

The impact of business group affiliation on performance: evidence from China's 'national champions'

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Abstract

An important aspect of China's economic reforms has been an ambitious policy to develop a 100 or so large, internationally competitive business groups. Very little is known about these national champion groups or the benefits to subsidiary firms of belonging to them. This study, building from insights and methods used in existing literature, examines the performance of subsidiaries affiliated to China's national champion groups. Our results find that they perform comparatively well. We discuss possible reasons for this finding and comment more generally on the important role that business groups now play in China's reform and development.

Keywords: business groups; national champions; subsidiary performance; enterprise reforms; ownership; economic transition.

JEL Classifications: L2, P3

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1. Introduction

This paper examines whether membership of a select number of China's 'national champion' business groups is associated with superior firm-level performance for affiliated subsidiaries. This is an important question, as the influence and reach of China's big business groups is already considerable. By 2006 there were 2,856 officially recognised business groups with 27,950 directly owned first tier subsidiaries, employing around 30 million people in China (SSB, 2007A). From within these business groups, moreover, a small subset of around only 100 or so were selected as 'national champion' trial groups. These groups have received a variety of special policies and are now among the largest and most institutionally advanced business groups in China (Nolan, 2001). Investigating the performance of firms affiliated to these trial groups may, among other things, shed further light on the role of business groups in China's notable economic achievements. To this end this paper examines the performance of publicly listed firms that are affiliated with these trial groups. Though not without problems, we believe our approach to be a relatively clean test of the benefits of group affiliation in China. Our results also shed further light on the broader discussion on whether business groups are to be seen as 'paragons' or 'parasites' in the development process (Khanna and Yafeh, 2007).

In Section 2 we review relevant literature and describe the background to and characteristics of the national champion business groups. Section 3 describes the methodology and data. Section 4 presents our empirical results. Section 5, going beyond our discussion of affiliate performance, raises several further important questions regarding the role of business groups in China today. China's groups are now absorbing more and more firms and incorporating greater volumes of private capital. As such, the sphere of influence of state groups has expanded. The clear boundaries between state and non-state sectors that once existed have become less well defined.

2. Background and Literature Review

Khanna and Yafeh (2007) and Morck *et al* (2005) provide useful reviews of the business group literature which has recently become highly topical. A key theme of this literature has been to ask whether business groups may be seen as ‘paragons’ or alternatively ‘parasites’ (Khanna and Yafeh, 2007). It is argued, for example, that under certain conditions business groups may provide benefits for member firms. Conversely, at other times there may be costs associated with group membership. Among the benefits of group formation, it has been hypothesised that groups may fill institutional voids that are common in emerging markets (and transition economies in particular). By compensating for imperfect or under developed markets in finance, labour, and products, for example, they may help facilitate exchanges that could not happen through the market place. They thus play a positive role in firm development by reducing transactions costs. On the other hand, a number of negative traits may also be associated with business groups, related often to their monopoly powers, engagement in rent-seeking activities and association with crony capitalism, moral hazard and excessive and inefficient investment. One much discussed negative trait is that groups may develop pyramidal structures (La Porta *et al*, 1999; Morck *et al*, 2005). Such structures allow an apex firm to control numerous other firms without having made commensurate capital investments. This may lead to corporate governance problems and the ‘tunnelling’ of resources away from member firms. Here business groups have the potential to destroy value. Such pyramidal groups, moreover, also allow elites, often families or the state, to have enormous economic influence over vast corporate empires (La Porta *et al*, 1999). More generally, it is speculated this may lead to a range of unhealthy macroeconomic impacts, broadly referred to as ‘economic entrenchment’ (Morck *et al*, 2005, p. 655). In summary, much of the current discussion of business groups is dominated by whether they may be seen as paragons or parasites (Khanna and Yafeh, 2007).

Building from this debate on the various strengths and weaknesses of business groups, a large empirical literature examines whether group affiliated firms perform better than non-group affiliated firms. The evidence, however, is rather mixed. Empirical studies comparing unaffiliated firms to firms that are part of bank-centered keiretsus in Japan, for example, show little evidence of superior performance (Weinstein and Yafeh, 1998). Similarly, Khanna and Palepu (2000A) find that business group affiliation in India is negatively correlated with profitability. In contrast, however, Chang and Choi (1988) find that profits for group-affiliated Korean firms are higher than those of independent firms. Khanna and Palepu (2000B) find that group membership in Chile has a positive impact on both profitability and Tobin's Q. While there is, therefore, some debate as to the exact impact of business groups, Khanna and Yafeh (2007) in their comprehensive review of the business group literature note that the performance of such groups may well be related to the particular institutional environment in which they evolve. Under certain conditions business groups may play a positive role but in others they may not.

