State Control and Elite Autonomy: A Network Study of Chinese Foundations

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Abstract

In response to failures of central planning, the Chinese government has experimented not only with free-market trade zones, but with allowing non-profit foundations to operate in a decentralized fashion. A network study finds that these foundations have connected together by sharing board members, in a structural parallel to what is seen in corporations in the United States. This process of board interlock has led to the existence of an elite with privileged network positions and a rich-club effect of preferential within-elite connections. While the government supervises foundations through the presence of officials on foundation boards, it exercises lower levels of supervision over a subgroup of foundations that, despite being prevented from public fundraising, control just over half of all non-profit revenue in the country. This subgroup not only enjoys lower levels of direct government supervision and higher levels of within-elite links, but even appears to preferentially exclude government supervision from the nodes with highest degree.

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When the boards of different organizations have members in common—when their boards *interlock*—they can synchronize both their values and behaviors in the absence of explicit central control [1, 2, 3, 4]. Organizations that share key personal in this fashion can reap the benefits of network connections and solve coordination problems [5, 6].

Board interlock is widespread in free-market societies, where it emerges in the business sector as a response to decentralization [7, 8, 9, 10, 11, 12, 13]. In these societies, board interlock is also seen in the donation-based charity sector, where it seems to serve many of the same functions [14], and appears to link together the non-profit, commercial, and political worlds [15].

Much less is known about how interlock emerges as a response to the problem of decentralization within authoritarian governments. An authoritarian government that decentralizes may do so in part to take advantage of the benefits that accrue when many different problem-solvers operate with limited communication [16]. As in the non-authoritarian case, organizations in this decentralized environment may share board members in order to coordinate.

For a government concerned with the dangers of independent agents, this interlock may be a benefit. The coordination induced by the resultant board interlock may reduce the independence between organizations and make the system easier to control. However, this increased ease of control only happens if the government maintains control of the most central organizations in the resulting network. If it does not, board interlock may shift from an opportunity to a threat: organizations may not only reap the benefits of coordination, but now do so by coordinating around an independent agent.

To study how these tensions play out in the real world, we present the first network-based analysis of the rapidly-growing non-profit sector in the People's Republic of China. While charities and "social organizations" appear early in China's history, the majority were closed down during the Cultural Revolution in the 1960s and 1970s [17]. The non-profit sector only re-emerges during the reform era of the 1980s, as part of the government's push to decentralize and devolve power away from direct state control [18, 19].

Because the sector has expanded so rapidly, many scholars today ask whether or not it might represent the rise of a Chinese *civil society*. The concept of civil society has its origin in the 19th Century, when Alexis de Tocqueville connected the early stages of American democracy with the growth of voluntary associations of ordinary citizens for everything from the promotion of temperance (abstention from alcohol) to the founding of schools [20].

Ever since, political theorists and sociologists have tried to understand the role that these associations might play in the liberalization of authoritarian regimes and the early stages of democratic rule [21]. In a recent study of the illegal NGO sector within China, Ref. [22] quotes Ref. [23] to describe a neo-Tocquevillean concept of civil society as "an autonomous sphere of social power within which citizens can pressure authoritarians for change, protect themselves from tyranny, and democratize from below".

Yet the existence of non-governmental associations does not necessarily imply a civil society in the Tocquevillian mode. While countries in the West have accepted non-profits that operate independent of government control, foundations in China must contend with a one-party system potentially intolerant of organizations that may call it to account or draw attention to its deficiencies [22]. Concerns about the lack of autonomy in the non-profit sector have led many observers to talk in terms of *state-corporatism* [24, 18], where the non-profit sector is an auxiliary and dependent system of the state. In the classic definition of Ref. [25], the relevant organizations in state-corporatism parallel those of government agencies, being "singular, noncompetitive, hierarchically ordered, sectorally compartmentalized, interest associations exercising representational monopolies".

For these reasons, a central theme of research into the Chinese non-profit world how much autonomy can exist in the presence of state control [18, 26, 27, 28]. A number of studies have documented the strategies and tactics of individual non-profits, either through case studies or the identification of generalizable patterns of behavior across multiple cases [29, 30, 31, 19].

