Political Networks and Stock Price Comovement:
Evidence from network-connected firms in China

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April 20, 2018

Abstract: In this paper, we examine whether comovement in the stock returns of pairs of Chinese firms connected to the same political network are systematically shaped by the prevailing coordination vs. competition incentives of the network's politicians. We find strong evidence that stock price comovement is affected by the embeddedness of the firm-politician tie within the network. Among pairs of firms connected to a network through a *common* politician, we document an increase in stock return comovement. For those pairs of firms connected to a common network via *separate* politicians (rather than a common politician), we document a relative decrease in stock return comovement. This negative effect suggests that the politicians' relationships within these political networks are generally adversarial rather than cooperative in nature. This interpretation is supported by evidence that stock price comovement becomes even more negative (positive) in settings which are expected to increase competition (coordination) between the separate politicians (by the common politician).

[*] We thank the comments from workshop participants at USC China Research workshop and the Chinese University of Hong Kong Center of Institutions and Governance Conference in 2017.

1. Introduction

Firms derive significant private benefits through political connections. Politicians can confer subsidies, state loans, tax cuts, regulatory protection, and preferential access to restricted resources and investment opportunities upon the connected firms.[1] The political connection documented in prior literature is primarily based on a *single, isolated connection* between a firm and a politician or a political entity. However, firms can be interrelated through a network of politicians, who form the political network to mobilize power and achieve common political goals. The incentives created within the member politicians' network can impact how private benefits and resources are distributed from the politicians to network connected firms.

In this study, we examine the firms' activities and payoffs when they are *connected to each other* through a common political network. More specifically, we examine the stock return comovement of pairs of Chinese firms connected together via a common network of politicians. Because stock returns reflect information about firm actions and outcomes, cross-sectional and inter-temporal variation in stock return comovement for a given pair of firms (i.e., firm pair) should reflect differences in the degree to which the value-relevant activities and payoffs of two firms are coordinated (i.e. synchronized).

Although social networks play an important role in business and politics in China and other emerging economies, prior research has primarily focused on political connections established through mechanisms other than the firms' social ties.[2] Our study focuses on the connections between firms and politicians, and the connections among politicians based on their

[1] Political benefits include subsidies and tax breaks (Faccio, 2006), easier access to bank financing (Li et al., 2008), greater financial support in the form of soft budget constraints (Khwaja and Mian, 2005), government contracts (Agrawal and Knoeber, 2001), stronger protection from market competition (e.g., bailouts) (Faccio et al., 2006), relaxed regulatory oversight (Haveman et al., 2016) and favorable court rulings (Ang and Jia, 2014).

[2] Political connections are established through the founder's or controlling shareholder's background (Faccio, 2006), CEO's or directors' background (Fan et al., 2007), firms' campaign contributions (Claessens et al., 2008), selection of politically connected auditors (Wang et al., 2008), investment bankers, lawyers and lobbyists (Yu and Yu, 2011).

social ties from past work experience. By examining firms that are embedded in the same political network, we also investigate how the dynamics of these politicians' interconnections shape their incentives and ability to provide private benefits for the affiliated firms and the resultant price comovement of these firms.

We predict that network affiliation will create two competing effects on the firm pairs' stock return comovement. On the one hand, the political forces that hold the network together can enable the member politicians to coordinate the benefits they confer on the client firms, enabling them to achieve common goals. If the incentives to collaborate are sufficiently strong, network-connected firm pairs should exhibit greater stock return comovement than the average non-network connected pairs.

On the other hand, networks can foster adversarial relationships as member politicians compete for promotion opportunities within and outside the network. These adversarial incentives are expected to be quite intense, as patron politicians tend to channel his/her resources to their one, favored candidate. These candidates, in turn, use the resources to uniquely benefit their client firms and their own political position. If these competitive forces among member politicians outweigh the incentives to cooperate, we would expect the network-connected firm pairs to exhibit lower return comovement than non-network-connected firm pairs.[3]

We test these arguments by examining the stock price comovement of network and non-network affiliated Chinese domestically listed firms over the period 2000 to 2014. We study China because political networks act as powerful informal political institutions, dominating political activities governed by formal institutions such as law and political hierarchical

[3] We provide in Appendix I an example of how two politicians, Li Chuncheng and Wei Hong, who are within the same Zhou Yongkang's network, competed with each other for promotion and were purged together when Zhou, their patron, was imprisoned for corruption charges. The case also shows that the firms that were affiliated with Li were significantly affected by his political fate.

structures (Nathans, 1973; Dittmer, 1995; Pye, 1995).[4] These personal networks of reciprocity among politicians and business leaders often overlap because China has a long tradition of having politicians as patrons over private businesses since the Ming dynasty (Faure, 2006). Through their network connections, firms receive protection and state resources in exchange for the economic benefits that they can provide to the member politicians and their families in the faction. Though there is a growing literature on how factional ties influence politicians and firms (e.g. Shih et al., 2013; Piotroski et al., 2015), these papers do not consider how relationships among member politicians and the firms they control shape corporate behavior.

To perform our analyses, we first created a comprehensive database of politician level professional backgrounds and used this information to identify each politician's professional network based upon past work experience. Two politicians are considered connected if they concurrently served in the same government agency in the past. This data is gathered for *all* government officials at the municipal level and higher in China.[5] Following the network analysis literature, we use the modularity-optimization approach (Newman and Girvan, 2004), a community detection method, to identify clusters of politicians based on the collegial ties of our total sample of politicians. This approach allows us to identify an average of 86 common networks, with an average of 26 politicians, in China each year.[6]

Second, we gathered data on the professional backgrounds of the CEOs and Chairmen of our listed firms, and used this information to identify firm-level political connections based,

[4] A key reason for the importance of informal politics in China is that law has never been the basis of administration according to the Confucian tradition. Historically, the Confucian moral order based on an individual's relationships was considered a functional equivalent of the legal systems in the West (Pye, 1995).
[5] For municipals and provinces, we only include the mayors/governors and party secretaries. Likewise, we only include the head minister in each ministry in our sample.
[6] The communities are detected on the principle that politicians within the community are relatively densely connected to each other but sparsely connected to other communities in the network (Porter et al, 2009). For simplicity, we call these "communities" political networks in the paper. See Section 3.2.1 for how we construct the communities out of our total sample of politicians.

again, on the common professional backgrounds of these executives and China's politicians as ex-colleagues. This approach reveals that 15.4% of our firm-years are connected to network-affiliated politicians.[7] Finally, we merge this data to identify pairs of firms affiliated (through their individual political connections) with a common political network. This approach reveals that 219,194 firm-pair-years (1.04% of the total firm pair sample) are affiliated with a common political network.

We separate our sample of network-connected firm pairs into those that are affiliated with a political network via a single, or multiple set of, common politician(s),[8] and those that are connected to the network via separate politicians (and not connected through any common politician(s)).[9] We predict that when firm pairs are connected to a common politician, the patron politician coordinates the activities of client firms to achieve specific political or policy goals. Similarly, if the individual politician only has access to a specific set of resources, the political advantages given to their client firms (e.g., subsidy grants, contracts, access to investment opportunities) are likely to be positively correlated. This coordination should lead to greater stock price comovement.

[7] Based on our classification methodology, there are politicians who are not affiliated with any network in a given year. In our empirical tests, we use firms only connected to these non-network-affiliated politicians as one of our benchmark samples.

[8] A firm pair is considered to be connecting to the network via a common politician if the two firms share a single or multiple common politicians. As shown in Figure 1, firms F1 and F2 have two common politicians, C1 and C2, and firms F5 and F6 have only one common politician, L3. We regard all single and multiple common politicians as firm pairs with a common politician because our comovement results remain qualitatively similar for firm pairs with single vs. multiple common politicians. In addition, if either firm connects to any other politician(s), we still consider them to be connected to the same network via a common politician as long as they share at least one common politician in their multiple network ties, (i.e., F7 and F8 are a firm-pair with a common politician L4).

[9] A simple example of this network connection relates to firms F4 and F10, as shown in Figure 1. Firm F4 is connected to politician C3 and firm F10 is connected to politician C4, and both C3 and C4 belong to the same political network. Each firm in the pair can connect to the same network via more than one politician, e.g. F2 and F7, but they *cannot* share the same connection with any single politician. Otherwise, they will be considered as connecting to the network via a common politician (e.g. F7 and F8 above).

Consistent with our prediction, we find strong, robust evidence that these firm pairs exhibit a significant net increase in stock return comovement. However, we find that among pairs of firms that share common political connections, the existence of additional, non-common political connections (either to the same or a different network) attenuates this positive effect, suggesting that these alternative links exert influence on the firms and reduce the effectiveness of the common politician to coordinate the activities of the firms. Our untabulated results show that this coordination effect is most (least) pronounced among firms connected to provincial-level (municipal-level) government officials, and strongest among pairs of state-controlled firms.

Second, we find robust evidence that pairs of firms connected to a common network community via separate network-affiliated politicians (but not through a common individual politician) exhibit significantly *lower* comovement in stock returns than the average, unaffiliated firm pair in China. This reduction in stock return comovement suggests that, on average, these pairs of firms are individually connected to politicians who are locked in an adversarial relationship. For this set of connected firms, the competitive forces embedded within the network structure seem to shape their relative performance and outcomes. We find evidence that the negative effect is stronger among firm pairs connected to separate politicians in the same locality, consistent with promotion incentives serving as a primary driver of this adversarial behavior. Together, these results are consistent with our predictions that firms' stock price comovement is affected by the competition effects embedded in the firms' political ties within the political network.

Supplemental analyses support these general conclusions. First, focusing on instances where politicians join or leave a political network, we find that pairs of firms who share a common connection experience an increase in stock return comovement when the politician joins

the network community, and experience a decrease in comovement when their network affiliation is severed upon the politician's departure. Similarly, we observe a decrease in stock return comovement arising among pairs of previously unconnected firms upon the introduction of a new politician (and his client firms) into the political network, consistent with the arrival of the new politicians intensifying competition within the network. And, we find that the negative comovement between such firms is attenuated – but not completely eliminated – when one of the politicians leaves the political network. Second, we find that the documented coordination (competition) effects are incrementally stronger during the periods of macro-economic stimulus (in advance of political promotion events), consistent with the intensification of prevailing incentives to implement common economic policy mandates (improve promotion credentials) during these periods. Lastly, we find that firm pairs sharing a common politician connection exhibit stronger positive comovement of firm fundamentals capable of being influenced by political benefits (e.g., investment rates, financing activities, and government subsidies), while those that are connected via separate politicians show more negative comovement of their ability to obtain financing.

Our paper contributes to the literature in several ways. First, we extend the literature on political connections by examining the social ties between the business leaders and politicians. Seeking government protection via social ties between the firms and politicians has a long history in China but has not been well studied. Past research primarily examines political connections established by the founders' or large shareholders' political positions, firms' political contributions, and the appointment of politicians into the c-suite or board of the firms.

Second, despite a deep, rich literature examining how political connections shape incentives and impact a firm's activities, payoffs, and valuation, we typically treat the

relationship as a single tie between the firm and the politician. Even when we consider the factional relationship between the firm and the network, we treat the network relationship as a single tie. Very little is known about how broader politicians' social networks, and the embeddedness of the member politicians, shape these outcomes. This paper opens up the black box of the interconnected relationships and the incentives among the member politicians within a political network, and studies how embeddedness shapes the effects of political ties on these affiliated firms.

Third, our paper contributes to the literature on stock price comovements and stock return synchronicity. Past research has found that stock prices are likely to comove (or stock returns are synchronous) when common factors such as macro-economic shocks, policy shocks, industry-specific events have a disproportionate effect on prices, arising from either the structure of the economy or institutions that impede the flow of firm specific information (e.g., Morck et al., 2000). In addition, membership to the same corporate group (Cho and Mooney, 2015) and firms connected through interlocking directorates (Khanna and Thomas, 2009) will have a positive effect on the comovement in stock prices or stock return synchronicity of the member firms. In this paper, we have identified an informal political network through social ties, rather than a formal business network in a corporate group, that also shapes firms' stock price comovements.

Finally, this paper contributes to the literature on factional politics. A growing literature in political science, finance and accounting shows that factional ties can enhance politicians in seeking promotion and obtaining government loans (Shih et al., 2012; Shih, 2004), enable firms to seek government protection against nationalization (Huang et al., 2014), or influence firms to suppress disclosures of bad news (Piotroski et al., 2015). This paper examines the effect of political network connections on firms' stock price movement. Also, rather than studying the

effect of the faction-firm connection individually, we take into account the incentives arising from the network ties among the member politicians and investigate how they affect the stock price comovement of firms that are affiliated with the same network.

2. Social networks and hypothesis development

In this paper, we seek to examine how political networks, consisting of politicians linked together via their past collegial ties, affect the stock price comovement of firms in China. Our main research question is to examine whether firm pairs connected to the same political network exhibit stronger or weaker stock price comovement than firm-pairs that do not belong to the same network. To build our predictions, we first discuss how networks impact the member politicians' incentives to cooperate or compete with each other. These incentives will affect how the network politicians confer benefits to their affiliated firms, and with the resultant behavior affecting these firm pairs' stock return comovements.

2.1 Political networks and politicians' incentives

According to Nathan (1973), a faction is a network of patron-client reciprocity. The network is made up of clientelist ties between two people. Each of these ties is a relationship that is selected for cultivation based on each individual's existing social networks. The cultivation primarily involves exchange of favors and services. The two individuals in the tie typically have unequal status, wealth, or power, with the one in superior position serving as the patron and the other the client. The tie between them is not exclusive; either member can establish other simultaneous ties.

The network provides a structure through which political favors flow from the primary leader to its subordinate leaders and their clients. In exchange, the primary leader and

subordinate leaders receive economic benefits and political support in times of power struggle from their clients. Each tie in the network is a patron-client relationship through which the patron and client support each other to pursue political and economic benefits.

However, not all members in the same faction are always in cooperative relationship. Members of similar political ranks, though they belong to the same network or even the same patron, are in a competitive rather than cooperative relationship. The primary objective of all politicians is to rise through the ranks of the formal political hierarchy. Shih et al. (2012) find that a politician's faction (or more specifically, the politician's patron or patrons) has a determining effect on his/her promotion. The intra-factional competition of politicians of similar ranks can be fierce because the opportunities for promotion are limited (Nathan, 1973; Dittmer, 1995). The number of opportunities for the politicians is limited by the sphere of political influence of their patron, and by the practice that each patron can typically sponsor only one candidate for each available position.