While interest now abounds in business groups, to date only a relatively small literature exists on China's business groups. Smyth (2000), for example, asks 'should China be promoting business groups'? This investigation, while providing valuable observations and analysis, does not undertake any new empirical analysis on business groups *per se*. Instead it is based largely around a prior literature on large and medium enterprises. Nolan and Wang (1999) and Nolan (2001), based primarily upon case studies, investigate the nature of institutional change within China's large business groups in the context of transition and globalisation. Several further papers employ a quantitative approach to examine whether and under what conditions affiliated members benefit from group membership in China. Keister (1998, 2000) examines the performance of 40 of China's largest groups between 1988 and 1990 using a panel data set. She finds that internal finance

companies (facilitating internal financial markets) and interlocking directorates (which promote information exchange between group members) are associated with improved performance. She therefore examines the extent to which the internal features of these groups (finance companies, for example) enhance their efficiency. Yiu *et al.* (2005) examine the profitability of 224 business groups (including all subsidiaries) with another purpose in mind. They wish to find out how groups acquire resources and capabilities so that they can become successful agents to promote economic transformation and growth. They find that group profitability is negatively related to what they call 'endowed resources' (including such things as the age of the group, the extent of government ownership and the prevalence of management with government links) but positively related to what they call 'acquired resources'. Such resources they argue are acquired through actions such as acquisitions, internal capability development and international diversification (Yiu *et al.*, 2005). Ma *et al.* (2006), on the other hand, look to examine how business groups fill 'ownership voids' by serving as the direct owners of state owned enterprises in the absence of other private actors. They find that the combination of business group affiliation and state ownership has a positive effect on subsidiary performance. As well, therefore, as substituting for imperfect markets, they argue they may also play an important role in ownership reforms, a point to which we later return.

Finally, the World Bank (2005) has warned of the dangers of forming business groups with state owned parent companies. They argue such parent companies might use the proceeds from the listing of firms, as well from ongoing earnings to fund intra-group structural reform or ill-advised investments (such as speculation in commercial real estate). As such they argue, albeit on the basis of limited empirical data, that such state owned groups may be especially prone to the aforementioned tunnelling problem and require reform. We look to also shed further light on this question.

Although Keister (1998, 2000) and Yiu *et al.* (2005) show that certain group characteristics have positive impacts on performance, they do not directly examine whether group affiliated firms perform better than other firms, whereas this is the key objective here. To date, moreover, no studies have specifically identified the trial national team groups. We believe, however that these groups provide a particularly good opportunity to investigate the impact of business group affiliation, for reasons we now discuss.

2.1 China's national champions

China's trial groups are much larger and more sophisticated than other groups. In fact, trials and experimentation to develop internationally competitive large business groups can be traced to a policy directive issued by the State Council in December 1991, endorsing 55 business groups to undergo influential trial reforms. In April 1997, a second policy directive selected a further 63 groups to join the trials (Sutherland, 2003). Since this time the number of trial groups has remained at around 100 with some fluctuation as groups have merged, entered or left. To a great extent the development of the trial groups has adopted the traditional Chinese reform method of using incremental steps, and has followed an iterative and bottom up process of experimentation and feedback. The precise objectives of the policies, moreover, have evolved over time. Among the most important and consistently stated objectives of the national champion policy, however, has been to promote institutional change with a view to creating internationally competitive groups that can lead China's integration in the world economy (Nolan, 2001; Sutherland, 2003).

To achieve this objective a variety of policies were introduced to the national champion groups, including: the development of internal group finance companies; stock market listings; earlier and

greater freedoms within the groups giving them greater autonomy in basic decision making; granting of import and export rights; empowerment of the group's core with special rights to incorporate state assets into the group; and the creation of research and technology centres. Table 1 shows the proportion of national champion business groups and other business groups that have adopted these policies (see Sutherland (2003) for a fuller discussion of these policies). While a proportion of non-champion groups employ all types of policies, national champions employ a higher proportion across the board. For example, 40% of the national champion groups had finance companies, compared to only 11% for other groups and 84% had research and technology centres compared with 55% for other non-trial groups. Both Nolan (2001) and Keister (1998) make the point that these groups are among the most advanced business groups in China. As such they are arguably in the best possible position to substitute for the imperfect markets that business groups supposedly replace.

