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Trading favors within Chinese groups

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A dominant aspect of ownership in the developing world is pyramidal structures, which allow shareholders to control corporations with relatively low investments. The uneasy relationship between these controlling investors and minority shareholders, and the potential impact on the broader macro economy, has been well-studied by corporate governance scholars. On the one hand, the mismatch of cash flow and control rights leads to a range of agency problems and resultant resource misallocations, potentially impacting the macro economy (see Randall Morck, Daniel Wolfenzon, and Bernard Yeung (2005) for a comprehensive overview). Yet pyramids are one important mechanism that enables the formation of diversified business groups that, too, are a dominant feature of business organization in much of the world. The economics and management literature has taken a more ambivalent view of business groups, with their agency problems and rent-seeking behaviors often counterbalanced by productive efficiencies from correcting market failures in weak institutional environments (See, in particular, a survey of the business groups literature by Tarun Khanna and Yishay Yafeh (2007) which emphasizes this tension).

Often, the channels that enable value extraction by controlling interests overlap with those required to overcome market failures. For example, consider a controlling shareholder of a publicly listed firm that has a separate, completely owned, subsidiary. Related party transactions between the listed firm and the wholly owned subsidiary could serve to transfer value to the controller by, say, setting favorable transfer prices or selling off the listed firm's assets cheaply. Alternatively, in an economy without reliable sources of

inputs, a trading relationship between the two firms could simply reduce hold-up problems and transactions costs. Or both. Similarly, lending between related parties has a ambiguous effect. On the one hand, in the absence of well-developed financial markets, internal capital markets can be an effective means of efficient resource allocation. But it may also be a method for propping up inefficient group forms, or yet another means of “tunneling” value by providing cheap loans from (in our example) listed to wholly owned firm.

While the prior literature – in particular Khanna and Yafeh (2005) – emphasizes heterogeneity of impact of pyramidal ownership *across* economies, in this paper we wish to highlight the importance of considering the heterogeneity of impact within a single firm. For example, the evidence on profit tunneling by Indian groups by Bertrand, Mehta, and Mullainathan (2002), needs to be balanced against potential benefits associated with the same group firms, described in, for example, Khanna and Krishna Palepu (2000).

Thus, in evaluating the overall impact of groups, we will argue that it will be important to take a holistic view of the relationship between a firm and its controller. In this paper, we provide an illustration of this within-firm trade-off of costs and benefits in the context of publicly traded firms in China. While we do not present causal effects of pyramidal ownership in this paper, the between- and with-firm results in this paper are strongly suggestive of the need to account for the complex set of relationships that coexist within a set of group-affiliated firms, which hints at some directions for potential future research.

In Chinese listed firms, the largest shareholder (the “controller”) exercises considerable control over firm decisions, through its power to make board appointments. This is true even for controllers with significantly less than a majority stake (and the controller itself

may have a controlling owner with a relatively small stake). By law, Chinese firms must report related party transactions (RPTs) between listed firms and related parties, which are most commonly firms held by controllers. These figures are further disaggregated by whether the transaction is loan-based (usually a loan guarantee from the listed firm) or other. We note, first of all, that there exists a very high level of related party transactions for our sample: the median firm-year level of RPTs is 10 percent of total assets. The median non-loan RPT is 4 percent of assets; loan RPT's are ‘lumpier’ – the median is close to zero, while the 75th percentile is 8.5 percent of total assets.

In the cross-section, total RPTs are positively correlated with accounting profits, but (weakly) negatively correlated with Tobin’s Q. This may result from controllers tunneling profits, or well-connected firms effectively targeting high profitability firms for rent extraction. These correlations result primarily from non-loan RPTs. Not surprisingly, listed firms with high leverage are also more likely to engage in loan-based RPTs, since both are a function of the listed firm’s ability to source outside capital.

Looking at within-firm variation, we observe patterns that are consistent with value – as measured by ROA or ROE – flowing *from* listed firms through listed firm loan RPTs, and *into* listed firms through non-loan RPTs. We observe similar results for Tobin’s Q. Interestingly, loan-related RPTs have a negative impact on investment, consistent with these transactions acting as a temporary credit constraint on the listed firm. Overall, our results may be explained by pyramidal structures serving a risk-mitigation and insurance function for the controller (and also possibly reducing transactions costs on between-firm interactions), whereas looking at only one component of these transfers could lead to a very

misleading view on the impact of pyramidal transactions.