Civil society, however, is more than just the existence, and even the autonomy, of non-governmental organizations. It is how these organizations connect together, in a horizontal fashion, to form something more than a catalog of distinct endeavors [32].

To understand civil society in China, in other words, we must study not only how state control acts on individual foundations. We must also study how this state control interacts with the networks that form when organizations share personnel, information, and resources. Board interlock is one of the primary mechanisms for this self-organization to take place, and yet we know next to nothing about how this process has unfolded in twenty-first century China.

This work draws on an unusually large dataset of officially-registered non-profit foundations that enables us to construct the board interlock network. We will show how board appointments connect together a significant frac-

tion of legal Chinese non-profits into a single network. Our results show the emergence of new network elites, associated with business entrepreneurs and their foundations that, despite legal constraints, appear to operate with lower levels of direct government supervision. At the same time, we will show how individual-level control, by the presence of government officials on foundation boards, is influenced by network position, finding lower levels of direct government control at the most elite levels.

Our findings suggest the emergence of a form of network autonomy that exists despite high levels of individual-level government appointments to non-profit boards. At the same time, the association of this network autonomy with the business elite means that this autonomy may not lead to the kind of pluralism associated with a Tocquevillian civil society.

1. Methods

Our primary dataset is the Research Infrastructure of China Foundations (RICF [33]), a database containing the records of the 3,344 legally-registered foundations within the People's Republic of China between 1981 and 2013. Information about each foundation is drawn from six different sources, including both official government reports and information submitted to the government, or reported on websites, by the foundations themselves. Comparing RICF's counts to other reference sources, the RICF's data appears to be at least 90% complete.

For each foundation, the RICF logs the names of foundation board member as well as gender and date of birth information to allow us to resolve name collision. These records make it possible to construct the board interlock network: two foundations are connected when they share one (or more) board members. For simplicity in this analysis, our network is unweighted: we consider only the presence or absence of at least one shared member, and do not distinguish whether links are created by sharing presidents, secretaries, or ordinary members.

The main legal distinctions in the Chinese non-profit sector govern the scope of fundraising. "Public fundraising" foundations are allowed to raise money from the general public—for example, through fund drives and advertising—while "non-public fundraising" foundations may not (as shorthand, we refer to these as "public" and "non-public" hereafter); in addition to fundraising status, RICF also includes information on each foundation's yearly income.

Public foundations are further constrained by geography; "central-level" foundations may fund-raise at the national scale, while province-level and city-level foundations are restricted geographically. We supplement the RICF by hand-coding the foundations by whether or not they are involved in a potentially controversial or politically sensitive area ("sensitive" vs. "non-sensitive"). Tracking this variable allows us to look for systematic attempts to selectively control certain topics. Because the RICF strives to be as comprehensive as possible, errors within are unavoidable. Within the RICF data is subset of foundations that have undergone an (optional) evaluation process, which rates the foundations according to standard criteria; foundations who receive a "3A" or above (3A+) are considered to have passed this process.

Over and above legal restrictions on fundraising, the primary mechanism for direct government control is simple: the presence of a government official on the foundation board itself. The government discourages officials from serving on non-profit boards; official law (Article 23) is that "principals" (the board chair (president), deputy chair, or secretary general) should not be currently employed by the state.[1]

Despite this, official policies against direct government involvement are often violated. The standard annual reporting forms even asks foundations to report the number of principals who are government staff; a non-negligible fraction (18%) report non-zero numbers. These numbers appear to suffer from under-reporting. As a different measure of government influence, we hand-coded the 3A+ set, noting whether or not the board president is a current or retired government official. Hand-coding is a difficult and laborious task; because it can be difficult to ascertain the current status of individual, our 3A hand-coding includes both retired and currently-serving government officials, and is thus not directly comparable to the self-reporting set.

2. Results

2.1. Individual-Level Statistics

Table 1 shows the breakdown of the foundations in the RICF data. Collectively, the 3,344 foundations in our data have a combined income of 35.3

[1] "Regulations on the Management of Foundations" (4 February 2004), Article 23; original text available at `http://www.mca.gov.cn/article/yw/shjzgl/fgwj/201507/20150700850200.shtml`, last accessed 18 April 2016.

billion Yuan; approximately 5.5 billion USD at current exchange rates. Foundations range in activity from the promotion of the board game Go to legal aid for the indigent. The majority are restricted to non-public fundraising, and work in non-sensitive areas. These non-public foundations control just over half of the total yearly non-profit revenue in the country.