It is important to note here that the existence of social ties (i.e., alumni, coworker, and native-place relationships) does not guarantee that the respective politicians also have clientelist ties. These common social ties provide an initial contact for the politicians to cultivate the patron-client relationships that form the basis of the clientelist networks. Thus, the political networks we construct based on politicians' past collegial ties are not necessarily equivalent to political factions because not all of network members have already developed stable patron-client relationships. However, our political networks are likely to contain members that have developed clientelist networks and behave like members of political factions.

2.2 Development of Hypotheses

To test the relation between network affiliation and stock price comovement of the firm pairs, we first separate firm pairs based on the way they are connected to the common network into two categories: via a common politician or politicians and via separate politicians.

First, if two firms are affiliated with a common politician or politicians, we expect the stock prices of these firms display positive comovement because (1) their economic well-being (e.g., access to capital, investment opportunities, subsidies, licenses, etc) largely depends on the political capital of the same politician and (2) the allocation of the benefits to the two firms is likely to be coordinated by the politician. Unlike the situation where the patron politician favors one client politician over the other when helping them to compete for a promotion, we do not expect the firm's patron politician to help one firm over another because the two firms are not necessarily competing with each other nor is the competition likely a zero-sum game. Instead, the patron politician will use both firms as instruments to achieve his/her broader political objectives.

Second, if the pair firms are affiliated with two or more politicians, and not with any common politician, within the same network, it is not clear if network connection will lead to more positive or negative stock return comovement. On the one hand, the positive comovement could arise because the fates of the politicians from the same network are likely correlated. That is, the political status and resources of the primary leader will have a determinant effect on the subordinate leaders, who will then affect the rank and file politicians of the same network. This effect of the shift in a members' political power does not only travel from top to bottom; in certain instances, political benefits can be transferred from a client to a patron within the same network. Additionally, there are likely to be strong incentives for coordination when the political network, as a whole, is trying to achieve certain common goals, such as defeating another

network in a political struggle. Thus, to the extent that member politicians' political fates comove together, especially when they coordinate their efforts to achieve a common goal and this movement can lead to increase or decrease in economic benefits of the affiliated firms, we expect firm pairs that belong to the same political network will have a higher stock price comovement than those that do not belong to the same network.

On the other hand, the different politicians belonging to the same network may create a competition effect on the firm pair. Specifically, the political status and resources of similar ranking politicians from the same network do not necessarily comove together because they are likely to be competing for the same promotion opportunities. To the extent that different politicians of the same network are in a competitive rather than cooperative relationship, we expect the comovement of the stock prices of their affiliated firms to be smaller than other firms that do not belong to the same network.

These arguments lead to the following two hypotheses. First, we expect the coordination effect will dominate the competition effect if the two firms are connected to the political network via a common politician. The coordination effect is expected to remain strong when the firms are connected to more than one common politician, because each of the affiliated politician is likely to provide coordinated benefits to the firm pairs.[10] Thus, our hypothesis 1 is as follows:

> ***Hypothesis 1:*** *Ceteris Paribus*, any firm pair connected to a single common politician or to multiple of common politicians within a political network will have more positive stock price comovement than any firm pair not connected to any network.

Second, focusing on pairs of firms that are connected to a common political network through separate individual politicians, we do not have clear prediction. Specifically, the overall coordination effect of the common political network may lead to a more positive comovement in

[10] As discussed in footnote 3, the coordination effect results of the single common politician and multiple common politicians for *Hypothesis 1* remain the same, and thus we do not separate them in our tests.

stock prices of the two firms, while competition for promotion and other political opportunities between the two or more politicians may lead to a more negative price comovement for the two firms. Thus, our *Hypothesis 2a(b)* is as follows:

> ***Hypothesis 2a(b):*** *Ceteris Paribus*, any firm pair connected to separate politicians within a common political network will have more positive (negative) stock price comovement than any firm pair that are not connected to any network.

For firm pairs that are connected to the same network via a common politician, some firm pairs have ties to other politicians. These ties may disrupt the firms' allegiance from a single patron to multiple patrons, which will weaken the firm pairs' positive share price comovement. Specifically, if a firm shares a tie to a common politician with another firm but also has a tie with another politician with whom the other firm does not share a tie, this will reduce the common politician's incentive to provide resources to the firm with the split allegiance. In addition, the firm with two patrons may want to hedge its allegiance and not devote its attention and coordinate its activities with just one patron. Thus, our *Hypothesis 3* is as follows:

> ***Hypothesis 3:*** *Ceteris Paribus*, the stock price comovement of firm pairs connected to a common politician of the same network will be less positive when one or both of the firms have connections to other politicians than those without such connections.

Within a political network, local politicians compete for scarce resources and career advancement opportunities. In order to maximize their career prospects, local politicians can use connected firms to achieve their political and personal goals. If all network-connected local politicians respond to these competitive incentives, we would expect to see client firms engaging in idiosyncratic behavior designed to improve the career outcomes of their respective politicians. Such competitive behavior should create a negative correlation between the payoffs of these network-connected firms. If there is a competition effect arising from the separate local politicians of the same network, we will expect such effect to be stronger when the politicians

are local politicians and belonging to the same locality. That is, local politicians that have similar career paths within the same locality (e.g. municipal politicians competing within the same province) will compete more fiercely than those with different promotion paths. This prediction, however, is predicated on the assumption that intra-province competition is stronger than inter-province competition. Thus, our *Hypothesis 4* is as follows:

> ***Hypothesis 4:*** *Ceteris Paribus*, the stock price comovement of firm pairs connected to two separate politicians of the same network will be more negative when the politicians are local politicians and belonging to the same locality than those belonging to different localities.

When the separate politicians are of different ranks and share direct collegial ties to each other, it is likely that they will develop a patron-client relationship. That is, the politicians of higher rank will confer favors to the lower rank politicians in exchange for their loyalty and support during political struggles with other factions. If the construct – politicians of different ranks sharing collegial ties – can identify a true patron-client relationship, we predict that the stock return comovement of this firm pair is likely to be more positive when compared to any firm pair in the sample.

Thus, our *Hypothesis 5* is as follows:

> ***Hypothesis 5:*** *Ceteris Paribus*, the stock price comovement of firm pairs connected to separate politicians of different ranks will be more positive if the politicians have a patron-client relationship than those without the relationship.

3. Research design, sample construction, and data sources.

Our research design examines whether comovement in the stock returns of two listed firms is influenced by their connections with a common political network. The following sections describe our sample construction and data requirements, measurement of key empirical constructs, and primary empirical research design.

3.1 Sample

We perform our empirical analysis using a sample of domestic, publicly-listed Chinese firms over the period 2000 and 2014. We examine the behavior of Chinese firms for several reasons. First, like most developing economies, political connections are an important aspect of the Chinese economy, with both firms and politicians benefiting from these relations. Second, social networks are important in China, suggesting an important economic role for the political networks these social relationships support. Third, due to the one-party system, politicians compete for promotion within a fairly rigid hierarchical political structure, suggesting that the rank and career concerns of connected politicians may play an important role in shaping the behavior of their connected firms. The presence of networks within the Chinese Communist Party allows for the isolation of clusters of politicians with incentives for either cooperation or competition within this broader structure. Lastly, China's stock prices exhibit considerable synchronicity; firm connectivity via political networks could provide an additional explanation for this high level of stock return synchronization.

To be included in the sample, we require a firm-year to have sufficient accounting and stock price data available in the China Security Market and Accounting Research (CSMAR) database to estimate our empirical models. We also require data on the professional and political backgrounds of each firm's CEO and Chairman over the sample period to determine whether, and how, the firm is politically connected. Data on the professional and political backgrounds of these executives was manually collected from each firm's annual reports. These data requirements yield a final sample of 23,960 firm-year observations and 21,015,385 unique firm-pair-year observations (hereafter referred to as "firm pairs").

3.2 Research design

3.2.1 Identifying political networks in China

To identify political networks in China, we first create a comprehensive database of all central government, provincial government, and municipal-level politicians in China over the period 2000-2014. We identify these politicians, and gather information about their current positions and appointments, annually, from a website operated by the People's Daily (www.people.com.cn). For each politician, we

collect via a web crawler information about his/her professional experiences from the website www.baike.baidu.com.

Next, using information about each politician's professional background (i.e., prior work experience), we create a comprehensive map of each politician's collegial (i.e., professional) relations with all other politicians. This mapping forms a global network of politicians in our sample (see Figure 2a). Since some politicians are more connected together than others, we use a community detection method to identify these relatively densely connected politicians within this network. We use the Louvain algorithm (Blonde et al., 2008), a modularity-optimization approach in community detection (Newman and Girvan, 2004), to identify the politician communities based on common collegial relations (see Figure 2b for the mapping of a community within the global network). The Louvain algorithm optimizes the identification of communities with the highest density of connections but with each of these communities having the weakest connection to each other. This empirical approach yields an average of 86 independent communities each year in China (ranging from 45 to 141 communities in a given year). For simplicity, we refer to these "communities" as political networks in our study.

Our data-driven approach to identify political networks contrasts with prior research, which typically focuses on several broad, and fairly visible classification schemes in the China context (e.g., China Youth League). By exploiting the broader professional backgrounds of China's central politicians, we are able to identify common relations at a more granular level. It is our maintained assumption that these granular, self-constructed networks will allow us to capture incentives arising through these political networks. We also choose to focus on relations established via the politicians' professional experiences (as opposed to personal or social backgrounds, such as hometown or university affiliation) because we believe that politicians' promotion incentives will drive the coordination vs. competition effects we study. Keller (2015, 2016) finds that collegial ties have a greater influence on the promotion of Chinese political elites than other ties such as school ties and common birth place.

Table 1, panel A presents descriptive evidence on these empirically-derived political networks. The average network consists of 26.4 politicians, formed around an average of three central government

politicians. Interestingly, the number of networks identified through this empirical approach declines over time as our government politicians gain more work experience, and therefore more connections, over the sample period. This trend is exacerbated by a lack of data about our politicians' professional backgrounds prior to 2000.[11]

3.2.2 Identification of network connected firms and firm pairs

Following prior research on political connections, a firm is considered connected to a politician if the CEO or Chairman has a direct collegial relation with the politician. We define a firm to be linked to a specific political network if either the CEO or Chairman of the firm has a direct collegial relationship with any politician belonging to the network. Based on this approach, 15.4% of the firm-years in our sample are classified as being connected to a political network (see Table 1, panel B).[12]

As outlined in Table 1, panel A, an average of 21.1 networks each year, or approximately 24.5% of all networks, are connected to one or more pairs of firms during our sample period, with this percentage rising from 15.5% to 54.4% between 2000 to 2014. These controlling networks are larger than the average network, consisting of an average of 102.6 politicians, and built around an average of 11.8 central government politicians. More importantly, these networks are connected, on average, to 26.6 different firms over the sample period.

Our primary research design examines comovement in the stock returns of pairs of firms connected to a common political network. First, using all available firm-year observations (as discussed in section 3.1), we identify 21,015,385 unique firm-pair-year observations during our sample period. For each firm-pair observation, we annually determine whether both firms are connected to the same political network. Among the firm pairs that share a common political network, we divide them into two categories based on how the two firms are connected to the network. The first category is firm pairs that are

[11] Our main empirical results are robust to limiting our empirical analyses to the period 2009-2014, when the number of networks stabilizes around 50 networks (ranging from 45-57 networks each year).

[12] The percent of firms connected to a political network has increased over time, from 5.7% to 22.2% over our sample period. This increase is also due, at least partially, to the expansion of professional backgrounds and experiences of our politicians and executives, as evidenced by the relative stability in these percentages over the latter half of our sample period.

connected to the network via common politician(s) (*Common Politician*). The second category is firm pairs that are connected to the network via separate politicians (*Separate Politicians*). The definition of these variables are presented in Appendix II and examples of these connections are shown in Figure 1. We will use these two indicator variables for testing our *Hypotheses 1 and 2*. Figure 3 presents the flow chart of how we divide the network sample into the different network connection types. Among the firm pairs that are connected to a common network, 8.8% are connected via a common politician, while 91.2% are connected via separate politicians.

As shown in Figure 3, we further divide the two network types into more refined sub-categories based on the politicians' ranks, whether the firm pairs' political connections within the network create further coordination versus competition incentives, and whether the firm pairs have other network ties outside of the common network. First, we divide firm pairs that are connected to the network through a common politician(s) into those firm pairs that have a split allegiance arising from other, non-common connections to the network (*Common Politician and other Politician*), and those firm pairs that do not have other non-common connections to the network (*Only Common Politician*). Among the firm pairs with a common politician, 40.25% are *Only Common Politician* and 59.75% are *Common and other Politician*. This split allows us to examine Hypothesis 3, and examples of these two sub-categories of connections are presented in Figure 1. Second, we split our sample of firm pairs connected to a network via a common politician based on whether they also have ties with politicians of another network(s) (*Common Politician with Outside Network*) and those without any tie to other network (*Common Politician without Outside Network*). [13] Figure 3 reports that 59.20% (40.80%) of the firm pairs connected together to a common political network via a common politician do not have (have) connections to an outside network.

Likewise, we subdivide the network connections via separate politicians (see bottom half of Figure 3). First, we take advantage of the structures of the network connections to test *Hypotheses 4 and 5*

[13] Politicians of an outside network are politicians identified to be connected to another community based on the Louvain algorithm (community detection method).

by differentiating across the coordination vs. competition incentives of the firm pairs. We expect separate local politicians in the same locality (i.e., province or city) (*Separate Local Politicians – Same Locality*) to be more adversarial than those in different localities (*Separate Local Politicians – Different Locality*) because these patron politicians are more likely to be competing for political advancement. Among the firm pairs connected via separate local politicians, 49.37% (50.63%) share politicians from the same (different) locality. Similarly, when firm pairs are connected to a mixed level of politicians with a patron-client relationship (i.e., one central government politician and a network-affiliated local government official who is directly connected to the other firm's central government connection) (*Separate Mixed Politicians – Leader Follower*) than those without the patron-client relationship (*Separate Mixed Politicians – Non-Leader-Follower*), we expect less competition between this pair of firms. Examples of these two types of network connections are shown in Figure 1. In our sample, 33.48% (66.52%) of the firm pairs connected via separate mixed level politicians reflect (do not reflect) potential leader-follower arrangements. Second, we separate these firm pairs connected to the network via separate politicians with outside network connections (*Separate Politicians with Outside Network*) and those without outside network connections (*Separate Politicians without Outside Network*). In our sample, 36.16% (63.14%) of these firm pairs lack (have) outside network connections.