2. Institutional Background: RPTs in Chinese listed firm

Related party transactions in Chinese listed firms are the natural result the corporatization process in China. Most large Chinese firms belonged to a business group prior to listing. To meet the listing requirements of the China Securities Regulatory Commission (or CSRC, China's SEC-equivalent), typically the business group will select one of its strongest firms and spin off bad assets from this firm (which are left as part of the business group). While the firm to be listed may thus satisfy CSRC's requirements, other group firms will be left bearing the burdens of this selective spin-off and restructuring.

After the firm goes public, it typically continues to do business with other (unlisted) group firms, as before, showing up as related party transactions in mandated disclosures.

These disclosure requirements were put in place on July 1, 1997 by a Ministry of Finance directive according to which, a firm A would be firm B's related party if (1) either A controls B or B controls A, or both are controlled by the same controller; (2) B cannot control A because it is not a controller, but holds 20-50percent stakes in firm A; (3) firm A's senior management, or main shareholder or any of their family members is the main shareholder of firm B.

Every Chinese firm is required to disclose all related party transactions in financial statements. If several transactions belong to the same category/type, the listed firm may choose to provide the aggregated value rather than transaction-level information. In this paper, we take advantage of the CSRC requirement that loan-related RPTs be reported separately from others. Non-loan RPTs include purchases and sales of goods (including

intermediate goods and services) or assets between related parties; leases, the formation of new joint-venture firms; and others.

Other member firms within the business group are not publicly traded, and have traditionally had difficulty accessing outside finance (see, for example, Deng Ke (2004)). As a result of restructuring, the listed firm has more transparent financial statements and – by design – is the strongest firm in a group, and thus able to act as a guarantor on loans to other group firms. This type of loan guarantee is the most common form of loan-based RPT (Deng, 2004). However, defaults on these loans – typically with maturity of about a year – are common (see Deng (2004); Feng Genfu, Ma Yajun and Shujie Yao (2005)), leaving the listed firm with a liability as guarantor. In case of default, this guaranteed loan would be converted to an inter-corporate loan between related parties. While we do not have direct data on the default rate of guaranteed loans, the results in Jiang Guohua, Charles Lee and Heng Yue (2008) suggest that defaults are not uncommon. The CSRC, concerned that these transactions would dilute the credibility of capital market reforms, issued regulations to reign in loan guarantees (GTA (2009)). However, implementation of these policies has been ineffective (Guohua, Lee and Yue (2008)).

3. Data sources

We obtain firm-level disaggregated related party transaction data for all listed firms from 1998 to 2008 from GTA, a Shenzhen-based data vendor. We then categorize all RPTs into two types: loan-based (typically guarantees from the listed firm) and other RPTs for each firm in each year. We also obtain firm level characteristics from GTA, including ROA, ROE, total assets, market value which is then used to calculate Tobin's Q, and also

ownership information. We focus on two independent variables: *Loan RPT Ratio*, total value of loan-based RPTs divided by total assets; *Non-loan RPT Ratio*, total value of non-loan RPTs to total assets.

4. Empirical Results

We begin by examining the cross-sectional relationship between our RPT Ratios and ROA, ROE and Tobin's *Q* in Table 2, using firm-level medians for the years 1998-2008. All regressions control for leverage, government ownership, total assets and SIC-2 industry fixed effects.

Table 3 - The impact of loan RPTs vs. non-loan RPTs: Median regression

Dependent Variable	(1) ROA	(2) ROE	(3) Log(1+Tobin's Q)
Non-Loan RPT Ratio	0.015* (0.008)	0.038** (0.015)	0.042 (0.048)
Loan RPT Ratio	0.029** (0.012)	0.034 (0.022)	-0.174*** (0.060)
Observations	1568	1568	1515
R-squared	0.35	0.18	0.34

Notes: Leverage, log(Assets), fraction of shares outstanding owned by the state included as controls in all specifications. Each column reports the result of a linear regression with robust standard errors clustering at the listed firm level in parentheses. All specifications include SIC-2 industry fixed effects. * significant at 10 percent; ** significant at 5 percent; *** significant at 1 percent.

The results indicate that the positive correlation between *RPT Ratio* and ROA/ROE comes mainly from Non-loan RPTs, while higher loan-based RPTs leads to lower market valuation, suggesting that market investors negatively value loan guarantees. This pattern would naturally result from controllers extracting value from more profitable firms, and possibly also that higher RPTs may create value in business groups.

Recognizing the limits of these cross-sectional analyses, we turn to within-firm

regressions in Table 4. We begin by looking at the aggregate effect of related party transactions, *Loan RPT Ratio + Non-Loan RPT Ratio*. This total RPT Ratio is positively correlated with ROA and ROE, and has no significant correlation with Log(1+Tobin's *Q*), after controlling for leverage, government ownership, total assets and firm and year fixed effects. In these within-firm analyses, we include two other outcome measures – leverage and investment. Interestingly, we find that a higher total RPT Ratio leads to lower investment in the following year and is positively correlated with leverage. (In unreported results, we further control for the one-period lag of the dependent variable, and find that our results are qualitatively unchanged.). This is broadly consistent with related party transactions generating value within business groups.