Despite laws to the contrary, our results confirm persistent and high levels of government involvement in non-profit management. Table 2 shows the relationship between fundraising scope and activity, relying on both the hand-coded 3A subsample that tracks the affiliations of board presidents, and official self-reports in the full database. Because the 3A hand-coding includes retired officials, the two methods track slightly different phenomena.

Both methods also confirm that direct government control is weaker for non-public foundations. The government is most involved in foundations that are able to raise funds from the general public. (Self-reports, but not our hand-coding, show additional supervision when the foundation itself is associated with sensitive activities. Because this signal does not appear in the hand-coded subset, this is likely best-explained by differing incentives: foundations involved with sensitive activities may be more willing to report government officials on their boards, despite the fact that this violates Article 23 of the 2004 law.)

2.2. Board Interlock

Board interlock is widespread. A significant fraction of the foundations are integrated into the network; of the 3,344 foundations, 1,411 (42%) share board members with at least one other foundation. As shown in Table 3, foundations at the central level are the most likely to be connected. Both public and private foundations show significant network integration. A large fraction of this network is connects together, into a single giant component that contains 1,022 foundations (see Fig. 1).

While the existence of board interlock parallels the most studied cases in the West, there are significant differences. Most notable, the network is not small world: the average path length between nodes is 7.71, and the network diameter is 27; in both cases much larger than cases of board interlock in the United States [12]. The board interlock network in Chinese foundations has a tendency to isolate nodes from each other. Even if we restrict to the 77 central-level foundations in the giant component, the diameter remains large (9 steps); by comparison, the network of Fortune 800 firms in the 1970s, nearly ten times larger, had a diameter of five [34].

While the network has few shortcuts, it is also the case that a small number of foundations have very high degree—they share an unusually large number of board members with other foundations. We show the network degree distribution in Fig. 2. The existence of these "super-connectors" can be empirically confirmed by testing for heavy-tailed degree distributions; standard methods strongly prefer a log-normal distribution to both an exponential (*i.e.*, random-graph) and power-law fit [35, 36].

These super-connectors appear to preferentially connect to each other, in what is termed the rich-club phenomenon [37]. Fig. 3 shows the rich club coefficient for the full network, and then for the public, and the non-public subnetworks; nodes with higher degree are more likely to connect to each other than in a degree-preserving null. Note that the k-core for the public network is much smaller than the non-public; if a public foundation has high-degree in the full network, it is usually because it has connected to non-public foundations.

These super-connectors include both the government and the business elite. Of the ten highest-degree foundations, six are associated with businesses, four with government. The most connected foundation, for example, is the China Social Entrepreneurs Foundation, set up to encourage philanthropic giving by wealthy entrepreneurs; the second is the Forbidden City Cultural Heritage Conservation Foundation, which manages the state-owned historical treasure. The top ten most connected board members are also a mixture of both government and business elites; three are business elites, six are current government officials, including members of the National People's Congress, the CPPCC, and the Guangzhou People's Congress; and one is a retired government official.

Considering the public and non-public networks separately allows us to see how different groups dominate. In the public network, the highest-degree nodes are nearly all associated with the government: of the top ten highest degree foundations, only two have a president with a non-governmental background (a television celebrity, and the head of a hospital). By contrast, six of the highest degree nodes in the non-public network are associated with business elites; the highest degree node, for example, is the YouChange China Social Entrepreneur Foundation, which helps business entrepreneurs develop philanthropic plans, and is run by Ping Wang with a background in international financial and law.

Board interlock is influenced by both geography and registration level; see Table 4. We also find evidence for preferential connections between sen-

sitive foundations; there are $70\% \pm 10\%$ more links between sensitive foundations than found in the null. However, public- and non-public-scope foundations appear to intermix freely and preferences (though detectable) are weak; public-scope foundations are only $16\% \pm 3\%$ more likely to link to each other than null, and only $17\% \pm 3\%$ less likely to link to non-public-scope.