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The national champions, moreover, are very large both in absolute size and relative to other groups. When including the parent company (in China referred to as the 'mother company' (*mu gongsi*) or 'group company' (*jituan gongsi*)) and subsidiaries with an ownership stake in excess of 50%, the total aggregate assets, for example, summed to US\$715bn in 2003, representing an average of US\$6.3bn per group. In contrast, the 2,579 other enterprise groups were much smaller in average size (US\$517m) (Table 2). Similar differences exist in terms of turnover and number of employees. Remarkably, both national champions and other groups experienced high annual growth, at or above 18% each year in assets and sales, around twice the speed of national output growth. Employee growth is lower but clearly contrary to the general trend of downsizing within

state industry. The trial groups employed around 80,000 per group, compared to 6,000 for other groups. Percentage growth rates in assets, turnover and employees are lower for national champions than for other groups, although the absolute growth is much larger. R&D expenditure within the national champions was greater than for other groups. Profits also grew within the trial groups, reflecting their growing profitability (expressed as a share of total assets in Table 2).

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Finally, it is interesting to note that the number and type of firms participating within China's business groups has also grown. This is important, as it suggests the influence of China's groups is expanding. Official data on China's business groups records a variety of data on the parent company and first tier of subsidiaries. From this we know the total number of first tier subsidiaries increased from 24,523 to 27,950 between 2002 and 2006. Their share of the total assets of the business groups also increased from 56% to 66% (SSB, 2003A; SSB, 2007A). Among these subsidiaries, moreover, state owned firms became less important as a corporatisation process ensued. An increase in the number and share of limited liability companies (increasing from 9% to 15% in terms of asset share) and larger stock limited companies, those potentially listed on China's stock exchanges, also took place (increasing from 10% to 20% in terms of asset share) (SSB, 2003A; SSB, 2007B). As such the nature and ownership structure of China's business groups, at least at the level of the first tier of firms, appeared to be becoming more diversified. Within the parent company, furthermore, those in which the controlling shareholder was registered as state or collective entity decreased from 100% to around 47% between 1997 and 2006 for all groups, while the number of privately controlled groups increased to 38% (SSB, 2007A, p. 17). For national champion trial groups, however, nearly all still remained state controlled.

2.2 Research questions

The trial national champion business groups are the largest and most advanced groups in China, benefiting from a raft of experimental changes. Their characteristic features, moreover, have been shown in other contexts to benefit group members. Keister (1998, 2000), for example, shows that the presence of group finance companies benefits subsidiaries. If group membership in China is beneficial therefore, arguably the firms most likely to benefit are the subsidiaries of national champions. On the other hand, however, the greater degree of state ownership within the parent company, some argue, may encourage the tunnelling of assets away from subsidiary firms (World Bank, 2005). Given these two apparent contradictory forces, as well as the declared policy to create internationally competitive groups, it is of particular interest to further investigate the performance of the national champion subsidiaries involved in the trials to create business groups.

In the next section we describe the methodology and data we employ to examine how these subsidiaries perform relative to other firms.

3. Methodology and Data

The methodological approach we employ to test whether affiliation to national champion business groups is beneficial is to examine how listed subsidiaries of national champion business groups perform compared to other listed firms. The examination of group affiliated listed subsidiaries is the approach used by the majority of empirical studies (see e.g., Hoshi *et al.*, 1991; Choi and Cowing, 1999). We focus on listed firms (rather than private firms) because of the more reliable accounting data and additional share price measures available. If group affiliation improves performance, we expect national champion listed affiliates to outperform all other listed firms

including both listed subsidiaries of other business (non-national champion) groups and independent listed firms. Again, previous studies have also employed this approach, focusing on whether listed firms are members or not of only the largest business groups (Choi and Cowing, 1999). Unfortunately, it is not possible to compare the performance of member firms before and after their affiliation to national champion groups because it is hard to estimate precisely when particular groups became national champions,¹ and because listing of group subsidiaries often followed selection of the parent group as a national champion. Our approach therefore, along with prior studies, is prone to selection bias and a potential endogeneity problem (Khanna, 2000).

In order to identify listed subsidiaries of national champion groups we use the Osiris database to examine whether the largest shareholder in all Chinese listed companies (as of year end 2004) is a national champion parent group. If it is, then we use the Osiris company history to establish whether the listed subsidiaries have been subsidiaries of the national team member groups since their initial listing. If so, they are included in the analysis. Of the 1,503 listed Chinese firms on Osiris, we identified 87 as being subsidiaries of national champions. We collect financial accounting data from Osiris and stock market data from Datastream, both of which date from 1998-2004. In order to be included in the analysis, companies must be listed on both databases and have the financial variables required for the analysis (described below). This results in a final sample of 69 national champion subsidiary listed firms and 983 other listed Chinese firms. The annual data availability for these two sets of firms is reported in Table 3 below.