3.2.3 Measurement of the stock return comovement of firm pairs

We utilize a measure of stock return comovement to capture the extent to which two firms are engaging in economically similar activities (Khanna and Thomas, 2009; Anton and Polk, 2015). Our primary measure, *Return Correlation*$_{ijt}$, is measured as the pearson correlation coefficient of the detrended, market-adjusted daily stock returns of the paired firms (i.e., firm i and firm j) in calendar year t. For completeness, we also replicate our main tests using a second measure, *Fraction*$_{ijt}$, which is measured as the percent of trading days in year t where the stock prices of the paired firms move in the same direction. For parsimony, we only tabulate results using *Return Correlation*$_{ijt}$. Results and inferences using *Fraction*$_{ijt}$ as the dependent variable are similar to those reported.

3.3 Descriptive statistics and univariate evidence

Table 1, Panel C1 presents descriptive evidence on our sample of Chinese listed firms. The average firm in our sample has a market capitalization of RMB 3.4 billion, a market to book ratio of 3.73, a return on asset realization of 0.033, and a debt to asset ratio of 0.467. Focusing on their political connections, we find that the average Chinese listed firm is connected to less than one politician (0.852) and political networks (0.344) over our sample period. However, for the subset of firms connected to a political network, we find that the average (median) firm has 5.8 (3.0) individual political connections and is connected to 2.2 (1.0) unique networks.

Focusing on firm-pair observations, Table 1, Panel C2 shows that 6.2% of the firm-pairs are located in the same region and 3.5% operate in the same industries. And, as expected, network-connected firm pairs are *marginally* more likely to be located in the same region or operate in the same industry than the average Chinese firm pair, consistent with politicians typically having control or influence over a particular sector or geographic region. However, the difference in locality and industry concentration between the two groups is not so large for us to be concerned that the firms' political network connections are likely to be driven by these two factors. Finally, in terms of stock return comovement, the average (median) stock return correlation is 0.033 (0.030) for the full sample.

Table 2 presents descriptive evidence on stock return comovement of network-connected firm pairs in China. Conditioning on the degree of expected coordination vs. competition induced by the structure of these firms' relations, we find that firms connected to the network, and each other, via a common politician exhibit a higher degree of comovement (*Return Correlation* = 0.025) than firms only connected to the network via separate politicians (*Return Correlation* = 0.011). This pattern exists both in the full sample and among a subsample of only politically connected firms.

Panel B examines these relations after partitioning on the basis of whether the firms are controlled by the state. Consistent with politicians being able to exert significant influence over state-owned firms, we observe both stronger coordination and competition effects in this subsample. Specifically, firm pairs controlled by a common politician exhibit higher return comovement than the average unconnected firm pairs (*Return Correlation* = 0.037), while firm pairs only connected through a

common political network exhibit very low levels of comovement (*Return Correlation* = 0.008). In contrast, we observe significantly weaker effects among the sample of non-state firms.

Together, these univariate patterns are consistent with our primary predictions about how political forces are expected to affect the behavior of firms under the control of network politicians. However, these univariate results should be interpreted with caution, as observed difference could reflect omitted economic variables and attributes that account for the heightened (attenuated) correlation of firm pairs with (lacking) a common political patron.

3.4 Empirical model

Our primary tests search for an association between firm pair stock return comovement and our measures of network affiliation. Specifically, we estimate variations of the following cross-sectional model:

$$\begin{aligned} \textit{Return Correlation}_{ijt} = {} & \alpha + \text{Year}_t + \text{Industry}_{it} + \text{Industry}_{jt} + \beta_1 \textit{Common Politician}_{ijt} \\ & + \beta_2 \textit{Separate Politicians}_{ijt} + \beta_3 \textit{Common Industry}_{ijt} + \beta_4 \textit{Common Region}_{ijt} + \beta_5 \textit{Common Size}_{ijt} \\ & + \beta_6 \textit{Common MB}_{ijt} + \beta_7 \textit{Common Ownership}_{ijt} + \beta_8 \textit{SOE Pair}_{ijt} + \beta_9 \textit{Size}_{it} + \beta_{10} \textit{Size}_{jt} + \beta_{11} \textit{ROA}_{it} \\ & + \beta_{12} \textit{ROA}_{jt} + \beta_{13} \textit{Leverage}_{it} + \beta_{14} \textit{Leverage}_{jt} + \beta_{15} \textit{MB}_{it} + \beta_{16} \textit{MB}_{jt} + \varepsilon_{ijt} \end{aligned} \quad [1]$$

The dependent variable is our primary measure of firm pair stock return comovement, *Return Correlation*$_{ijt}$. To the extent that politicians coordinate the activities of their client firms, we predict a positive coefficient on *Common Politician* (*Hypothesis 1*). Similarly, we predict a positive (negative) coefficient on *Separate Politicians* if such networks create coordination (competition) between politicians and the firms they control (*Hypothesis 2a(b)*). Subsequent, expanded versions of this model will include additional indicator variables designed to capture the structure and form of the firm-pairs' network connections and the resultant incentives for cooperation and competition among network affiliated politicians. These expanded models will allow us to test *Hypotheses 3, 4 and 5*.

The remaining independent variables are drawn from prior research on the determinants of stock price comovement (e.g., Anton and Polk, 2014). The indicator variable *Common Region*$_{ijt}$ equals one if the paired firms are registered in the same province, zero otherwise. The indicator variable *Common Size*$_{ijt}$ equals one if the percentile distance between the size rankings of the paired firms is smaller than or equal

to 5, zero otherwise. The indicator variable *Common* MB_{ijt} equals one if the percentile distance between the market-to-book ratio rankings of the paired firms is smaller than or equal to 5, zero otherwise. The indicator variable *Common Industry*$_{ijt}$ equals one if the paired firms operate in the same 3-digit industry, zero otherwise. Industry affiliations are based on CSRC industry classifications in 2012. Following Anton and Polk (2014), we define firm's financial characteristics as their percentile rank each year. $Size_{i(j)}$ is measured as the percentile rank of the firm i's (j's) total market value of equity at the end of year t. $ROA_{i(j)}$ is measured as the percentile rank of the firm i's (j's) return on asset realization in year t, where return on assets is measured as net income scaled by beginning of year total assets. $Leverage_{i(j)}$ is measured as the percentile rank of the firm i's (j's) leverage at the end of year t. $MB_{i(j)}$ is measured as the percentile rank of the firm i's (j's) market-to-book ratio at the end of year t. We also include year fixed effects ($Year_t$) and two sets of industry fixed effects ($Industry_{it}$ and $Industry_{jt}$) in all estimations to control for unobservable characteristics. All explanatory variables are defined in Appendix II. Standard errors are clustered by year in all estimations.

4. Empirical Results

This section presents our primary set of empirical analyses. These analyses employ the methodology outlined in Section 3.

4.1 Network affiliation via common vs. separate politicians

Our first set of analyses documents the average impact that common political network affiliations have on the stock return comovement of connected firm pairs. As discussed in Section 2, the impact of political network affiliation on connected firm pairs is expected to vary by the structure of their relationship and the incentives this structure creates. Firm pairs connected to a political network via common politician(s) are expected to display a greater degree of coordination, and thus greater stock return comovement, than the average firm pair. In contrast, firms connected to common political network via separate politicians are expected to display a greater degree of competition, and thus less stock return comovement. Descriptive evidence in Table 2 generally supports the presence of these coordination and

competition effects. However, because firms connected to a common politician might share common economic attributes, such as operating in the same province (and perhaps co-located with the common politician) or same industry (perhaps correlated with the background of the politician), these connected firms likely experience similar economic shocks and, as such, are expected to display a heightened degree of economic interdependence absent the influence of a political connection. Similarly, the documentation of competitive effects in the univariate data could reflect systematic differences in these types of fundamental attributes among a broad set of network-connected firms. Thus, any test of political coordination or competition requires controls for these firms' common characteristics.

Table 3 presents select coefficients from various estimations of equation (1). These estimations reveal several key findings. First, variables measuring economic characteristics expected to generate positive stock return comovement, namely common region, common industry, similar size, and similar level of investment opportunities, all display significant positive relations with *Return Correlation*. Second, after controlling for the presence of these common features, variables capturing each firm's relative size, financial performance, and growth options all display a negative relation with the firm pair's return comovement. Essentially, larger, financially healthy firms with significant growth options are more likely to engage in idiosyncratic behavior and generate idiosyncratic payoffs vis-à-vis other Chinese firms in China, ceteris paribus.

Third, after controlling for these determinants, we find that firm pairs connected to a political network via a common politician(s) exhibit greater stock return comovement. This increase in comovement is consistent with the common politician coordinating the economic activities and payoffs of the two firms under his/her influence, and supports *Hypothesis 1*. Focusing on the full estimation of equation (1) using the complete sample, the coefficient of 0.014 on *Common Politician* implies that firms with political connections to the same politician experience a 42% increase in stock return comovement versus the average pair of Chinese listed firms. Moreover, on a relative basis, the coordination effect is approximately more than double (one third) of the increase in comovement created by locating in the

same region province (having common industry membership). Together, the relative magnitude of the effect seems economically meaningful.[14]

Fourth, after controlling for the determinants of stock return comovement, we find that firm pairs connected to a common network via separate politicians are associated with an average reduction in stock return comovement. This decrease in comovement is consistent with these network-affiliated firms being affected by competition-related political forces within these politicians' social network, which supports *Hypothesis 2b*. Again, focusing on the full estimation of equation (1) using the complete sample, the coefficient of -0.005 on *Separate Politicians* implies that firms connected to a common political network via separate politicians experience a 15% decrease in comovement versus the average pair of Chinese listed firms. This absolute magnitude is comparable to (more than 10% of) the level of comovement induced by operating in the same province (industry), suggestive that the magnitude is economically meaningful.

Finally, a significant percent of our sample consists of firm pair observations where at least one of the two firms lacks a political connection. Because politically connected firms are likely to be systematically different than non-politically connected firms (e.g., greater exposure to government policy), our second set of estimations focus only on firm pair observations where *each* firm has at least one political connection in a given year (n=653,172). In these estimations, the baseline captures the average comovement of politically connected firm pairs that do not share a common political network affiliation or no network affiliations at all. This subsample allows us to measure the incremental effect of common network affiliation versus the effects of the political connections themselves. These estimations confirm the results using the full sample, namely, that (1) firm pairs connected to a common political network via the same politician(s) display a greater degree of return correlation than the average pair of politically connected firms lacking a common network affiliation, and (2) that the average pair of firms

[14] Using a similar research design, Anton and Polk (2014) find that the incremental effect of common mutual fund ownership on firm-pair abnormal stock return comovement ranges from 0.0018 to 0.0026 (Table 2, columns 2-4), which is 34% to 49% of the average abnormal comovement of 0.0053 in their sample.

connected to a common political network via separate politicians display a lower degree of return correlation than the average pair of politically connected firms lacking a common network affiliation.

Together, the results in Tables 3 confirm our two main predictions. First, firms connected to each other through a common politician display an increase in the correlation of value creating activities. This increase is consistent with these firms responding similarly to political incentives (i.e., engaging in coordinated activities) and/or receiving similar economic benefits arising from their common politician.[15] Second, firms connected to a common network via separate politicians do not experience this positive increase in correlation. Instead, the activities of these firms are actually less correlated than the average pair of non-network-connected firms in China.[16] This decrease in correlation suggests that these firms are responding to adversarial political incentives of the different politicians to which these firms are connected introduced through the network structure. The next two sections explore these issues further.

4.2 Effect of split allegiances on the coordination activities of common politicians

The preceding section documents that pairs of firms linked together by a common politician display increased stock return comovement. However, these client firms can also be connected to that common politician's political network through other politicians. *Hypothesis 3* predicts that the incentives created by these additional political connections have the potential to reduce coordination due to split loyalty and, in the extreme, induce competition between two firms that would otherwise have been solely influenced and controlled by their common politician.[17]

To examine this issue, we first partition our sample of firm pairs connected together via common politician(s) into two subsamples based on whether or not either firm in the pair has additional connections to the same network. As discussed in Section 3 and in Figure 3, we divide firm pairs that

[15] Untabulated results show that the coordination effect is present in all ranks (i.e. central, provincial and municipal) of politicians, but it is strongest among the provincial politicians.

[16] Untabulated results indicate that the competition effect does *not* exist if the connected politicians are only central politicians. This effect exists when the connected politicians are purely local (provincial or municipal) politicians or a mixed pair (group) of central and local politicians. This leads to our further analysis of connections via separate local politicians and mixed politicians in Table 5.

[17] This is different from firm pairs that are connected to a common network via separate politicians (*Separate Politicians*) because we exclude connections to a common network via common politician(s) in those firm pairs.

share a common politician (i.e., *Common Politician*) into those that only share common politician without any ties to other network-affiliated politician(s) (i.e., *Only Common Politician*) and those that have ties to other politician(s) in the same network (i.e., *Common Politician & other Politician*). We expand equation (1) by replacing *Common Politician* with *Only Common Politician* and *Common Politician & other Politician* (see Appendix II for variable definitions).

Table 4 presents select coefficients from various estimations of the model. Consistent with our *Hypothesis 3*, the presence of additional connections to the network for firm pairs connected together via a common politician significantly attenuates the strength of the observed positive return comovement in all the three samples (e.g., using the most restrictive sample [column 3 of Table 5], the coefficients on the terms *Only Common Politician* and *Common Politician & other Politician* are 0.018 and 0.008, respectively). Although these conflicted firm pairs still experience a net increase in stock return comovement, the smaller positive effect is consistent with other politicians adversely impacting the ability of the common politician to coordinate the activities of the two firms.

4.3 Variation in the competition effects arising from network affiliation via separate politicians

In this section, we test the last two hypotheses. To examine *Hypothesis 4*, we expand equation (1) by replacing *Separate Politicians* with *Separate Local Politicians – same locality* and *Separate Local Politicians – different localities.* Similarly, we add *Separate Mixed Politician – Leader Follower* and *Separate Mixed Politician – Non-Leader-Follower* to the regression model for testing *Hypothesis 5*.

Table 5 presents select coefficients from estimations of this model using all three of our samples. Consistent with our arguments, we continue to observe that firms connected to a political network via separate local politicians exhibit marginally lower levels of *Return Correlation* than the average firm pair connected through a network of politicians. We find evidence that network-connected firm pairs with local politicians from the same locality (*Separate Local Politicians – Same Locality*) experience significantly more negative *Return Correlation* than local politicians from different localities (*Separate Local Politicians – Different Localities*) in two of the three samples, which supports our *Hypothesis 4*. However, contrary to our predictions, we do find a significant difference in *Return Correlation* between

mixed politicians that have a leader follower arrangement (*Separate Mixed Politicians – Leader Follower*) vs. those that do not (*Separate Mixed Politicians – Non-Leader Follower*). One possible reason for this lack of result is that the mixed politicians with collegial ties may not have developed a strong leader-follower relationship.