2.3. Network Effects

Finally, we consider how the presence or absence of government officials predicts node degree. We use a simple linear regression model, with node degree as the dependent variable and nine independent variables: three variables describing the node's legal status (public vs. non-public; registration level; evaluation level), four variables describing the intrinsic properties of the foundation (board size, income, sensitive area, and age), and two variables noting the presence or absence of (1) current government officials, and (2) retired, senior-level government officials, the two fields in the main RICF database. We consider both the full network, and the two public and non-public networks separately. The results are shown in Table 5.

The most surprising results concern the relationship between the presence or absence of government officials, and node degree. Foundation degree is (weakly) positively correlated with government control in the public foundations: nodes with higher degree are more likely to have government officials. However, in the non-public network, high degree it is strongly (and significantly, $p < 10^{-3}$) correlated with reduced government control. When the two networks are joined together, the two effects compete against each other, partially canceling out. Significantly, we find no correlation for the presence or absence of retired senior officials; only the absence of currently-serving officials is predicted by node degree.

Because Table 5's results rely on self-reports, it is possible that these effects may be driven in part due to differences in self-reporting. We can check for this effect by using the hand-coded 3A subset; these results are shown in Table 6; because the 3A hand-coding tracks only presidents, and includes both current and retired officials, our results here are not strictly comparable to the Table 5 case. The smaller size of this set, means that our signal-to-noise is lower. In this subset, the weaker correlation in the public data is no longer detectable, but we still see the negative correlation between board interlock and government control.

3. Discussion

The Chinese government continues to exercise a high degree of direct supervision through appointments of government officials to foundation boards at the individual level. In Tocquville's account of civil society in the 19th Century United States, citizens formed voluntary associations independent of the government itself. Whatever they are doing, the non-profits of 21st century China are far from this 19th Century model, or indeed models of post-Soviet democratization in Eastern Europe. Our quantitative results fit with what is widely seen in case studies and fieldwork in China itself: state power may not be complete and total, but it cannot be ignored.

However, our results also show significant differences in the level of direct governmental control. This is most apparent in the non-public sector where, at least officially, only one in ten foundations have a current government official as board principal. The government's relationship to its foundations is bimodal, with public foundations showing the highest levels of government involvement—not surprisingly, of this more supervised group, the public foundations engaged in politically-sensitive topics receive the greatest levels of supervision of all.

Once we consider the board-interlock network, the unusual nature of the non-public group becomes apparent. It not only receives lower levels of supervision, but also shows a strong rich-club effect. A set of network elites are at the center of the non-public network: not only do these high-degree nodes serve as coordinating hubs for large numbers of other foundations, but they preferentially connect to each other. Our network analysis shows not only the development of horizontal relationships that can enable communication and cooperation, a process captured in fieldwork studies of horizontal connections during the 2008 Sichuan Earthquake [38], and crucial missing piece for understanding the development of state that increasingly devolves government functions to non-government agencies [30]. It also shows that the high-degree foundations form relationships among themselves. The powerful preferentially connect, and in a parallel to the United States [15], the powerful are, finally, the business elite.

Finally, our network analysis reveals an unexpected negative relationship between node degree and direct government supervision in the non-public network. Not only does the government exercise less control over the non-public foundations—it appears to have even less control over the foundations at the very center of the network. These horizontal relationships appear to

selectively exclude the top-down "vertical" control of the state.

Taken at face value, these results seem to suggest that foundations within this non-public subset may be part of a the emergence of a new civil society. This simple story is complicated by the fact that when the most connected of the non-public foundations are not government in origin, they appear, instead, to be drawn from the business elite. The extensive ties between the state and business then suggest that this civil society is something less than might be expected; ever since the reforms of the 1980s, scholars have suggested that the business elite may itself amount to a agent of the government itself [39]. Indeed, this provides a clear alternate explanation: if the highest degree nodes are sufficiently aligned with the government to begin with, they can be allowed to operate without direct supervision—precisely as we see in our data. But even if the elite are independent of the government, their special position in society, and their ability to purchase and influence the government financially [40] suggests that this civil society, such as it is, is far from the pluralist Tocquvillian dream.