INSERT TABLE 3 HERE

¹ This is because of the at times informal and experimental nature of the national champion policy. For example, experiments with three large auto makers started in 1986 but the formal announcement of the first batch of trial groups did not take place until 1991.

3.1 Performance measures and specification

We examine the impact of national champion affiliation on three different performance variables; profitability, Tobin's Q, and share return. Profitability is the ratio of profit before interest and taxation divided by net assets. Tobin's Q is book value of total assets plus market value of equity minus book value of equity divided by book value of total assets. Share return is the logarithmic annual share return between 1st January and 31st December, and takes account of both dividends and stock splits (Datastream variable RI). Previous studies have tended to use either one or more of these three measures of performance. We employ all three to ensure that our results are robust to different firm performance measures. The specific econometric regression that we run is as follows:

$$\begin{aligned} \text{Performance indicator} = & \alpha + \beta_1 \text{National champion} + \beta_2 \text{Size} + \beta_3 \text{Age} + \beta_4 \text{Growth} + \\ & \beta_5 \text{Debt} + \text{Industry dummies} + \text{Year dummies} + \varepsilon \quad (1) \end{aligned}$$

National champion is a dummy variable which is set equal to one for firms that are national team subsidiaries and zero for firms which are not. The coefficient for this dummy variable measures the difference in the performance measure between the 69 national champion subsidiary firms and the other 983 firms. *Size* is the logarithm of the book value of total assets at the beginning of the year, which is adjusted for inflation by converting into 2004 real terms using the Chinese Consumer Price Index (OECD Factbook 2006). *Age* is the logarithm of the number of years since the firm was first listed on Datastream. *Growth* is the annual percentage growth rate in real sales. *Debt* is long term debt divided by the sum of shareholder funds and long term debt. *Industry dummies* are industry dummy variables which are set equal to one for each US SIC two digit code,

whilst *Year dummies* are year dummy variables. These independent variables are designed to control for factors that may both determine our dependent variables and differ between group affiliated firms and other listed firms.² We employ ordinary least squares (OLS) regressions and Huber-White (1980) robust standard errors. All variables are winsorized at the 1st and 99th percentiles to remove influential outliers. Table 4 below reports descriptive statistics for the sample.

INSERT TABLE 4 HERE

4. Results

The results of the regression models are reported in Table 5 below. The coefficient for the national champion dummy variable is positive and statistically significant (at the five percent level or higher) in each of the three regressions. This evidence suggests that listed subsidiaries of national champion groups have significantly higher profitability, Tobin's Q, and share returns than other listed firms, after controlling for size, age, growth, leverage, industry and year fixed effects.

The results suggest that these differences are economically as well as statistically significant. In the profitability regression (column 1), the coefficient for the national champion dummy variable is 0.012, suggesting that national champion subsidiaries exhibit a profit rate some 0.012 higher than other firms. Given that the average profit rate for the overall sample is 0.0599 (see Table 4), the profit rate for national champion subsidiaries is some 20% higher. Similarly, for the Tobin's Q regression, the national champion coefficient is 0.156, which compared to an average sample Tobin's Q of 1.9525, suggests that national champion subsidiaries exhibit a Tobin's Q which is 8% higher than other firms. Finally, for the share return regression, the national champion coefficient is

² In untabulated univariate tests we find that, compared to other listed firms, national champion listed subsidiaries are significantly larger, but have similar age, growth and debt.

0.038 compared to an average sample share return of -0.0689, which is again an economically meaningful difference.

INSERT TABLE 5 HERE

Our key result from this section is that listed subsidiaries of national champion groups have significantly higher performance than other listed firms. We now subject this finding to a number of robustness tests.

4.1 Tests of robustness

Firstly, we test the robustness of our results to alternative definitions of the performance measures used for our dependent variables. Instead of profitability before interest and taxation over net assets, we employ net income divided by shareholders funds. Instead of Tobin's Q we employ market value of equity divided by shareholder funds, and instead of using the logarithm annual share return we use the arithmetic annual return. None of these alternative definitions makes a difference to the results in Table 5. The coefficient for the national champion dummy is significantly positive in each case.

Secondly, we test the robustness of our findings to the inclusion of additional control variables. Our sample of 1,052 firms have their main listing on different stock markets (604 in Shanghai, 423 in Shenzhen, 23 in Hong Kong, and 2 in Singapore). We control for these differences by including dummy variables for the different stock markets. We control for the level of firm diversification by including a dummy variable set equal to one if the primary and secondary 2-digit SIC codes are different from one another. We include a number of additional financial variables as explanatory variables in each regression (intangible assets divided by total assets, current ratio, dividend payout ratio, profitability variance). In all cases, the positive impact of national champion affiliation

remains significantly positive. The positive impact of national champion affiliation on profitability and share return is not sensitive to exclusion of any or all of the independent variables in Table 5, although the positive impact on Tobin's Q does not hold if firm size is not controlled for.