4.4 Influence of firms' other political network affiliations

The previous section demonstrates that the career concerns of local politicians affect the degree to which firms under their control engage in coordinated or competitive behavior. However, internal politics is not the only channel by which the coordinated activities of network-affiliated firms can become disentangled. Social and political networks themselves, with groups of politicians competing against each other, can represent a source of disruption both within a given network and across the economy. Specifically, common network-connected firms with links to other political networks will face countervailing incentives capable of disrupting the coordination activities arising from a firm-pair's common political links. Firms with affiliations of multiple networks can be used for competing political agendas and will need to respond to a diverse array of political incentives, policy objectives, etc. In such settings, we expect network-connected firm pairs containing such conflicted firms to display a lower level of coordination, and hence lower stock return correlation, than firms lacking these external conflicts.

To examine this premise, we re-estimate equation (1) by adding a set of variables for common politician and another for separate politicians that capture the effect of the outside network connections. For firm pairs connected to the common network via separate politicians, we classify firm pairs based on whether either firm has a connection to politicians outside the network (see Section 3 for variable definitions). We predict that coefficients on these variables, *Separate Politicians without Outside Network* and *Separate Politicians with Outside Network*, will be negative, while the relative magnitude of these coefficients should reflect the relative strength of internally versus externally-generated forces to reduce coordination and/or induce competitive behavior. Similarly, for firm pairs connected via a common politician(s), we classify whether the pair of firms with connection to the same politician are also related to other politicians inside vs. outside the common politician's network (i.e., *Common Politician & other*

Politician Inside Network and *Common Politician & other Politician Outside Network*). We predict that firm pairs with outside network connections will exhibit less comovement (i.e., display weaker coordination effects) than firm pairs lacking these outside network connections.

Table 6 presents select coefficients from these estimations. First, we find that firm pairs that are connected via separate politicians exhibit negative *Return Correlation* regardless of whether they have or do not have outside network connection. The relative strength of these effects do not appear to vary meaningfully between these two samples, suggestive that outside network connections neither exacerbate nor attenuate competitive effects arising within the common political network. Second, regarding firm pairs that are connected via a common politician, having additional ties with other politicians inside the network only marginally affects the coordination effects of the common politician. In contrast, the existence of ties with politicians outside the common network effectively eliminates the coordination effects of the common politician. This result is robust to the sample using all firm pairs or only restricted to politically connected firm pairs.

5. Additional analyses and robustness tests

5.1 Influence of political networks on state-owned versus non-state-owned firms

Our univariate evidence suggests that the impact of political network on the stock price comovement of network-affiliated firm pairs was significantly stronger (weaker) among state-owned (non-state-owned) firms. To validate the robustness of those inferences, we replicate our main results (Table 3) after partitioning firm-pair observations into three samples: two state-controlled firms, two non-state-controlled firms, and a mixed pair (i.e., one state and one non-state firm).

Table 7 presents separate re-estimations of equation (1) within our full sample of 21 million observations (first set of three estimations) and our reduced sample of only politically connected firms (second set of estimations). In these models, we also control for the potential existence of common ownership among our state-owned firm pairs, as this could be a source of heightened stock price comovement among these firms. This table yields two main results. First, state firms connected to a

common politician exhibit significantly higher degrees of coordination than similarly connected pairs of non-state-firms and mixed firms. The increase in comovement is nearly two and a half to three times greater than non-state firms, consistent with politicians being able to exert materially greater influence over state companies. Second, similarly, pairs of state firms connected via separate politicians experience stronger competitive effects. In contrast, non-state firm pairs experience little to no competitive effects, again consistent politicians more likely to use state firms to achieve their political goals.

5.2 Evidence from the establishment and termination of faction affiliation

The preceding analyses demonstrate that network affiliation affects the comovement of the stock prices of Chinese listed firm pairs. We argue that the observed relations are driven by incentives for cooperation vs. competition created by the network structure. However, in spite of efforts to control for similarities and differences in the characteristics of the paired firms, it is possible that our results could be an artifact of omitted variables correlated with network affiliation. To mitigate this concern, we also examine whether stock return comovement changes in response to the creation and termination of common network affiliation among our sample of firm pairs. The documentation of a significant change in stock return comovement following the creation or breakage of these common network links would provide compelling evidence that the observed stock price behavior reflects network-related incentives and activities. However, because it may take time for the actions and incentives of network politicians to affect the activities of their client firms, a change-based analysis may lack sufficient power to detect these effects.

To explore this issue directly, we examine whether the creation or termination of common network affiliation for the firm pair in year *t* led to a systematic change in stock return comovement that year. Specifically, we estimate variations of the following empirical model:

$$\begin{aligned}\Delta Return\ Correlation_{ijt} = {} & \alpha + Year_t + Industry_{it} + Industry_{jt} + \beta_1 Join\ Network_{ijt} \\ & + \beta_2 Leave\ Network_{ijt} + \beta_3 Return\ Correlation_{ijt-1} + \beta_4 Common\ Region_{ijt} + \beta_5 Common\ Size_{ijt} \\ & + \beta_6 Common\ MB_{ijt} + \beta_7 Common\ Industry_{ijt} + \beta_8 \Delta Size_i + \beta_9 \Delta Size_j + \beta_{10} \Delta ROA_i + \beta_{11} \Delta ROA_j \\ & + \beta_{12} \Delta Leverage_i + \beta_{13} \Delta Leverage_j + \beta_{14} \Delta MB_i + \beta_{15} \Delta MB_j + \varepsilon_{ijt} \end{aligned} \quad [2]$$

In these models, the dependent variable $\Delta Return\ Correlation_{ijt}$ is the difference in *Return Correlation* for the paired firms between year t and year t-1. The indicator variable $Join\ Network_{ijt}$ equals one if the firm pairs establish a specific type of network connection in year t, zero otherwise. The indicator variable $Leave\ Network_{ijt}$ equals one if the firm pairs terminate a specific type of network connection in year t. Following our earlier analysis of cooperation vs. competition, we focus on two types of firm-pairs' network affiliation. First, we examine all firm pairs that either establish or completely lose network affiliation via separate politicians (i.e., *Separate Politicians*) in year *t*. Second, we examine firm pairs that either establish or lose their network affiliation via a common politician (*Common Politician*) in year *t*. For each type of creation (termination) of network connection analysis, we use a sample of firm pairs that possess (lack) the respective type of network affiliation in year *t-1*, and then document whether or not their affiliation changes between year *t-1* and year *t*. We predict that the creation (termination) of a common network bond via separate politicians will lead to a decrease (increase) in *Return Correlation*. However, we predict the sign of that relation to flip with the creation (termination) of network-affiliated firm pairs that are connected to each other via a common politician.

Table 8 presents select coefficients from estimations of equation (2). First, among firm pairs establishing a network-based relationship via separate politicians, we document a significant decrease in *Return Correlation* in the year that a firm pair's faction affiliation is created and reversal of the effect when the network relation is broken. These sudden changes in comovement are consistent with our interpretation of our main results in Section 4. Second, focusing on firm pairs previously linked to the political network via common politician(s), we find that the termination of this common affiliation is associated with a significant decrease in *Return Correlation*. This negative relation is consistent with the incentives for coordination quickly abating following the loss of the common connection. We fail to document an increase in return comovement in the year the common politician joins the network, perhaps due to the challenges of fostering coordination over a short horizon.

5.3 Periods of heightened incentives for cooperation and competition

Incentives for cooperation and competition among network politicians are expected vary over time. Network politicians will have a stronger incentive to cooperate when the government or party is actively implementing a specific economic policy. For example, during periods of economic stimulus, when the central government is actively orchestrating financing and investment behavior to stimulate economic growth, we would expect network politicians to work towards the common goal and their client firms to be engaged in correlated behavior. Similarly, we expect competition between network politicians to intensify around political promotion events, as politicians actively compete for advancement within the party hierarchy. As a result of these adversarial relations, we expect to observe stronger negative return comovement during these periods.

To test these arguments, we re-estimate equation (1) after partitioning the sample both into periods of economic stimulus (2008-2010) and no economic stimulus (remaining years) and into periods of heightened political promotion activity (National Congress years 2002, 2007 and 2012) and non-promotion years (remaining years). Select coefficients from these estimations are presented in Table 9. Consistent with our predictions, the coordination effects arising from a common politician are incrementally stronger during periods of macro-economic stimulus, while political promotion events having no impact on the behavior of these connected firm pairs. In contrast, the documented competition effects arising from connections via separate politicians are incrementally stronger in advance of political promotion events, with adversarial relations not impacted by economic stimulus activity. Differences in coefficients across the two regimes are significant at the one-percent level using Chi-squared tests, and support our interpretation that the incremental positive (negative) return comovement document among firm-pairs connected to a political network via common (separate) politicians reflect incentives for coordination (competition) among the politicians.

5.4 Evidence on the correlation of firm fundamentals

The underlying premise of our paper is that politicians are able to directly or indirectly influence the economic activities and payoffs of China's listed firms, and that incentives for cooperation (competition) result in connected firm pairs exhibiting more (less) positively correlated stock prices.

Although our stock price based measure of comovement provides evidence consistent with the predicted comovement in firm fundamentals, the evidence is inherently indirect and relies upon assumptions about the average efficiency and behavior of stock prices in China.

In this section, we examine whether network connected firm pairs exhibit higher or lower levels of comovement in their investing and financial activities conditional upon the form and nature of their political network connections. Specifically, we predict that firm pairs connected via a common politician (separate politicians) will experience greater (less) comovement in these activities, as measured by the relative percentile rankings of their changes in total assets, capital expenditures, equity issuances, bank loans, debt financing, and receipt of subsidies. We focus on investing and financing activities as local politicians have direct and indirect control over the allocation of these resources in China.

Table 10 presents select coefficients from these estimations. These estimations reveal that network-affiliated firms connected together via a common politician exhibit heightened degree of comovement along most of these dimensions, consistent with our coordination story. Among network-affiliated firms connected together via separate politicians, the evidence is less clear. We find that these firm pairs also engaged in correlated investment activity, but the effect is much smaller than that observed among firms associated with a common politician, consistent with these politicians' inability to directly coordination behavior. More convincingly, we document a negative correlation between the debt financing activities of these firms pairs, consistent with access to capital via state banks being granted in a non-uniform manner across the client firms. Together, this evidence broadly supports the interpretation of our main results.

6. Conclusions

The main research question of this study is to examine whether firm pairs that belong to the same political network have stronger or weaker stock price comovements than those that do not belong to the same political network. We predict that the relative activities and payoffs of pairs of firms connected to the same political network are systematically shaped by the prevailing coordination vs. competition

incentives of the network's politicians. We test these arguments by examining the stock price comovement of network and non-network affiliated Chinese domestically listed firms over the period 2000 to 2014.

We find strong, robust evidence that the average, network-affiliated firm pair connected together via a common politician exhibit a net increase in stock return comovement. This increase is consistent with these firms' politicians being able to coordinate the activities of firms under his/her patronage. However, for firm pairs connected to a network via a common politician, the introduction of additional connections to the same network attenuates this positive effect, suggestive of these alternative links exerting influence on the listed firms and affecting the effectiveness of the common politician to control the activities of the firms. More importantly, the presence of links to another network seems to eliminate the ability of the common politicians to coordinate activities, consistent with inter-network competitive forces reducing the coordination effects arising from the firms' common network affiliation.

Second, we find evidence that firm pairs connected to the same network via separate politicians exhibit negative stock price comovement. This suggests that competition between the politicians outweighs the coordination forces that arise from the same network. Our evidence also shows that this negative effect is significantly stronger among local politicians that share a common locality, which is expected to increase their competition incentives.

Third, we exploit a change-based analysis to examine the impact of network connection formation and disruption on stock return comovement. These tests, which focus on the introduction and departure of a politician to / from a political network and then examine shifts in stock return comovement for the newly connected firms, confirm our main findings.

Fourth, we find that the positive stock return comovement of the firm pairs connected via a common politician(s) is significantly stronger during the period when the central government executed the economic stimulus than other periods in the sample. As the financial resources were channeled from the central to the local governments via these political ties, it heightened the coordination effect of the common politician(s) of the networks on the affiliated firms. However, during the years of the National

Congress meetings, politicians' promotion activities will heighten the competition among politicians within the networks. Our evidence shows that the stock return comovement firm pairs connected via separate politicians is significantly more negatively during those promotion years than other years in the sample.

Finally, we find that firm pairs sharing a common politician connection exhibit stronger positive comovement of firm fundamentals such as investment rates, debt financing activities and government subsidies, and there is more negative comovement in firms' obtaining state financing when they are connected via separate politicians. These results are consistent with the coordination and competition effects that we document using stock return comovement.

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Appendix I

Zhou Yongkang, the former Politburo standing member who was recently imprisoned for corruption charges, served as party secretary in Sichuan province from 1999 to 2002. During this period, he established his "Sichuan" faction, which included Li Chuncheng and Wei Hong as its members.

Li Chuncheng joined the faction through his service in Chengdu, the capital city of Sichuan province, as vice mayor, mayor and party secretary since 1998. His political career overlapped with that of Zhou during his service in Chengdu, and he became affiliated with Zhou's faction in Sichuan. Before his relocation to Chengdu in 1998, Li had been working in Hei Longjiang province for around ten years and his last position there was vice mayor of Ha'erbin. A group of businessmen closely connected with Li in Hei Longjiang did their business in Chengdu, mainly in real estate sector, with political favors from the local government of Chengdu. They are known as "Ha'erbin" faction in Chengdu, who had enjoyed significant advantage in getting the land for property development. For example, they bought a piece of land in Chengdu for RMB 1,050,000/Acre, which was significantly lower than RMB 1,250,000/Acre, the price at which Poly Group, a prestigious central government owned business group, paid for a similar property.

Wei Hong started his political career in Sichuan when he was 28 years old. In 2000, he was promoted to the party secretary of Ya'an, a city within Sichuan province. Two years later, he was promoted to the director of Personnel Department of Sichuan province, which is in charge of the appointment of politicians. It was said that Wei developed a close relation with Zhou, who was his direct leader.

On January 5, 2013, Wei was appointed as the deputy governor of Sichuan province. It was a big surprise because he had not been a standing member of the provincial committee, an alternate member or formal member of the central committee, which had made him less attractive for the newly appointed position. Instead, Li was the expected candidate for this position, as he had been recently selected as an alternate member of the central committee in November of 2012, signaling his further promotion on the political path.

There was serious conflict between Li and Wei in competing for the position of provincial governor. They tried to defame each other and provided evidence of corruption engaged by each other. In the end, Wei won out.

Upon the prosecution of Zhou's corruption scandal, Li and several of his connected businessmen were jailed and Wei was demoted by four levels on the political hierarchy.