Our results show that the government has come to tolerate communities of interlocking associations that operate with lower levels of direct control. But they provide at best ambiguous support for an account of an emergent bottom-up organization of truly autonomous non-government actors. Understood in the context of the extensive qualitative literature on Chinese foundations, our results are perhaps most consonant with the theory of "consultative authoritarianism", argued for by Ref. [19], in which the government tolerates increasing levels of autonomy among non-governmental organizations while developing new strategies of indirect control.

Total Numbers			Yearly Income		
	Non-senstive	Sensitive		Non-senstive	Sensitive
Public	954 (28%)	356 (11%)	Public	13.9 B¥	3.2 B¥
Non-Public	1913 (57%)	121 (3%)	Non-Public	17.5 B¥	0.7 B¥

Table 1: Foundation status, activity, and yearly budgets (in billions of *yuan*; 1 B¥ $\approx$ 150 M$ in 2016) for the 3,344 foundations in our database. The majority of the foundations are concerned with neutral (non-sensitive) activities, and the majority are restricted to private fundraising. Despite the fact that non-public foundations can not raise money from the general public, they actually control the majority of non-profit revenue in the country.

Official or Retired-Official President (Hand-coded subset)			Official Principal (Self-reports)		
	Non-Sensitive	Sensitive		Non-Sensitive	Sensitive
Public	$74\% \pm 3\%$	$79\% \pm 5\%$	Public	$34\% \pm 1\%$	$54\% \pm 3\%$
Non-Public	$41\% \pm 3\%$	$29\% \pm 9\%$	Non-Public	$9\% \pm 2\%$	$19\% \pm 4\%$

Table 2: Foundation-level government control through board member appointments. Despite explicit laws against the practice, foundations often have government officials as board principals. Hand-coding of a subset of 520 foundation presidents (left panel) shows that the practice of incorporating current or retired government officials is widespread. In both hand-coded data, and self-reports in annual filings (right panel), foundations able to raise funds from the general public, and foundations concerned with government unfavorable activities, are more likely to be controlled in this fashion.

	Public	Non-Public
Central	$82\% \pm 1\%$	$72\% \pm 1\%$
Provincial	$47\% \pm 2\%$	$36\% \pm 2\%$
City	$67\% \pm 1\%$	$24\% \pm 1\%$

Table 3: Network integration: fraction of nodes of each type that share board members with other foundations. Both public- and non-public-scope foundations are highly integrated into the overall network, with central-level foundations able to raise from the general public the most connected of all.

Figure 1: The giant component of the board interlock network, containing 1022 nodes and 1626 edges; 75% of the nodes with non-zero degree, and 30% of the full database. Public-scope foundations are labelled in green, non-public-scope in red. At the center are a small number of interlinking elite super-connectors with high degree (Fig. 2; Fig. 3).

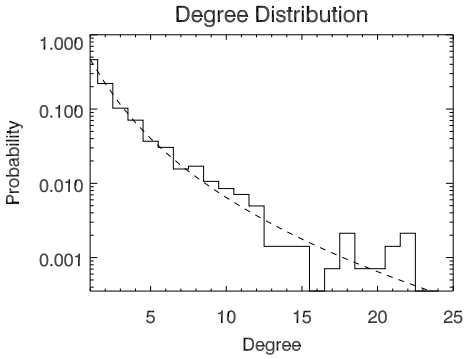

Figure 2: The degree distribution of the board interlock network. The distribution is log-normal (dashed-line fit), and a small fraction of the nodes have unusually high degree.

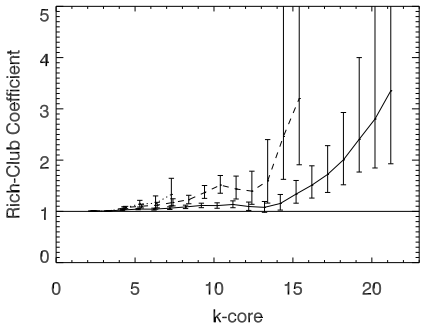

Figure 3: Rich club coefficient as a function of k-core level for the full network (solid line), the public network (dotted line), and the non-public network (dashed line). Nodes with high degree are far more likely to connect to each other, compared to a null model that preserves the degree distribution but otherwise breaks interlock correlations [41]. Taken separately, the non-public network shows a stronger rich club effect than the network as a whole. Meanwhile, the majority of high-degree links in the public network are due to cross-links with the non-public foundations; the maximal degree for the public network in isolation is much smaller.