A third robustness test concerns the benchmark for our national champion listed firms. In Table 5 we compared them with all other listed firms. We are able to refine this counterfactual to some extent by classifying sample firms according to their largest shareholder. Osiris reports the largest shareholder (for 2004) according to whether it is an industrial firm (841), government agency (93), financial company (80), individual or family (3), or no large shareholder (35). Firstly, we restrict the sample to either national champion subsidiaries or those whose largest shareholder is a government agency (93). Since the latter are state owned but not group affiliated, this allows us to test whether group affiliation has a positive impact on performance for state owned listed firms. The regressions for this subsample show that the coefficient for the national champion coefficient is significantly positive for profitability and share return although insignificantly positive for Tobin's Q. Secondly we compare national champion subsidiaries with those firms whose largest shareholder is an industrial firm (841). This comparison allows us to examine whether affiliation to national champion groups is more beneficial than affiliation to other groups (state owned or non-state owned groups).³ Regressions carried out on this restricted sample show that the coefficient for the national champion dummy variable continues to be significantly positive for the Tobin's Q and share return regressions although insignificantly positive for the profitability regression. Overall, these two tests show that national champion affiliation is beneficial compared to both direct state ownership and to affiliation to other groups (state owned or non-state owned groups).

In summary, the results in this section show that firms that are affiliated with the national champion groups have higher performance. This finding is robust, holding across a range of

performance measures, control variables, and benchmark firms. This is consistent with previous empirical studies on China which show that group affiliation is associated with positive performance impacts (Keister, 1998; Ma *et al.*, 2006).

5. Summary and Discussion

We have identified China's most important business groups (the 100 plus 'national champion' trial groups) and investigated the performance of their listed subsidiaries. A sustained government policy over the past 20 years has bestowed upon these groups a wide range of group rights, some of which have been shown to be associated with successful business group performance in other settings. The government's objective is to make these groups internationally competitive. Aggregate data on the groups (including mother and first tier subsidiaries) suggests that, as a whole, these groups are very large and have grown quickly in terms of sales, assets and R&D expenditures. Going a step further we apply a frequently used approach in the business group literature to examine subsidiary performance (Khanna and Yafeh, 2007). Our analysis of the listed subsidiaries of these national champions shows that they outperform non-affiliates in terms of higher profitability, stock market valuations and share returns.

One interpretation is that institutional changes in the national champion groups are responsible for the observed high performance in member subsidiaries. This argument is consistent with previous studies which find that certain institutional features more prevalent in China's largest groups (such as finance companies and research and development centres) directly improve member performance (Keister, 1998, 2000). Other studies, moreover, concentrating specifically on

³ We are unable to distinguish between those industrial firms that are state owned and those that are not.

China's groups, also give reasons as to why groups may provide benefits to member firms. Nolan and Wang (1999), for example, have suggested on the basis of numerous case studies that Chinese groups may pool and distribute heterogeneous resources for member firms (such as management skills, brands, sales and marketing). It has also been suggested that group membership may provide insulation from potential or real political intervention, thus controlling an uncertain political environment while 'improving their access to scarce goods' (Keister, 2000, p. 151). Moving beyond studies of Chinese business groups, it is in general suggested that business groups may enhance firm-level performance as they substitute for imperfect markets (Khanna and Yafeh 2007). It is entirely conceivable, of course, that Chinese groups do play this role, leading to lower transactions costs. Such missing markets are likely to be particularly severe in transition economies. In other words, in the Chinese context it is possible that business groups are 'paragons' as opposed to 'parasites'. Indeed, the only other study with direct similarities to ours, looking at listed subsidiaries of groups, finds evidence that they may improve subsidiary performance (Ma *et al.*, 2006). Smyth (2000), in a synthesis of current arguments, also concludes that groups may be beneficial to firm performance in China. On balance then, there are credible reasons as well as considerable evidence supporting the argument that business groups may improve firm performance in the Chinese context. The sheer proliferation of such groups, both state owned and private, might also suggest they may enjoy some competitive advantages.