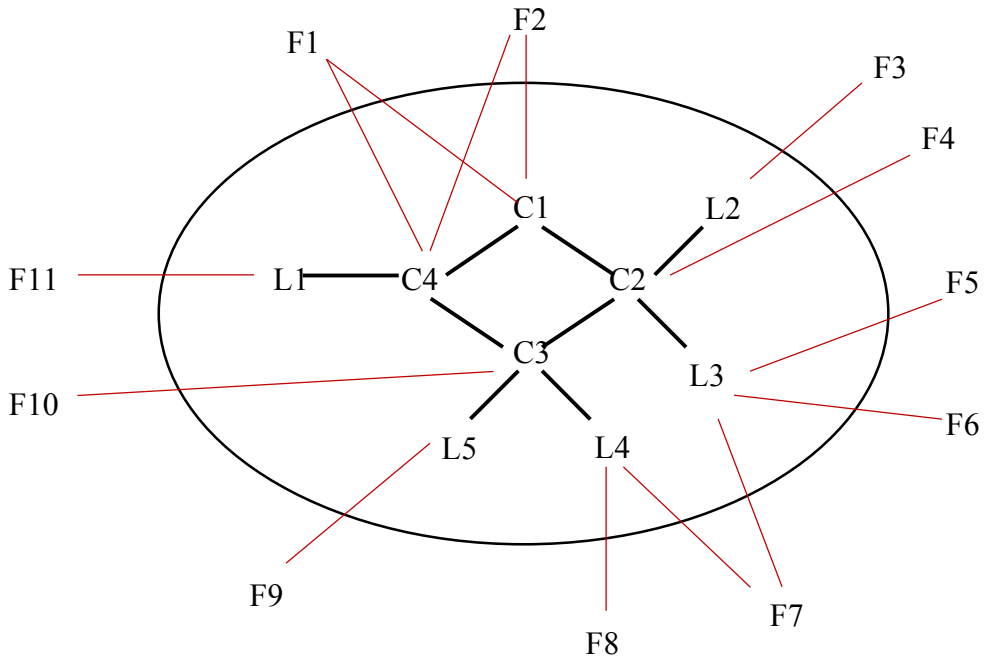
Appendix II
Variable Definitions

Variable	Definition
Dependent variables:	
Return Correlation$_{ijt}$	*Return Correlation* is the pearson correlation coefficient of detrended, market-adjusted daily stock returns of the paired firms (i.e., firm i and firm j) in the same calendar year (i.e., year t).
Fraction	*Fraction* is the fraction of trading days with the stock prices of paired firms moving in the same direction out of total trading days within the year.
$\Delta Asset_{ijt}$	$\Delta Asset_{ijt}$ equals one if the change in assets of firm i and j in year t belong to the same tertile, and zero otherwise. For a given firm, change in total assets is measured as change in total assets in year t scaled by total assets at the beginning of year.
$\Delta Capex_{ijt}$	$\Delta Capex_{ijt}$ equals one if the change in capital expenditure of firm i and j in year t belong to the same tertile, and zero otherwise. For a given firm, change in capital expenditure is measured as the change in total capital expenditure in year t scaled by total assets at the beginning of the year.
$\Delta Equity_{ijt}$	$\Delta Equity_{ijt}$ equals one if the change in owner's equity of firm i and j in year t belong to the same tertile, and zero otherwise. For a given firm, change in owner's equity is measured as the change in owner's equity in year t scaled by total assets at the beginning of the year.
$\Delta Bank_{ijt}$	$\Delta Bank_{ijt}$ equals one if the change in bank loans of firm i and j in year t belong to the same tertile, and zero otherwise. For a given firm, change in bank loans is measured as change in bank loans in year t scaled by total assets at the beginning of the year.
$\Delta Debt_{ijt}$	$\Delta Debt_{ijt}$ equals one if the change in long-term debt of firm i and j in year t belong to the same tertile, and zero otherwise. For a given firm, change in long term debt is measured as change in long term debt in year t scaled by total assets at the beginning of the year
$\Delta Liability_{ijt}$	$\Delta Liability_{ijt}$ equals one if the change in total liability of firm i and j in year t belong to the same tertile, and zero otherwise. For a given firm, change in total liability is measured as change in total liability in year t scaled by total assets at the beginning of the year
$\Delta Subsidy_{ijt}$	$\Delta Subsidy_{ijt}$ equals one if the change in subsidy of firm i and j in year t belong to the same tertile, and zero otherwise. For a given firm, change in subsidy is measured as change in subsidy in year t scaled by total assets at the beginning of the year
Network connection via common politician(s)	
Common Politician	Indicator variable equal to one if the paired firms are connected to a single or multiple common politician(s) in year t, zero otherwise. A firm is regarded as being connected to a politician if the CEO or chairman of the firm has direct collegial relationship with the politician and the politician belongs to a political network.
Network connection via common politician(s), without other connections	
Only Common Politician	Indicator variable equals one if the paired firms are only linked together through common politician(s) in a political network, zero otherwise.
Network connection via common politician(s), with other connections within the network	
Common Politician & other Politician	Indicator variable equals one if the paired firms are connected to common politician(s), with either or both of the firms also linked to other politician(s) belonging to the common politician's network, zero otherwise.

Network connection via common politician(s), with or without outside network	
Common Politician without Outside Network	Indicator variable equals one if the paired firms are linked to a network through the common politician(s), with either or both of the firms only linked to other politicians belonging to the common political network, zero otherwise.
Common Politician with Outside Network	Indicator variable equals one if the paired firms are linked to a network through the common politician(s), with either or both of the firms linked to other politicians belonging to another political network, zero otherwise.
Network connection via separate politicians	
Separate Politicians	Indicator variable equals one if the paired firms (1) are connected to politicians belonging to the same political network and (2) do not share a connection to any common politician, zero otherwise. A political network is defined at the beginning of the year with regards to all of the historical collegial relationship nodes, including politicians and executives of listed company. The kernel of a political network is defined as the closed political community through the collegial relationship of central politicians. The sphere of the political network consists of local politicians at provincial- and prefecture-level that linked to these central politicians through collegial relationships. A firm is regarded as being linked to the political network if the CEO or chairman of the firm has direct collegial relationship with any politician in the political network.
Network connection via separate politicians, conditioning on competition incentives	
Separate Local Politicians – same locality	Indicator variable equals one if the paired firms are connected to a common political network, with the firms connected to the network through different local government politicians located in the same locality, zero otherwise.
Separate Local Politicians – different localities	Indicator variable equals one if the paired firms are connected to a common political network, with the firms connected to the network through different local government politicians located in the different localities, zero otherwise.
Separate Mixed Politicians – leader follower	Indicator variable equals one if the paired firms are connected to a common political network, with the firms connected to mixed politicians who share a collegial tie (a leader-follower type of relationship), zero otherwise.
Separate Mixed Politicians – non-leader follower	Indicator variable equals one if the paired firms are connected to a common political network, with the firms connected to mixed politicians who do not share a collegial tie (a non-leader-follower type of relationship), zero otherwise.
Network connection via separate politicians, with or without outside network	
Separate Politicians without Outside Network	Indicator variable equals one if the paired firms are connected to the same political network, and neither firm has any other political network affiliations, zero otherwise.
Separate Politicians with Outside Network	Indicator variable equals one if the paired firms are connected to the same political network, and either or both firms is connected to another political network, zero otherwise.
Change in network connection	
Join Network	Indicator variable equal to one if firm pairs not affiliated with a common network in year t-1 becomes affiliated with a common network in year t, zero otherwise.
Leave Network	Indicator variable equal to one if firm pairs affiliated with a common network in year t-1 are no longer affiliated with that network in year t, zero otherwise

Control variables	
$Size_{it}$	Size is measured as the percentile rank of firm *i*'s total market value in each year, where *i* takes value of 1 or 2.
ROA_{it}	ROA is measured as the percentile rank of firm *i*'s return on assets in each year, where *i* takes value of 1 or 2.
$Leverage_{it}$	Leverage is measured as the percentile rank of firm *i*'s Leverage in each year, where *i* takes value of 1 or 2.
MB_{it}	MB is measured as the percentile rank of firm *i*'s market to book ratio by end of each year, where *i* takes value of 1 or 2.
Common Industry$_{ijt}$	Indicator variable equals one if the paired firms are from same industry and zero otherwise.
Common Region$_{ijt}$	Indicator variable equals if the paired firms (i.e., firm i and firm j) are registered in the same province, and zero otherwise.
Common Size$_{ijt}$	Indicator variable equals one if the distance between the size of paired firms is smaller than or equal to 5, and zero otherwise.
Common MB$_{ijt}$	Indicator variable equals one if the distance between the MB of paired firms is smaller than or equal to 5, and zero otherwise.
Common Ownership$_{ijt}$	Indicator variable equals one if the paired firms share a common controlling shareholder, zero otherwise.
SOE Pair	Indicator variable equals one if the paired firms are both SOEs

Figure 1: Illustration of Firm-pairs in a Network



In this figure:

F1 to F11 are individual firms connected to a common political network.
C1 to C4 are individual central politicians connected to each other via their collegial ties, and together form the kernel of the political network.
L1 to L5 are individual local politicians connected to C1 to C4 via their collegial ties, and form the sphere of the political network.

Example of various types of firm-pair connections:

Firm-pairs with *Common Politician* = 1, e.g. F1 and F2 share two common politicians; F5 and F6 are connected together via a single common politician.
Firm-pairs with *Separate Politician* = 1, e.g. F3 and F4 are connected together via two separate politicians.

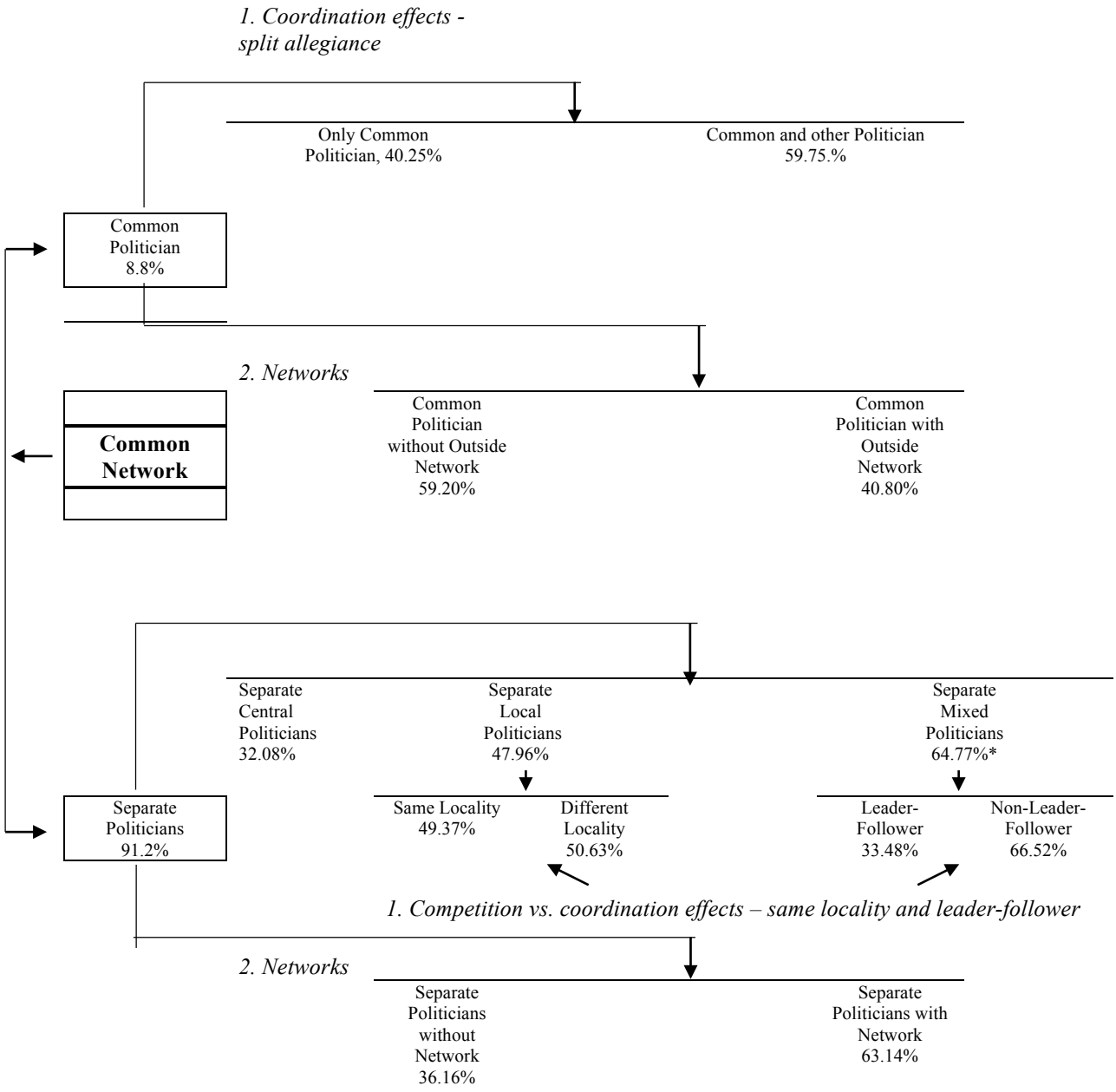
Firm-pairs with *Only Common Politician* = 1, e.g. F5 and F6.
Firm-pairs with *Common Politician & other Politician* = 1, e.g. F7 and F8.
Firm-pairs with *Separate Local Politicians – same locality* = 1, e.g. F8 and F9 with L4 and L5 in the same locality.
Firm-pairs with *Separate Mixed Politicians – leader-follower* = 1, e.g. F9 and F10 with C3 and L5 sharing a collegial tie.

Figure 2: Network mapping of politicians

Figure 2a: The map of the global network in 2014

Figure 2b: The map of one of the communities identified by the Louvain algorithm

Figure 3: Types of Network Connections



The percentage of each type is reported after every sub-division. All the variable definitions are in the Appendix II. * The three percentage terms do not sum to one because *Separate Mixed Politicians* also contains *Separate Central (Local) Politicians* with connections to other politicians of different ranks.