Table 4 - The impact of related party transactions: Within estimation

Dependent Variable	(1) ROA	(2) ROE	(3) Log(1+Tobin's <i>Q</i>)	(4) Investment_F1	(5) Leverage
Loan RPT Ratio	0.020*** (0.006)	0.042** (0.017)	0.008 (0.017)	-0.008* (0.004)	0.063*** (0.013)
+ Non-loan RPT Ratio					
Observations	12510	12432	12113	9588	12510
R-squared	0.48	0.25	0.78	0.49	0.73

Notes: Leverage, log(Assets), fraction of shares outstanding owned by the state included as controls in all specifications. ROA included as a control in columns (4) and (5). All specifications include firm and year fixed effects. Each column reports the result of a linear regression with robust standard errors clustering at the listed firm level in parentheses. * significant at 10 percent; ** significant at 5 percent; *** significant at 1 percent

We again disaggregate *RPT Ratio* into its loan and non-loan parts in Table 5. *Non-loan RPT Ratio* is positively correlated with ROE, ROA, and Log(1+Tobin's *Q*), while *Loan RPT Ratio* is negatively correlated with these outcome measures. This suggests a ‘trading of favors’ within the group – that is, the listed firm, which is better positioned to access finance, enables lending by non-listed group firms (sometimes paying defaulted debt as a result); in exchange, the listed firm benefits from non-loan transactions, either because of

favorable transfer pricing rules, or simply because of reduced transactions costs. Consistent with this view, we find no within-firm correlation between loan and non-loan RPTs.

Table 5 - The impact of related party transactions: Loan RPTs VS Non_Loan RPTs: Within estimation

Dependent Variable	(1) ROA	(2) ROE	(3) Log(1+Tobin's Q)	(4) Investment_F1	(5) Leverage
Loan RPT Ratio	-0.027** (0.011)	-0.079** (0.033)	-0.035 (0.027)	-0.020*** (0.008)	0.193*** (0.021)
Non-Loan RPT Ratio	0.038*** (0.006)	0.093*** (0.017)	0.039* (0.021)	-0.002 (0.005)	-0.013 (0.014)
Observations	12541	12465	12141	9615	12541
R-squared	0.48	0.25	0.78	0.49	0.74

Notes: Leverage, log(Assets), and fraction of shares outstanding owned by the state included as controls in all specifications. ROA included as a control in columns (4) and (5). Each column reports the result of a linear regression with robust standard errors clustering at the listed firm level in parentheses. * significant at 10 percent; ** significant at 5 percent; *** significant at 1 percent

Turning to investment, we find that the negative impact of RPTs works mainly through the loan channel, suggesting that loan guarantees act as a financial constrain on the listed firm, or perhaps make managers more conservative in their investment policies.

Further, leverage is positively correlated with *Loan RPT Ratio*, but not *Non-Loan RPT Ratio*. This is likely a mechanical relationship – listed firms that have greater borrowing capacity have greater ability to provide loan guarantees.

Finally, we note that we did not find a significant difference in the effect of RPTs on firm performance between state-controlled and privately-controlled firms, i.e., state controllers are no more likely to expropriate minorities than private controllers.

5. Conclusion

Our results, taken together, are difficult to reconcile with either pure tunneling or pure “propping up” explanations for the existence of business groups, but are consistent with a

more nuanced coinsurance relationship between the controller and listed firm. A pure tunneling story runs contrary to the positive correlation between firm performance and non-loan RPTs, while the negative effect of loan-based RPTs is inconsistent with a propping up story. Rather, our correlations suggest a coinsurance relationship between the controller and the listed firm: The controller may help the listed firm out by paying a higher premium for services or goods provided by the listed firm to meet regulatory requirements (for example, to avoid the listed firm from negative profits, while may lead to be delisted by the SEC in China); at other times, when the controller is financially constrained or needs external financing but has some difficulty in obtaining external funds, the listed firm can provide loan guarantees (though the listed firm may bear all debts in case of default).

We conclude by re-emphasizing that our empirical exercise lacks clear causal identification, but suggests that future work should fully account for the multi-dimensional relationships that exist among group firms in China and elsewhere. We hope that research in this area can better pin down the particular channels through which related party transactions impact firms' operating strategy and financial performance.

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