This said, as with other studies in this area, we must also stress that this interpretation of our results is tentative because the methodology does not establish causality. The results could instead equally well be explained by national champion groups listing well performing firms, or policy makers successfully 'picking winners'. In addressing whether performance has been better for national champions, moreover, it is impossible to take into account whether there are direct interventions that may lead to better performance among these listed subsidiaries (preferential

access to material supplies, finance, foreign investment, public procurement and the like) or what the opportunity costs of these interventions are. Clearly, more research is needed to further clarify these issues. Still, it is some interest that the very subsidiaries which have been hypothesised to be most at risk of agency problems and tunneling do not seem to be performing badly, but instead quite well. The World Bank (2005), for example, highlighted concerns about the capacity and willingness of state groups to exploit their listed subsidiaries. Clearly, our results suggest this is not the case. Instead, the trend appears more consistent with the goal of creating internationally competitive transnational businesses, one avowed goal of the policy (Nolan, 2002).

In highlighting China's business groups as an area of research we believe there are a number of points that warrant mention and further investigation. Firstly, moving beyond the question of the performance of firms affiliated to China's trial business groups, we note that the influence of China's groups now arguably extends the reach of China's state sector beyond the traditional boundaries marked by standard ownership criteria. We have already noted that there were 2,856 officially recognized business groups with over 27,950 first-tier subsidiaries (averaging about 10 per group in which the ownership stake exceeded 50%) by the end of 2006. But how large are China's business groups if we include lower tiers of member firms? Delineating the exact boundaries of business groups is notoriously difficult. Different and at times quite vague definitions of what actually constitutes a group, and by extension group membership, exist. Granovetter, in a seminal contribution, notes how groups have an 'invisible nature' (Granovetter, 1993, p. 97). Thus practical definitions of business groups are nearly always subjective and vary considerably across countries. In post-war Japan's case, for example, Khanna and Yafeh (2007) define group membership as those firms which send members to the meetings of the 'Presidents Clubs'. The Korea Fair Trade Commission, on the other hand, defines a business group as 'a group of companies of which more than 30 percent of shares are owned by the group's controlling

shareholder and its affiliated companies' (the average number of affiliated firms within the chaebols was 27 in 1998) (Bae and Jeong, 2007, p.743). Other academics provide rather broad definitions which are quite hard to apply (take Leff's early definition, for example: 'a group of companies that does business in different markets under a common administrative or financial control' and that are 'linked by relations interpersonal trust, on the basis of a similar personal, ethnic or commercial background' (Leff, 1978, p. 663). In short, there is considerable debate on just how business groups should be defined (are social ties, for example, more important than ownership ties?). The official Chinese definition of group membership, however, in including data on first tier subsidiaries, arguably means China's groups appear small in terms of actual membership numbers. If, however, second and lower tier companies are included, China's groups would almost certainly appear considerably larger. The influence of China's business groups, therefore, is almost certainly greater than the already significant scale and reach highlighted by official statistics. Given this, the performance impacts of group affiliation are clearly important to understand.

Secondly, related to this point and also the important issue of affiliate ownership and control, is the question of why business groups, often with controlling shareholders rather than free-standing large enterprises with diffuse ownership, are becoming dominant in the Chinese economy. It is important to note, in this regard, that it has recently been shown that it is only in the UK and US that the free-standing diffuse ownership pattern of corporate governance structure truly exists (La Porta *et al*, 1999). In this sense the evolution of China's current business group structures, in which some firms may come to control numerous other firms (both publicly listed and non-listed), is not so surprising. In most countries (both developing and developed) large corporations often have controlling owners (usually wealthy families) and also pyramidal type control structures using business groups. One feature of these ownership structures is that they may allow the controlling

family, or state body in China's case, to vastly expand their control over firms and the economy as a whole 'without undertaking commensurate capital investments' (Morck *et al*, 2005, p. 655). Indeed, one rationale for business groups, considered also to cause agency problems, is that they allow firms to attract large volumes of external capital while maintaining ultimate control over firm members. Raising capital through the creation of business groups has arguably been especially appealing to incumbent state bodies at different levels in China (provincial and city governments, for example). Business groups, therefore, provide attractive possibilities to leverage the influence of state actors, thus facilitating control over large parts of the economy. This phenomenon, whereby elites control vast swathes of an economy through business groups, has been referred to as 'economic entrenchment' (Morck *et al*, 2005). It is also considered to be significant in understanding economic performance across countries.