Table 1
Descriptive statistics on political networks and network connected firm pairs

Panel A: Distribution of political networks

	All Networks			Networks with firm pairs				
Year	# of Networks	# of Politicians	# of Central Politicians	# of Networks	% of Networks	# of Politicians	# of Central Politicians	# of Network Connected Firms
2000	116	11.0	1.6	18	15.5%	58.6	9.6	5.6
2001	128	10.8	1.5	16	12.5%	69.1	10.8	7.9
2002	141	10.9	1.4	18	12.8%	70.4	9.8	9.8
2003	120	14.2	1.7	20	16. 7%	76.3	9.7	10.9
2004	123	15.5	2.0	20	16.3%	86.4	11.3	15.5
2005	102	19.9	2.4	19	18.6%	101.3	12.4	20.6
2006	96	22.2	2.6	23	24.0%	88.8	10.4	18.8
2007	89	25.9	2.8	24	27.0%	92.9	10.0	20.0
2008	78	31.1	3.5	22	28.2%	107.5	11.8	28.3
2009	57	46.2	5.2	20	35.1%	129.4	14.6	36.3
2010	47	57.4	6.4	20	42.6%	133.3	14.7	38.2
2011	54	51.7	5.6	24	44.4%	115.9	12.3	33.7
2012	50	59.3	6.1	23	46.0%	127.6	12.9	40.5
2013	45	67.9	7.0	24	53.3%	126.5	12.8	50.8
2014	46	70.3	7.5	25	54.4%	128.5	13.4	62.6
Average	86.1	26.4	3.0	21.1	24.5%	102.6	11.8	26.6

Panel B: Distribution of sample firms and firm-pairs

	Firms			Firm-Pairs				
Year	# of Firms	# of Connected Firms	% of Firms	# of Firm-Pairs	# of Firm Pairs Connected via Common Politicians	% of Firm-Pairs	# of Firm-Pairs Connected via Separate Politicians	% of Firm-Pairs
2000	979	56	5.7%	478,640	61	0.013%	389	0.081%
2001	1,084	75	6.9%	586,522	106	0.018%	590	0.101%
2002	1,141	93	8.2%	650,161	134	0.021%	848	0.130%
2003	1,198	119	9.9%	716,651	183	0.026%	1,787	0.249%
2004	1,294	152	11.8%	834,751	244	0.029%	3,009	0.360%
2005	1,295	199	15.4%	836,951	431	0.051%	5,137	0.614%
2006	1,284	201	15.7%	815,522	459	0.056%	5,017	0.615%
2007	1,370	218	15.9%	934,361	589	0.063%	6,248	0.669%
2008	1,504	260	17.3%	1,129,885	1,009	0.089%	11,082	0.981%
2009	1,518	285	18.8%	1,154,338	1,191	0.103%	14,957	1.296%
2010	1,812	304	16.8%	1,639,657	1,402	0.086%	18,656	1.138%
2011	2,147	327	15.2%	2,298,487	1,526	0.066%	20,826	0.906%
2012	2,392	380	15.9%	2,859,044	2,163	0.076%	22,430	0.785%
2013	2,446	474	19.4%	2,994,151	4,006	0.134%	35,997	1.202%
2014	2,496	553	22.2%	3,086,264	5,866	0.190%	52,851	1.712%
Total	23,960	3,696	15.4%	21,015,385	19,370	0.092%	199,824	0.951%

Table 1 (continued)
Descriptive statistics on political networks and network connected firm-pairs

Panel C: Firm and firm-pair characteristics (continued)

	All Firms and Firm Pairs		Firms and Firm Pairs Connected via Common Politician		Firms and Firm Pairs Connected via Separate Politicians	
	Mean	Median	Mean	Median	Mean	Median
C1: Firm Characteristics						
Log (Firm Size)	15.044	14.918	15.548	15.322	15.488	15.264
Return on Assets (ROA)	0.033	0.034	0.035	0.033	0.035	0.033
Market-to-book	3.730	2.691	3.452	2.474	3.478	2.489
Leverage	0.467	0.474	0.497	0.503	0.497	0.503
SOE	0.561	1.000	0.616	1.000	0.636	1.000
# of political connections	0.891	0.000	6.426	3.000	5.792	3.000
# of factions	0.344	0.000	2.397	2.000	2.227	1.000
C2: Firm-pair Characteristics						
Return Correlation	0.033	0.030	0.025	0.017	0.011	0.009
Common Industry	0.035	0.000	0.074	0.000	0.031	0.000
Common Region	0.062	0.000	0.168	0.000	0.098	0.000
Common Size	0.107	0.000	0.164	0.000	0.128	0.000
Common MTB	0.107	0.000	0.122	0.000	0.114	0.000
Common Ownership	0.013	0.000	0.086	0.000	0.043	0.000
SOE Pair	0.288	0.000	0.344	0.000	0.363	0.000

All variables are defined in the Appendix.

Table 2
Univariate evidence on the stock return comovement of firm-pairs connected through a common political network

This table presents descriptive evidence on average annual stock return comovement between pairs of listed firms on China's stock exchange. Comovement is measured by *Return Correlation*. *Return Correlation*$_{ijt}$ is the pearson correlation coefficient of detrended, market-adjusted daily stock returns of the paired firms (i.e., firm i and firm j) in the same calendar year (i.e., year t). Firm pairs are labeled as *Common Politician* if the two firms are connected to the same politician in year t, zero otherwise. Firm pairs are labeled as *Separate Politicians* if the two firms have connections to the same political network and do not share a connection to any common politician in year t, zero otherwise. Firm pairs lacking a common political connection are labeled *Not Connected*. Panel A presents univariate evidence for the full sample and a subsample of firm-pairs where both firms are connected to any political network. Panel B presents evidence conditional upon the existence of state-ownership.

Panel A: Mean return comovement of firm-pairs, conditional on type of connection

Sample:	All Firm-Pairs		Politically Connected Firm-Pairs	
	Return Correlation	Number of Firm-Pairs	Return Correlation	Number of Firm-Pairs
Panel C1: All firm-pairs				
(1) Not Connected	0.033	20,796,191	0.023	433,978
(2) Common Politician	0.025	19,370	0.025	19,370
(3) Separate Politicians	0.011	199,824	0.011	199,824
Difference (1)-(3)	0.022		0.012	
(t-statistic)	(92.53)		(39.12)	
Difference (1)-(2)	0.008		-0.002	
(t-statistic)	(10.41)		(-2.91)	
Difference (2)-(3)	0.014		0.014	
(t-statistic)	(15.90)		(15.90)	

Table 2 (continued)
Univariate evidence on the stock return comovement of firm-pairs connected through a common political network

Panel B: Conditional upon existence of state ownership

Sample:	SOE Firm-Pairs		Non-SOE Firm-Pairs	
	Return Correlation	Number of Firm-Pairs	Return Correlation	Number of Firm-Pairs
Panel C1: All firm-pairs				
(1) Not Connected	0.034	5,983,520	0.034	5,096,067
(2) Common Politician	0.037	6,667	0.021	5,214
(3) Separate Politicians	0.008	72,627	0.018	32,614
Difference (1)-(3)	0.026		0.016	
(t-statistic)	(61.38)		(28.21)	
Difference (1)-(2)	-0.003		0.013	
(t-statistic)	(-2.27)		(9.45)	
Difference (2)-(3)	0.029		0.003	
(t-statistic)	(18.02)		(1.62)	
Panel C2: Only firm-pairs of politically-connected firms				
(1) Not Connected	0.023	168,134	0.026	63,488
(2) Common Politician	0.037	6,667	0.021	5,214
(3) Separate Politicians	0.008	72,627	0.018	32,614
Difference (1)-(3)	0.015		0.008	
(t-statistic)	(28.74)		(11.44)	
Difference (1)-(2)	-0.012		0.005	
(t-statistic)	(9.75)		(3.71)	
Difference (2)-(3)	0.029		0.003	
(t-statistic)	(18.02)		(1.62)	

Table 3
Impact of common political networks on stock return comovement

This table presents select coefficients cross-sectional estimations of the following model:

$$\textit{Return Correlation}_{ijt} = \alpha + \text{Year}_t + \text{Industry}_{it} + \text{Industry}_{jt} + \beta_1 \textit{Common Politician}_{ijt} + \beta_2 \textit{Separate Politicians}_{ijt} + \beta_3 \textit{Common Industry}_{ijt} + \beta_4 \textit{Common Region}_{ijt} + \beta_5 \textit{Common Size}_{ijt} + \beta_6 \textit{Common MB}_{ijt} + \beta_7 \textit{Common Ownership}_{ijt} + \beta_8 \textit{SOE Pair}_{ijt} + \beta_9 \textit{Size}_{it} + \beta_{10} \textit{Size}_{jt} + \beta_{11} \textit{ROA}_{it} + \beta_{12} \textit{ROA}_{jt} + \beta_{13} \textit{Leverage}_{it} + \beta_{14} \textit{Leverage}_{jt} + \beta_{15} \textit{MB}_{it} + \beta_{16} \textit{MB}_{jt} + \varepsilon_{ijt}$$

Sample	All Firm Pairs (N=21,015,385)			Pairs of Politically Connected Firms (N=653,172)		
Common Politician	0.015***		0.014***	0.014***		0.013***
	(8.502)		(8.289)	(10.608)		(10.587)
Separate Politicians		-0.005***	-0.005***		-0.003***	-0.002***
		(-5.078)	(-5.034)		(-5.863)	(-4.566)
Common Industry	0.045***	0.045***	0.045***	0.088***	0.089***	0.088***
	(11.497)	(11.496)	(11.497)	(14.751)	(14.728)	(14.753)
Common Region	0.006***	0.006***	0.006***	0.007***	0.007***	0.007***
	(5.729)	(5.781)	(5.766)	(9.867)	(10.548)	(10.253)
Common Size	0.015***	0.015***	0.015***	0.030***	0.030***	0.030***
	(7.781)	(7.799)	(7.792)	(8.678)	(8.697)	(8.674)
Common MB	0.011***	0.011***	0.011***	0.019***	0.019***	0.019***
	(12.681)	(12.689)	(12.685)	(6.571)	(6.578)	(6.570)
Common Ownership	0.009***	0.009***	0.009***	0.009***	0.010***	0.010***
	(5.287)	(5.403)	(5.356)	(5.059)	(5.584)	(5.133)
SOE Pair	0.008***	0.008***	0.008***	0.005**	0.005**	0.005**
	(3.888)	(3.887)	(3.887)	(2.532)	(2.493)	(2.526)
Size1	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***
	(-8.560)	(-8.554)	(-8.558)	(-8.379)	(-8.348)	(-8.395)
Size2	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***
	(-6.742)	(-6.718)	(-6.723)	(-7.078)	(-6.988)	(-7.049)
ROA1	-0.000***	-0.000***	-0.000***	-0.000**	-0.000**	-0.000**
	(-3.973)	(-3.982)	(-3.980)	(-2.541)	(-2.579)	(-2.560)
ROA2	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***
	(-4.573)	(-4.577)	(-4.577)	(-4.791)	(-4.730)	(-4.794)
Leverage1	0.000	0.000	0.000	0.000**	0.000*	0.000**
	(0.407)	(0.406)	(0.406)	(2.248)	(2.144)	(2.196)
Leverage2	0.000*	0.000*	0.000*	0.000***	0.000***	0.000***
	(1.851)	(1.856)	(1.856)	(3.449)	(3.468)	(3.471)
MB1	-0.000**	-0.000**	-0.000**	-0.000	-0.000	-0.000
	(-2.714)	(-2.720)	(-2.719)	(-0.446)	(-0.492)	(-0.490)
MB2	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***
	(-5.804)	(-5.809)	(-5.809)	(-4.421)	(-4.401)	(-4.427)
Fixed Effects	Included	Included	Included	Included	Included	Included
Adjusted R-squared	0.0861	0.0861	0.0861	0.109	0.109	0.109

In this table, the dependent variable *Return Correlation*$_{ijt}$ is the pearson correlation coefficient of detrended, market-adjusted daily stock returns of the paired firms (i.e., firm i and firm j) in the same calendar year (i.e., year t). *Common Politician*$_{ijt}$ equals one if the two firms are connected to the same network-affiliated politician in year t, zero otherwise. *Separate Politicians*$_{ijt}$ equals one if the two firms are connected to politicians belonging to the same political network and do not share a connection to the same politician in year t, zero otherwise. The variables *Size*, *ROA*, *Leverage*, *MB* are measured as the percentile rank of each variable for all firms in the same year. *Common Industry* equals one if both firms are from the same 3-digit industry according to the industry classification by CSRC in 2012, zero otherwise. *Common Region* equals one if both firms are registered in the same province, zero otherwise. *Common Size* equals one if the absolute difference between the two firm's *Size* is less than 5, zero otherwise. *Common MB* equals one if the absolute difference between the two firm's *MB* is less than 5, zero otherwise. *Common Ownership* equals one if the two firms share the same ultimate controlling shareholder, zero otherwise. *SOE pair* equals one if the firms are both state-controlled entities, zero otherwise. The first (second) set of estimations use the full sample (subsample of firm-pairs where both firms are connected to any politician. All models include year and industry-pair fixed effects. Standard errors are clustered by year. All the statistical significance levels are in 10%, 5% and 1% (***, **, and *) 2-tailed tests.

Table 4
Common politician with different coordination incentives due to split allegiance

This table presents select coefficients from various cross-sectional estimations of the following model:

$$\textit{Return Correlation}_{ijt} = \alpha + \text{Year}_t + \text{Industry}_{it} + \text{Industry}_{jt} + \beta_1 \textit{Only Common Politician}_{ijt} + \beta_2 \textit{Common Politician \& other Politician}_{ijt} + \beta 3 \textit{Separate Politicians}_{ijt} + \beta_4 \textit{Common Industry}_{ijt} + \beta_5 \textit{Common Region}_{ijt} + \beta_6 \textit{Common Size}_{ijt} + \beta_7 \textit{Common MB}_{ijt} + \beta_8 \textit{Common Ownership}_{ijt} + \beta_9 \textit{SOE Pair}_{ijt} + \beta_{10} \textit{Size}_{it} + \beta_{11} \textit{Size}_{jt} + \beta_{12} \textit{ROA}_{it} + \beta_{13} \textit{ROA}_{jt} + \beta_{14} \textit{Leverage}_{it} + \beta_{15} \textit{Leverage}_{jt} + \beta_{16} \textit{MB}_{it} + \beta_{17} \textit{MB}_{jt} + \varepsilon_{ijt}$$

Sample:	All Firm Pairs (N=21,015,385)	Pairs of Politically Connected Firms (N=653,172)	Same Network Connected Firm-Pairs (N=219,194)
Only Common Politician	0.020***	0.019***	0.018***
	(7.395)	(7.386)	(8.510)
Common Politician & other Politician	0.010***	0.009***	0.008***
	(5.824)	(8.772)	(8.297)
Separate Politicians	-0.005***	-0.002***	
	(5.035)	(4.594)	
Difference in Coefficients (F-statistic):			
Difference (Only Common Politician – Common Politician and other Politician)	0.010*** （16.27）	0.010*** (16.72)	0.010*** (25.85)
Control Variables & Fixed Effects	Included	Included	Included
Adjusted R-squared	0.09	0.11	0.13

In this table, the dependent variable *Return Correlation*$_{ijt}$ is the pearson correlation coefficient of detrended, market-adjusted daily stock returns of the paired firms (i.e., firm I and firm j) in the same calendar year (i.e., year t). *Only Common Politician* equals one if the paired firms are only linked together through the same politician, zero otherwise. *Common Politician & other Politician* equals one if the paired firms are linked together through a common politician, and either or both of the firms are also linked to other politicians belonging to the common politician's network, zero otherwise. All other variables are defined in earlier tables and the Appendix II. The first set of columns report estimations using the full sample of available firm pairs. The second set of estimations use a sample of firm pairs where both firms are connected to any political network. Third set of estimations use sample of firm pairs connected to the same network. All models include year and industry-pair fixed effects. Standard errors are clustered by year. All the statistical significance levels are in 10%, 5% and 1% (***, **, and *) 2-tailed tests.

