source is *Datastream*.

TABLE 3
Marginal Effects from Probit Estimates

VARIABLE	Model 1	Model 2
<i>FOREIGN^D</i>	0.0397** (2.13)	0.0606*** (3.05)
<i>SOE^D</i>	-0.0083 (-0.68)	-0.0014 (-0.11)
<i>MARGINAL CONTROL^D</i>	----	0.0250*** (2.89)
<i>LISTED OVERSEAS^D</i>	----	-0.0528*** (-2.83)
<i>CASH HOLDINGS</i>	----	0.0112* (1.85)
<i>PAYOUT</i>	----	0.0059 (1.35)
<i>TOTAL ASSETS</i>	----	0.0178*** (2.94)
<i>COLLATERAL ASSETS</i>	----	-0.0091 (-1.60)
<i>PROFITABILITY</i>	----	0.0050 (0.78)
<i>MB RATIO</i>	----	-0.0086 (-0.88)
<i>DEAL SIZE</i>	----	-0.0638*** (-16.26)
<i>EXPENSES</i>	----	-0.1484*** (-3.02)
<i>DEBT</i>	----	0.0020 (0.35)
<i>INTEREST</i>	----	0.0018 (0.48)
<i>TAXES</i>	----	-0.0021 (-0.54)
<i>RELATED INDUSTRY^D</i>	----	-0.0049 (-0.60)
<i>HIGH TECH INDUSTRY^D</i>	----	0.0041 (0.42)
<i>RESOURCE INDUSTRY^D</i>	----	0.0193 (1.05)
<i>TARGET UNLISTED^D</i>	----	-0.0132 (-0.69)

VARIABLE	Model 1	Model 2
<i>Year Fixed Effects</i>	NO	YES
<i>Observations</i>	7281	6151
<i>Sensitivity</i>	100%	98.9%
<i>Specificity</i>	0%	13.0%
<i>Overall correct</i>	87.6%	87.2%

^D This variable is a dummy variable. All other variables are standardized.

NOTE: The dependent variable is *CASH2*. Values reported in the table are average marginal effects. *t*-statistics are reported in parentheses below the estimates and are calculated from heteroskedastic-robust standard errors.

APPENDIX A
Selected Data Characteristics

VARIABLE	OBS	MEAN	MIN	MAX
<i>CASH</i>	7,281	0.878	0	1
<i>CASH1</i>	7,281	2.758	1	3
<i>CASH2</i>	7,281	0.877	0	1
<i>FOREIGN</i>	7,903	0.055	0	1
<i>SOE</i>	7,903	0.124	0	1
<i>MARGINAL CONTROL</i>	7,528	0.295	0	1
<i>LISTED OVERSEAS</i>	7,903	0.108	0	1
<i>CASH HOLDINGS</i>	7,794	0.218	0.000	0.998
<i>PAYOUT</i>	7,710	23.564	0	100
<i>TOTAL ASSETS</i>	7,801	12.993	8.899	19.657
<i>COLLATERAL ASSETS</i>	7,792	0.337	0.000	0.950
<i>PROFITABILITY</i>	7,303	0.089	-1.352	3.851
<i>MB RATIO</i>	6,990	3.043	0.160	484.777
<i>DEAL SIZE</i>	6,900	0.053	0.000	0.995
<i>EXPENSES</i>	7,629	0.182	0.000	70.670
<i>DEBT</i>	7,775	0.259	0.000	1.760
<i>INTEREST</i>	7,671	0.832	-133.632	99.058
<i>TAXES</i>	7,800	0.755	-19.820	12.023
<i>RELATED INDUSTRY</i>	7,903	0.446	0	1
<i>HIGH TECH INDUSTRY</i>	7,903	0.285	0	1
<i>RESOURCE INDUSTRY</i>	7,903	0.067	0	1
<i>TARGET UNLISTED</i>	7,903	0.951	0	1

APPENDIX B
Robustness Checks

VARIABLE	Tobit	Ordered Probit
<i>FOREIGN</i>	1.0214*** (2.70)	0.4221*** (2.65)
<i>SOE</i>	-0.0417 (-0.29)	-0.0165 (-0.27)
<i>MARGINAL CONTROL</i>	0.2807*** (2.70)	0.1156*** (2.67)
<i>LISTED OVERSEAS</i>	-0.5763*** (-3.25)	-0.2429*** (-3.30)
<i>CASH HOLDINGS</i>	0.1864*** (2.67)	0.0786*** (2.68)
<i>PAYOUT</i>	0.0331 (0.69)	0.0124 (0.62)
<i>TOTAL ASSETS</i>	0.2247*** (3.22)	0.0934*** (3.20)
<i>COLLATERAL ASSETS</i>	-0.0903 (-1.42)	-0.0373 (-1.40)
<i>PROFITABILITY</i>	0.0564 (0.75)	0.0237 (0.74)
<i>MB RATIO</i>	-0.0892 (-0.87)	-0.0383 (-0.89)
<i>DEAL SIZE</i>	-0.7481*** (-14.38)	-0.3110*** (-16.43)
<i>EXPENSES</i>	-1.7170*** (-3.19)	-0.7070*** (-3.17)
<i>DEBT</i>	0.0756 (1.19)	0.0328 (1.23)
<i>INTEREST</i>	0.0032 (0.11)	-0.0005 (-0.04)
<i>TAXES</i>	-0.0526 (-1.26)	-0.0247 (-1.46)
<i>RELATED INDUSTRY</i>	-0.0452 (-0.49)	-0.0194 (-0.50)
<i>HIGH TECH INDUSTRY</i>	0.0551 (0.50)	0.0253 (0.54)
<i>RESOURCE INDUSTRY</i>	0.2795 (1.37)	0.1211 (1.42)
<i>TARGET UNLISTED</i>	-0.2444 (-1.09)	-0.1012 (-1.08)

VARIABLE	Tobit	Ordered Probit
<i>Year Fixed Effects</i>	YES	YES
<i>Observations</i>	6151	6151
<i>Log likelihood</i>	-3278.53	-3276.28