Thirdly, and following from the points above, as business groups absorb more firms and in turn capital from different sources this leads to the diversification of ownership within business groups. This raises numerous interesting questions about the role such groups play in ownership reform and the boundaries of the traditional state owned economy in China. Much of the discussion, dating from the debate of transition strategies ('gradualism' versus 'big bang' approaches), has dwelt upon the issue of ownership and how this may impact on firm performance. Business groups, however, may play an important role in blurring clear ownership boundaries. This is because they may allow a state-owned parent company, through pyramidal type control chains, to control other firms in which non-state capital is predominant. Liu and Pei (2005), for example, highlight what they believe to be the prevalence of such control chains and the difficulties this presents in even identifying the ultimate owners of listed firms. They note, furthermore, that many firms officially designated as being non-state owned are, in many instances, in fact ultimately controlled by state owned business groups. The true extent of such control chains and the role business groups play in

expanding their control over the non-state sector is an important question and warrants greater research. By 2006, for example, only 5,493 of the 27,950 first tier subsidiaries in China's business groups remained registered as state owned. Another 14,000, however, had been transformed into limited liability companies and 1,882 into stock holding companies, opening up the way for further ownership diversification.

6. Conclusion

The primary purpose of this paper was to investigate the performance of the listed subsidiaries of China's trial business groups. Given the outstanding features of these groups, particularly their greater institutional development, it is of interest to investigate their performance. Our results are surprising, in so far as a clear tendency to outperform other listed firms was found among the national champion affiliated firms. We have discussed possible interpretations for this and have noted that this result also appears consistent with some of the research to date on China's business groups.

To conclude, it is important to frame our findings within a broader context. The transition orthodoxy, a paradigm strongly influenced by the ideas of mainstream neoclassical economics, called for the rapid privatisation of large state owned enterprises, rapid liberalisation and close integration with international markets. It also emphasised the importance of small private enterprises in promoting economic growth and the impossibility of turning round state owned enterprises (World Bank, 2002; Nolan, 1996). The success of China's economic reforms, therefore, has been described by recourse to the analogy of 'a dry prairie, parched by years of planning, awaiting the sprinklings of market reform' (World Bank, 1997). In this analogy, success was attributable solely to the 'shoots' of small private enterprises emerging in response to market forces. In so far as it envisaged large enterprises taking a centre stage in economic development, it

did so with reference to the type of structures noted in the advanced capitalist economies, particularly the US and Britain (i.e. free standing firms with diffuse ownership). This might be applicable to US or British firms, which are generally, if not always, freestanding. Recent research, however, shows these types of governance structures are highly atypical (La Porta *et al*, 1999). It is in fact more common, particularly for large listed corporations, to belong to business groups, often in a pyramidal form, with an identifiable controlling owner (as opposed to many small shareholders). Such structures, moreover, often allow small elites to control vast swathes of a nation's corporate sector. The complex types of ownership and control structures that actually predominate throughout the real world and the important role of business groups, particularly in developing countries with imperfect markets, was therefore largely overlooked by this orthodox view. Here we have highlighted the growing importance of these large groups and the need to further deepen our study of them.

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Table 1. *National champion groups and other business groups: Institutional development*

	National champion groups (%)	Other groups (%)
Full investment autonomy	95	91
International financing rights	46	25
Export credit guarantees	84	72
Independent import and export rights	96	69
Combined group tax payment	61	26
Rights to contract international projects	82	53
Rights to approve foreign business affairs	74	9
Technology and research centres	84	55
Finance companies	40	11

Note: This table reports the institutional development of 113 national champion groups and 2579 other business groups in 2006. See Nolan (2001) for further details of these measures.

Source: SSB (2006A, p. 404).

Table 2. National champion groups and other business groups: Aggregate financial characteristics

	1997	1998	1999	2000	2001	2002	2003	Average annual change (%)
<i>Panel A: National champion groups</i>								
Number	119	121	126	119	119	116	113	-0.8
Assets (US\$ bn)	278.2	408.1	547.4	544.0	581.0	635.4	715.3	18.2
Turnover (US\$ bn)	135.1	193.8	262.7	275.6	306.3	358.2	444.3	22.7
Employees (number)	7.6	9.9	11.2	9.9	9.3	8.8	9.0	3.8
R&D (US\$ bn)	13.4	20.1	30.2	35.4	37.8	49.4	62.0	30.1
Exports (US\$ bn)	9.0	9.8	16.5	17.6	17.7	21.7	23.9	19.5
Profits (US\$ bn)	5.3	4.2	8.9	17.2	17.5	24.4	32.3	43.0
Profits/assets (%)	1.9	1.0	1.6	3.2	3.0	3.8	4.5	25.2
<i>Panel B: Other groups</i>								
Number	2,250	2,351	2,631	2,536	2,591	2,511	2,579	2.4
Assets (US\$ bn)	328.4	399.1	504.7	745.0	961.7	1081.9	1334.9	26.8
Turnover (US\$ bn)	204.7	228.8	264.6	366.1	484.3	571.0	761.7	24.9
Employees (number)	10.9	11.0	12.2	12.9	15.9	16.4	16.9	7.8
R&D (US\$ bn)	27.5	30.8	33.3	41.9	57.5	62.5	83.3	20.9
Exports (US\$ bn)	22.1	22.6	26.7	37.6	47.4	54.0	66.9	20.9
Profits (US\$ bn)	9.4	8.9	11.9	17.8	21.2	25.9	34.6	25.5
Profits/assets (%)	2.9	2.2	2.4	2.4	2.2	2.4	2.6	-1.0