Table 5
Separate politicians in same locality or with leader-follower relationship

This table presents select coefficients from various cross-sectional estimations of the following model:

$$\textit{Return Correlation}_{ijt} = \alpha + \text{Year}_t + \text{Industry}_{it} + \text{Industry}_{jt} + \beta_1 \textit{Common Politician} + \beta_2 \textit{Separate Central Politicians}_{ijt} + \beta_3 \textit{Separate Local Politicians – Different Localities}_{ijt} + \beta_4 \textit{Separate Local Politicians – Same Locality}_{ijt} + \beta_5 \textit{Separate Mixed-Level Politicians – Non-Leader Follower}_{ijt} + \beta_6 \textit{Separate Mixed Politicians – Leader Follower}_{ijt} + \beta_7 \textit{Common Industry}_{ijt} + \beta_8 \textit{Common Region}_{ijt} + \beta_9 \textit{Common Size}_{ijt} + \beta_{10} \textit{Common MB}_{ijt} + \beta_{11} \textit{Common Ownership}_{ijt} + \beta_{12} \textit{SOE Pair}_{ijt} + \beta_{13} \textit{Size}_{it} + \beta_{14} \textit{Size}_{jt} + \beta_{15} \textit{ROA}_{it} + \beta_{16} \textit{ROA}_{jt} + \beta_{17} \textit{Leverage}_{it} + \beta_{18} \textit{Leverage}_{jt} + \beta_{19} \textit{MB}_{it} + \beta_{20} \textit{MB}_{jt} + \varepsilon_{ijt}$$

	All Firm Pairs (N=21,015,385)	Pairs of Politically Connected Firms (N=653,172)	All Connected Firm Pairs (N=219,194)
Common Politician	0.014***	0.013***	0.010***
	(8.293)	(10.228)	(7.692)
Separate Central Politicians	-0.001	-0.000	-0.001
	(1.080)	(0.466)	(1.194)
Separate Local Politicians – Different Localities	-0.002***	0.000	0.000
	(3.428)	(0.191)	(0.549)
Separate Local Politicians – Same Locality	-0.005***	-0.002***	-0.001**
	(5.417)	(2.987)	(2.168)
Separate Mixed Level Politicians – Non-Leader Follower	-0.004***	-0.003***	-0.003***
	(3.471)	(3.054)	(3.283)
Separate Mixed Level Politicians – Leader Follower	-0.004**	-0.003**	-0.003**
	(2.803)	(2.796)	(2.961)
Difference in Coefficients (F-statistics)			
Difference (Separate Local Politicians Different Localities – Separate Local Politicians Same Locality)	0.003** (6.29)	0.002* (3.38)	0.001* (3.13)
Difference (Separate Mixed Politicians Non-Leader Follower – Separate Mixed Politicians Leader Follower)	0.000 (0.29)	0.000 (0.07)	-0.000 (0.12)
Politician Connected Variables	Included	Included	Included
Control Variables & Fixed Effects	Included	Included	Included
Adjusted R-squared	0.09	0.11	0.13

The dependent variable *Return Correlation*$_{ijt}$ is the pearson correlation coefficient of detrended, market-adjusted daily stock returns of the paired firms (i.e., firm i and firm j) in the same calendar year (i.e., year t). *Separate Local Politicians – Same Locality*$_{ijt}$ equals one if the two firms are connected to the same political network, and are connected to two different local politicians from the same locality, zero otherwise. *Separate Mixed-level Politicians*$_{ijt}$ equals one if the two firms are connected to the same political network, with the firms connected to officials at different levels of government. *Separate Mixed Politicians – Leader Follower* equals one if the firm pair is affiliated with two connected politicians with a leader-follower type of relation, zero otherwise. All other variables are defined in earlier tables and the Appendix II. The first set of columns report estimations using the full sample of available firm pairs. The second set of estimations use a sample of firm pairs where both firms are connected to any political network. Third set of estimations use sample of firm pairs connected to the same network. All models include year and industry-pair fixed effects. Standard errors are clustered by year. All the statistical significance levels are in 10%, 5% and 1% (***, **, and *) 2-tailed tests.

Table 6
Influence of affiliations with other political networks

This table presents select coefficients from various cross-sectional estimations of the following model:

$$\textit{Return Correlation}_{ijt} = \alpha + \text{Year}_t + \text{Industry}_{it} + \text{Industry}_{jt} + \beta_1 \textit{Common Politician}_{ijt} + \beta_2 \textit{Separate Politicians without Outside Network}_{ijt} + \beta_3 \textit{Separate Politicians with Outside Network}_{ijt} + \beta_4 \textit{Common Industry}_{ijt} + \beta_5 \textit{Common Region}_{ijt} + \beta_6 \textit{Common Size}_{ijt} + \beta_7 \textit{Common MB}_{ijt} + \beta_8 \textit{Common Ownership}_{ijt} + \beta_9 \textit{SOE Pair}_{ijt} + \beta_{10} \textit{Size}_i + \beta_{11} \textit{Size}_j + \beta_{12} \textit{ROA}_i + \beta_{13} \textit{ROA}_j + \beta_{14} \textit{Leverage}_i + \beta_{15} \textit{Leverage}_j + \beta_{16} \textit{MB}_i + \beta_{17} \textit{MB}_j + \varepsilon_{ijt}$$

$$\textit{Return Comovement}_{ijt} = \alpha + \text{Year}_t + \text{Industry}_{it} + \text{Industry}_{jt} + \beta_1 \textit{Only Common Politician}_{ijt} + \beta_2 \textit{Common Politician \& other Politician Inside Network}_{ijt} + \beta_3 \textit{Common Politician \& other Poltician Outside Network}_{ijt} + \beta_4 \textit{Separate Politicians without Outside Network}_{ijt} + \beta_5 \textit{Separate Politicians with Outside Network}_{ijt} + \beta_6 \textit{Common Industry}_{ijt} + \beta_7 \textit{Common Region}_{ijt} + \beta_8 \textit{Common Size}_{ijt} + \beta_9 \textit{Common MB}_{ijt} + \beta_{10} \textit{Common Ownership}_{ijt} + \beta_{11} \textit{SOE Pair}_{ijt} + \beta_{12} \textit{Size}_i + \beta_{13} \textit{Size}_j + \beta_{14} \textit{ROA}_i + \beta_{15} \textit{ROA}_j + \beta_{16} \textit{Leverage}_i + \beta_{17} \textit{Leverage}_j + \beta_{18} \textit{MB}_i + \beta_{19} \textit{MB}_j + \varepsilon_{ijt}$$

Sample:	All Firm Pairs (N=21,015,385)		Politically Connected Firms Pairs (N=653,172)	
Common Politician	0.014***		0.013***	
	(8.293)		(10.588)	
Only Common Politician		0.020***		0.019***
		(7.403)		(7.410)
Common Politician & other Politician Inside Network		0.021***		0.016***
		(9.974)		(10.056)
Common Politician & other Politician Outside Network		-0.000		0.001
		(0.016)		(0.726)
Separate Politicians without Outside Network	-0.005***	-0.005***	-0.003***	-0.003***
	(5.092)	(5.090)	(5.420)	(5.335)
Separate Politicians with Outside Network	-0.006***	-0.006***	-0.002***	-0.002***
	(4.525)	(4.525)	(3.073)	(3.061)
Difference in Coefficients (F-Statistic)				
Difference (Separate Politicians without Outside Network – Separate Politicians with Outside Network)	0.001 (0.096)	0.001*** (13.77)	-0.001 (1.06)	-0.001 (1.00)
Difference (Only Common Politician – Common Politician & other Politician Inside Network)		-0.001 (0.02)		0.003 (1.04)
Difference (Only Common Politician – Common Politician & other Politician Outside Network)		0.021*** (47.77)		0.018*** (35.26)
Control Variables	Included	Included	Included	Included
Year FE	Included	Included	Included	Included
Industry FE	Included	Included	Included	Included
Adjusted R-squared	0.09	0.09	0.11	0.11

In this table, the dependent variable *Return Correlation*$_{ijt}$ is the pearson correlation coefficient of detrended, market-adjusted daily stock returns of the paired firms (i.e., firm i and firm j) in the same calendar year (i.e., year t). *Separate Politicians without Outside Network* equals one if the paired firms are affiliated with same political network(s) and have no other network connections, zero otherwise. *Separate Politicians with Outside Network* equals one if the paired firms are affiliated with same political network and either firm from the pair is linked to another political network, zero otherwise. *Common Politician & other Politician Inside Network* equals one if the paired firms are linked to a network through the same politician(s), with either of the paired firms also linked to the network through other politicians, zero otherwise. *Common Politician & other Politician Outside Network* equals one if the paired firms are linked to the faction through the same politician(s), with either of the paired firms also linked to politician belonging to another faction, zero otherwise. All other variables are defined in earlier tables and the Appendix II. The first set of columns report estimations using the full sample of available firm pairs. The second set of estimations use a sample of firm pairs that are connected to any political networks. All models include year and industry-pair fixed effects. Standard errors clustered by year. All statistical significance levels are 10%, 5% and 1% (***, **, and *) 2-tailed tests.

Table 7
Conditional upon state ownership of listed firms

The table presents select coefficients cross-sectional estimations of the following model:

$Return\ Correlation_{ijt} = \alpha + Year_t + Industry_{it} + Industry_{jt} + \beta_1 Common\ Politician_{ijt} + \beta_2 Separate\ Politicians_{ijt} + \beta_3 Common\ Industry_{ijt} + \beta_4 Common\ Region_{ijt} + \beta_5 Common\ Size_{ijt} + \beta_6 Common\ MB_{ijt} + \beta_7 Common\ Ownership_{ijt} + \beta_8 Size_{it} + \beta_9 Size_{jt} + \beta_{10} ROA_{it} + \beta_{11} ROA_{jt} + \beta_{12} Leverage_{it} + \beta_{13} Leverage_{jt} + \beta_{14} MB_{it} + \beta_{15} MB_{jt} + \varepsilon_{ijt}$

All other variables are defined in earlier tables and the Appendix II. The first set of columns report estimations using the full sample of available firm pairs; the second set of estimations use a sample of firm pairs where both firms are politically connected. All models include year and industry-pair fixed effects. Standard errors are clustered by year. All the statistical significance levels are in 10%, 5% and 1% (***, **, and *) 2-tailed tests.

Sample	All Firm Pairs (N=21,015,385)			Pairs of Politically Connected Firms (N=653,172)		
Firms ownership type:	SOE	Non-SOE	Mixed	SOE	Non-SOE	Mixed
Common Politician	0.025***	0.007**	0.009***	0.020***	0.008***	0.008***
	(8.141)	(2.155)	(7.303)	(10.465)	(3.074)	(11.508)
Separate Politicians	-0.007***	-0.003**	-0.004***	-0.004***	-0.001	-0.001*
	(-4.805)	(-2.362)	(-3.231)	(-4.021)	(-0.943)	(-2.011)
Common Industry	0.061***	0.032***	0.044***	0.110***	0.060***	0.081***
	(9.167)	(8.499)	(10.468)	(15.459)	(7.079)	(12.929)
Common Region	0.015***	0.003***	0.005***	0.009***	0.005***	0.007***
	(10.136)	(4.883)	(5.534)	(7.345)	(3.209)	(11.132)
Common Size	0.023***	0.010***	0.014***	0.039***	0.017***	0.026***
	(9.780)	(10.002)	(8.223)	(9.973)	(16.901)	(7.605)
Common MB	0.014***	0.008***	0.011***	0.022***	0.014***	0.017***
	(8.401)	(9.471)	(13.715)	(5.213)	(12.213)	(6.674)
Common Ownership	0.006***	0.055***		0.007***	0.051***	
	(4.046)	(9.553)		(5.046)	(3.097)	
Size1	-0.001***	-0.000***	-0.000***	-0.001***	-0.000***	-0.000***
	(-13.126)	(-7.229)	(-8.059)	(-8.824)	(-7.817)	(-8.331)
Size2	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***
	(-14.131)	(-4.325)	(-8.098)	(-8.794)	(-4.017)	(-7.545)
ROA1	-0.000***	-0.000*	-0.000***	-0.000***	-0.000	-0.000**
	(-5.910)	(-1.856)	(-4.019)	(-3.734)	(-1.402)	(-2.430)
ROA2	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***
	(-5.413)	(-3.471)	(-4.518)	(-3.606)	(-5.361)	(-4.348)
Leverage1	-0.000***	0.000	0.000	-0.000	0.000	0.000
	(-5.412)	(1.741)	(0.471)	(-0.266)	(1.093)	(1.641)
Leverage2	-0.000***	0.000***	0.000	0.000	0.000**	0.000**
	(-6.168)	(5.543)	(1.444)	(0.055)	(2.154)	(2.496)
MB1	-0.000**	-0.000***	-0.000**	-0.000	-0.000	-0.000
	(-2.643)	(-4.030)	(-2.213)	(-0.640)	(-1.146)	(-0.177)
MB2	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***
	(-6.277)	(-8.171)	(-5.259)	(-3.593)	(-6.369)	(-4.275)
Difference in coefficients (χ^2 statistic)		SOE – non SOE	SOE – Mixed		SOE – non-SOE	SOE - Mixed
Diff Common Politician		0.018***	0.016***		0.012***	0.012***
		(13.12)	(23.34)		(8.05)	(35.24)
Diff Separate Politician		-0.004**	-0.003***		-0.003**	-0.003***
		(13.79)	(12.11)		(4.32)	(9.07)
Fixed Effects	Included	Included	Included	Included	Included	Included
Adjusted R-squared	6,062,814	5,133,895	9,818,676	247,428	101,316	304,428

Table 8
Evidence from the formation and disruption of common network affiliation

This table presents impact of changing affiliating status with political factions and politicians within faction.