	Central	Province	City
Central	$\times 2.1 \pm 0.1$	$\times 0.73 \pm 0.03$	$\times 1.2 \pm 0.2$
Province (same)	—	$\times 7.05 \pm 0.08$	$\times 4.7 \pm 0.5$
Province (different)	—	$\times 0.42 \pm 0.01$	$\times 0.46 \pm 0.05$
City (same)	—	—	$\times 14.6 \pm 0.9$
City (different)	—	—	0

Table 4: Cross-linking by registration level and geography; number of links found between nodes of each type, compared to a degree-preserving null. Foundations at the same registration level, and (for the provincial and city-level cases) within the same geographical range, are far more likely than null to connect to each other.

Predictor	Public Network	Non-Public Network	Joint Network
(Legal Status)			
Central Level	$\mathbf{0.72 \pm 0.15}^{\star\star\star}$	$\mathbf{0.90 \pm 0.16}^{\star\star\star}$	$\mathbf{1.6 \pm 0.2}^{\star\star\star}$
Evaluation 3A+	$\mathbf{0.33 \pm 0.12}^{\star\star\star}$	$\mathbf{0.55 \pm 0.12}^{\star\star\star}$	$\mathbf{0.66 \pm 0.12}^{\star\star\star}$
Public	—	—	-0.1 ± 0.1
(Government Control)			
Current Official	$\mathbf{0.17 \pm 0.08}^{\star}$	$\mathbf{-0.44 \pm 0.13}^{\star\star\star}$	-0.15 ± 0.11
Retired, Senior Official	0.0 ± 0.1	0.1 ± 0.2	0.2 ± 0.2
(Intrinsic)			
Board Size (z)	$\mathbf{0.31 \pm 0.04}^{\star\star\star}$	$\mathbf{0.28 \pm 0.04}^{\star\star\star}$	$\mathbf{0.52 \pm 0.04}^{\star\star\star}$
Income (z)	$\mathbf{0.19 \pm 0.04}^{\star\star\star}$	$\mathbf{0.16 \pm 0.04}^{\star\star\star}$	$\mathbf{0.40 \pm 0.04}^{\star\star\star}$
Age (z)	-0.03 ± 0.05	0.00 ± 0.04	-0.06 ± 0.04
Sensitive Area	-0.10 ± 0.08	$\mathbf{0.33 \pm 0.16}^{\star}$	0.13 ± 0.11
	$R = 0.42$	$R = 0.34$	$R = 0.44$

Table 5: Predictors of network position, in public and non-public fundraising networks, and in the joint network; self-report data. (z) indicates z-scored transformed real variables; all other variables are binary for presence/absence.

Predictor	Public Network	Non-Public Network	Joint Network
(Legal Status)			
Central Level	$\mathbf{1.06 \pm 0.26}^{\star\star\star}$	$\mathbf{1.0 \pm 0.5}^{\star}$	$\mathbf{2.6 \pm 0.4}^{\star\star\star}$
Public	—	—	-0.3 ± 0.3
(Government Control)			
President Official	0.06 ± 0.25	$\mathbf{-0.68 \pm 0.37}^{\star}$	$\mathbf{-0.65 \pm 0.34}^{\star}$
(Intrinsic)			
Board Size (z)	$\mathbf{0.42 \pm 0.09}^{\star\star\star}$	$\mathbf{0.60 \pm 0.19}^{\star\star}$	$\mathbf{0.81 \pm 0.16}^{\star\star\star}$
Income (z)	$\mathbf{0.28 \pm 0.09}^{\star}$	$\mathbf{0.38 \pm 0.18}^{\star}$	$\mathbf{0.75 \pm 0.15}^{\star\star\star}$
Age (z)	-0.04 ± 0.09	0.0 ± 0.2	0.0 ± 0.15
Sensitive Area	-0.40 ± 0.20	0.4 ± 0.6	-0.4 ± 0.4
	$R = 0.48$	$R = 0.32$	$R = 0.44$

Table 6: Predictors of network position, in public and non-public fundraising networks, and in the joint network; hand-coded 3A. The "president official" code includes retired officials.

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