Note: This table reports the aggregate financial characteristics for national champion groups and other business groups (including parent and first tier of subsidiaries) over 1997-2003. We convert the Renminbi values to US dollars assuming 8.3 RMB to 1 US\$. The figures are expressed in 2004 real terms, deflated using the Chinese Consumer Price Index (OECD Factbook 2006). *Source:* SSB (2004A, pp. 30-3).

Table 3. Sample description

Year	National champion listed subsidiaries	Other listed firms	Total listed firms
1999	37	583	620
2000	39	624	663
2001	53	719	772
2002	56	825	881
2003	62	888	950
2004	66	904	970
# firm years	313	4,543	4,856
# unique firms	69	983	1,052

Notes: This table reports the firm year observations for the samples used in the analysis on a year by year basis. Column (2) reports the number of firm year observations for all Chinese listed subsidiaries of national champion groups in the Datastream and Osiris databases with all the financial variables described in Table 5 below available. Column (3) reports the number of firm year observations for all other Chinese listed firms in the Datastream and Osiris databases with all the financial variables described in Table 5 below available. Column (4) is the sum of columns (2) and (3). Firms classified as financial or real estate (US SIC 600-699 inclusive) are excluded throughout.

Table 4. Descriptive statistics

Variable	# observations	Mean	Median	Standard deviation	25 th percentile	75 th percentile
Profitability	4,856	0.0599	0.0691	0.0899	0.0267	0.1107
Tobin's Q	4,856	2.2870	1.9525	1.2437	1.3699	2.9088
Share return	4,856	-0.0689	-0.1440	0.3258	-0.3112	0.1477
Size	4,856	11.9820	11.9186	0.8073	11.4163	12.4995
Age	4,856	1.4298	1.6094	0.6451	1.0986	1.9459
Growth	4,856	0.1882	0.1398	0.3421	-0.0201	0.3505
Debt	4,856	0.0925	0.0365	0.1188	0.0000	0.1524

Notes: This table reports summary statistics on the variables employed in the analysis. Profitability is the ratio of profit before interest and taxation divided by net assets. Tobin's Q is book value of total assets plus market value of equity minus book value of equity divided by book value of total assets. Share return is the logarithm of the annual buy-and-hold share return between 1st January and 31st December, and takes account of both dividends and stock splits. Size is the logarithm of the book value of total assets at the beginning of the year, which is adjusted for inflation by converting into 2004 real terms using the Chinese Consumer Price Index (OECD Factbook 2006). Age is the logarithm of the number of years since the firm was first listed on Datastream. Growth is the annual percentage growth rate in real sales. Debt is long term debt divided by the sum of shareholder funds and long term debt. All variables have been winsorized at the 1st and 99th percentiles to remove influential outliers.

Table 5. *Performance of national champion listed subsidiaries*

Independent variables	Dependent variable		
	Profitability	Tobin's Q	Share return
Intercept	-0.184*** (-3.53)	12.232*** (21.04)	-0.190 (-1.21)
National champion	0.012** (2.38)	0.156*** (2.95)	0.038** (2.47)
Size	0.016*** (8.86)	-0.773*** (-38.18)	0.021*** (4.19)
Age	-0.014*** (-7.87)	0.035 (1.44)	0.017*** (3.12)
Growth	0.091*** (23.72)	-0.009 (-0.21)	0.126*** (12.58)
Debt	-0.126*** (-11.58)	-0.234** (-2.19)	0.048 (1.61)
Industry dummies	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
# observations	4,856	4,856	4,856
R ²	0.2332	0.5146	0.5439
F-statistic	22.22***	85.62***	124.06***

Notes: This table reports ordinary least squares regressions of company performance on national champion affiliation and other variables. National champion is a dummy variable set equal to one for all Chinese listed subsidiaries of national champion groups, zero otherwise. Other variables are as defined in Table 5. Industry dummies are dummy variables set equal to one for each US SIC two digit code. All continuous variables have been winsorized at the 1st and 99th percentiles to remove influential outliers. t-statistics are in parentheses and are based on robust standard errors. ***, ** and * denote significance at the 1%, 5%, and 10% level, respectively.