$\Delta Return\ Correlation_{ijt} = \alpha + Year_t + Industry_{it} + Industry_{jt} + \beta_1 Join\ Network_{ijt} + \beta_2 Leave\ Network_{ijt} + \beta_3 Return\ Correlation_{ijt-1} + \beta_4 Common\ Industry_{ijt} + \beta_5 Common\ Region_{ijt} + \beta_6 Common\ Size_{ijt} + \beta_7 Common\ MB_{ijt} + \beta_8 Common\ Ownership_{ijt} + \beta_9 SOE\ Pair_{ijt} + \beta_{10}\Delta Size_i + \beta_{11}\Delta Size_j + \beta_{12}\Delta ROA_i + \beta_{13}\Delta ROA_j + \beta_{14}\Delta Leverage_i + \beta_{15}\Delta Leverage_j + \beta_{16}\Delta MB_i + \beta_{17}\Delta MB_j + \varepsilon_{ijt}$

The dependent variable, $\Delta Return\ Correlation_{ijt}$ is the difference in *Return Correlation* between year t and year t-1. The indicator variable $Join\ Network_{ijt}$ equals one if firm pairs not affiliated with a common network via separate politicians (common politician(s)) in year t-1 become affiliated with a common network via separate politicians (common politician(s)) in year t, zero otherwise. The indicator variable $Leave\ Network_{ijt}$ equals one if firm pairs affiliated with a common network via separate politicians (common politician(s)) in year t-1 are no longer affiliated with that network via separate politicians (common politician(s)) in year t, zero otherwise. All other variables are defined in earlier tables and the Appendix II. The first set of columns examines firm pairs that establish and break a common network affiliation via separate politicians in year t. The second set of columns examine firm pairs that establish or loose a connection with a common network via single politician(s). The samples used to examine the establishment of a network connection are firm pairs with no affiliation to the network via separate politicians or common politician(s) in year t-1. The samples used to examine the termination of a network connection are firm pairs with a common network affiliation via separate politicians or common politician(s) in year t-1. All models include annual and industry fixed effects. All models include year and industry-pair fixed effects. Standard errors are clustered by year. All the statistical significance levels are in 10%, 5% and 1% (***, **, and *) 2-tailed tests.

Panel A: All available firm-pairs

Type of Network Connection:	Separate Politicians		Common Politician	
Join Network$_{ijt}$	-0.008***		0.001	
	(-4.357)		(0.387)	
Leave Network$_{ijt}$		0.003***		-0.007**
		(5.120)		(-2.490)
Lag (Return Correlation$_{ijt}$)	-0.688***	-0.570***	-0.687***	-0.532***
	(-34.072)	(-16.869)	(-33.762)	(-19.169)
Firm Specific Control Variables	Included	Included	Included	Included
Year and Industry Fixed Effects	Included	Included	Included	Included
Adjusted R-squared	0.356	0.279	0.355	0.258
Number of Observations	17,286,063	149,704	17,417,487	18,280

Panel B: Only firms with political connections

Type of Faction Connection:	Separate Politicians		Common Politician	
Join Network$_{ijt}$	-0.002**		0.005**	
	(-2.426)		(2.497)	
Leave Network$_{ijt}$		0.002		-0.008**
		(1.113)		(-2.902)
Lag (Return Correlation$_{ijt}$)	-0.647***	-0.566***	-0.635***	-0.532***
	(-28.792)	(-16.316)	(-25.245)	(-20.045)
Control Variables	Included	Included	Included	Included
Year and Industry Fixed Effects	Included	Included	Included	Included
Adjusted R-squared	0.324	0.276	0.316	0.257
Number of Observations	473,932	131,010	588,066	16,876

Table 9
Comovement conditional upon prevailing political incentives

This table presents select coefficients cross-sectional estimations of the following model:

$$\textit{Return Correlation}_{ijt} = \alpha + \text{Year}_t + \text{Industry}_{it} + \text{Industry}_{jt} + \beta_1 \textit{Common Politician}_{ijt} + \beta_2 \textit{Separate Politicians}_{ijt} + \beta_3 \textit{Common Industry}_{ijt} + \beta_4 \textit{Common Region}_{ijt} + \beta_5 \textit{Common Size}_{ijt} + \beta_6 \textit{Common MB}_{ijt} + \beta_7 \textit{Common Ownership}_{ijt} + \beta_8 \textit{SOE Pair}_{ijt} + \beta_9 \textit{Size}_{it} + \beta_{10} \textit{Size}_{jt} + \beta_{11} \textit{ROA}_{it} + \beta_{12} \textit{ROA}_{jt} + \beta_{13} \textit{Leverage}_{it} + \beta_{14} \textit{Leverage}_{jt} + \beta_{15} \textit{MB}_{it} + \beta_{16} \textit{MB}_{jt} + \varepsilon_{ijt}$$

	Economic Stimulus		Political Promotion	
	Stimulating Period [2008 - 2010]	Non-Stimulating Period (Other years)	Promotion Period (2002,2007,2012)	Non-Promotion Period (other years)
Common Politicians	0.022***	0.012***	0.012**	0.015***
	(16.253)	(8.756)	(8.584)	(7.282)
Chi2 for difference	(31.31)***		(1.07)	
Separate Politicians	-0.006***	-0.005***	-0.008***	-0.005***
	(16.671)	(3.768)	(60.615)	(4.352)
Chi2 for difference	(0.06)		(5.94)**	
Common Industry	0.010**	0.005***	0.005	0.006***
	(8.848)	(5.118)	(2.212)	(5.419)
Common Region	0.015**	0.015***	0.015*	0.015***
	(6.990)	(6.393)	(3.205)	(6.722)
Common Size	0.013*	0.011***	0.011**	0.011***
	(3.720)	(15.013)	(9.372)	(10.220)
Common MB	0.005**	0.010***	0.006	0.010***
	(5.946)	(4.610)	(1.220)	(5.816)
Common Ownership	0.006	0.009***	0.009	0.008***
	(1.698)	(3.542)	(1.477)	(3.487)
SOE Pair	-0.000**	-0.000***	-0.000**	-0.000***
	(9.159)	(7.125)	(5.136)	(7.404)
Size1	-0.000**	-0.000***	-0.000	-0.000***
	(6.991)	(5.722)	(2.126)	(6.796)
Size2	-0.000	-0.000***	-0.000**	-0.000***
	(2.419)	(3.596)	(4.931)	(3.298)
ROA1	-0.000	-0.000***	-0.000**	-0.000***
	(2.501)	(3.933)	(4.549)	(3.916)
ROA2	-0.000	0.000	0.000	0.000
	(0.416)	(0.411)	(0.641)	(0.253)
Leverage1	0.000	0.000*	0.000	0.000
	(0.162)	(2.057)	(1.093)	(1.497)
Leverage2	-0.000	-0.000**	-0.000	-0.000**
	(1.042)	(2.403)	(1.210)	(2.443)
MB1	-0.000	-0.000***	-0.000	-0.000***
	(1.658)	(5.304)	(2.020)	(5.721)
Fixed Effects	Included	Included	Included	Included
Adjusted R-squared	0.13	0.08	0.10	0.09
Observations	3,923,880	17,091,505	4,443,566	16,571,819

In this table, the dependent variable *Return Correlation*$_{ijt}$ is the pearson correlation coefficient of detrended, market-adjusted daily stock returns of the paired firms (i.e., firm i and firm j) in the same calendar year (i.e., year t). *Common Politician*$_{ijt}$ equals one if the two firms are connected to the same network-affiliated politician in year t, zero otherwise. *Separate Politicians*$_{ijt}$ equals one if the two firms are connected to politicians belonging to the same political network and do not share a connection to the same politician in year t, zero otherwise. The variables *Size*, *ROA*, *Leverage*, *MB* are measured as the percentile rank of each variable for all firms in the same year. *Common Industry* equals one if both firms are from the same 3-digit industry according to the industry classification by CSRC

in 2012, zero otherwise. *Common Region* equals one if both firms are registered in the same province, zero otherwise. *Common Size* equals one if the absolute difference between the two firm's *Size* is less than 5, zero otherwise. *Common MB* equals one if the absolute difference between the two firm's *MB* is less than 5, zero otherwise. *Common Ownership* equals one if the two firms share the same ultimate controlling shareholder, zero otherwise. *SOE pair* equals one if the firms are both state-controlled entities, zero otherwise. The first set of estimations partition the sample based on the presence of government sponsored economic stimulus policy (2008-2010). The second set of estimations partition the sample based on presence of heightened political promotion incentives arising from meetings of China's National Congress (years 2002, 2007, 2012). All models include year and industry-pair fixed effects. Standard errors are clustered by year. All the statistical significance levels are in 10%, 5% and 1% (***, **, and *) 2-tailed tests.

Table 10
Comovement in Changes in Economic Fundamentals

This table presents select coefficients cross-sectional estimations of the following model:

Fundamentals Comovement$_{ijt}$= α + Year$_t$ + Industry$_{it}$ + Industry$_{jt}$ + β_1*Common Politician*$_{ijt}$ + β_2*Separate Politician*$_{ijt}$ + β_3*Common Industry*$_{ijt}$ + β_4*Common Region*$_{ijt}$ + β_5*Common Size*$_{ijt}$ + β_6*Common MB*$_{ijt}$ + β_7*Common Ownership*$_{ijt}$ + β_8*SOE Pair*$_{ijt}$ + β_9*Size*$_{it}$ + β_{10}*Size*$_{jt}$ + β_{11}*ROA*$_{it}$ + β_{12}*ROA*$_{jt}$ + β_{13}*Leverage*$_{it}$ + β_{14}*Leverage*$_{jt}$ + β_{15}*MB*$_{it}$ + β_{16}*MB*$_{jt}$ + ε_{ijt}

	ΔAsset$_{ijt}$	ΔCapex$_{ijt}$	ΔEquity$_{ijt}$	ΔBank$_{ijt}$	ΔDebt$_{ijt}$	ΔLiability$_{ijt}$	ΔSubsidy$_{ijt}$
Common Politician	0.015	0.105***	0.057*	0.083***	0.035**	-0.012	0.108***
	(0.518)	(5.374)	(1.822)	(4.538)	(2.164)	(0.732)	(4.952)
Separate Politicians	-0.010*	0.030***	0.015	-0.009**	-0.013***	-0.014***	0.008
	(1.902)	(2.956)	(1.170)	(2.036)	(3.072)	(4.287)	(0.942)
Common Industry	0.444***	0.472***	1.072***	0.324***	0.312***	0.416***	0.732***
	(7.579)	(6.907)	(26.601)	(4.896)	(4.861)	(6.301)	(8.844)
Common Region	0.008*	0.008***	0.007	0.009**	0.007*	0.009**	0.011**
	(1.898)	(3.758)	(1.397)	(2.254)	(1.814)	(2.138)	(2.479)
Common Size	0.052***	0.001	0.005	0.010***	0.010***	0.019***	0.016***
	(8.399)	(0.469)	(1.291)	(4.119)	(2.720)	(7.278)	(3.574)
Common MB	0.019***	0.003	0.015**	0.000	0.000	0.005*	0.011***
	(5.318)	(1.639)	(2.385)	(0.005)	(0.020)	(1.673)	(3.960)
Common Ownership	0.014	0.002	0.003	-0.001	0.002	0.001	-0.002
	(0.957)	(0.533)	(0.204)	(0.141)	(0.553)	(0.112)	(0.274)
SOE Pair	0.003	-0.001	0.026*	-0.000	-0.000	0.003	0.006
	(1.163)	(0.823)	(1.732)	(0.020)	(0.165)	(0.863)	(1.562)
Size1	0.000	0.000	0.000	0.000	0.000	0.000**	0.000**
	(1.577)	(0.264)	(0.888)	(1.137)	(1.209)	(2.300)	(2.263)
Size2	0.000*	-0.000***	0.000	0.000	0.000	0.000	-0.000***
	(1.686)	(2.882)	(0.575)	(1.593)	(1.486)	(1.221)	(3.503)
ROA1	0.001***	0.000**	0.000	0.000***	0.000***	0.000***	0.000**
	(3.320)	(2.267)	(1.605)	(3.400)	(3.122)	(3.066)	(2.052)
ROA2	0.000***	0.000	0.000	0.000	0.000	0.000	0.000
	(6.026)	(0.193)	(0.042)	(0.508)	(0.433)	(0.089)	(0.084)
Leverage1	0.000***	0.000*	0.000	0.000	0.000	0.000***	0.000***
	(2.863)	(1.795)	(0.503)	(0.513)	(0.515)	(3.481)	(6.425)
Leverage2	0.000***	0.000**	-0.000	0.000***	0.000***	0.000	-0.000
	(4.511)	(2.195)	(0.783)	(4.129)	(4.001)	(1.499)	(1.497)
MB1	-0.000***	-0.000**	-0.000	-0.000**	-0.000	-0.000	-0.000***
	(3.047)	(2.284)	(1.608)	(2.325)	(0.943)	(1.545)	(4.769)
MB2	-0.000**	-0.000	-0.000	-0.000*	-0.000***	-0.000*	0.000***
	(2.222)	(1.248)	(1.182)	(1.899)	(2.903)	(1.793)	(4.434)
Fixed Effects	Included	Included	Included	Included	Included	Included	Included
Observations	19,812,620	16,983,948	19,812,620	19,812,620	19,812,620	19,812,620	19,812,620
Pseudo R2	0.00	0.00	0.01	0.00	0.00	0.00	0.00

In this table, the dependent variable, *Fundamentals Comovement*, measures comovement in a specific fundamental performance variable for firm i and firm j in calendar year t. We divide the industry-adjusted change in firm fundamentals of i and j in year to into three equal groups, i.e. high, medium and low group. *Fundamentals Comovement* equals one if firm i and j are in the same group in year t, and zero otherwise. These fundamental measures of comovement include the change in the size of each firm's assets base (ΔAsset), change in capital expenditures (ΔCapex), change in owner's equity (ΔEquity), change in bank debt (ΔBank), change in debt financing (ΔDebt), change in total liability (ΔLiability), change in the amount of government subsidies (ΔSubsidy). *Common Politician*$_{ijt}$ equals one if the two firms are connected to common politician(s) in year t, zero otherwise. *Separate Politicians*$_{jt}$ equals one if the two firms are connected to the same political network via separate politicians and do not share a connection to common politician(s) in year t, zero otherwise. All models include year and industry fixed effects. Standard errors are clustered by year. All the statistical significance levels are in 10%, 5% and 1% (***, **, and *) 2-tailed tests.