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FRAGILE BROKERAGE?

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ABSTRACT: See first paragraph of the text.

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My aim in this chapter is to have a concise reference to core ideas on network brokerage, particularly regarding its fragility. I organize around three ideas: First, the bridge and cluster structure of social networks (Figure 1) creates competitive advantage for people whose connections bridge the structural holes between clusters (Figure 2). The advantaged people are discussed as network brokers, their behavior network brokerage. Second, local cohesion reinforces the status quo in opposition to network brokers. Cohesion facilitates trust within clusters and distrust between clusters (Figure 3) such that returns to brokerage are contingent on broker social standing — personal qualities such as authority, status, or reputation — which is required to overcome suspicion of outsiders (Figure 4). As a result, it is generally believed that the competitive advantage of network brokerage is fragile, bridge relations are "weak ties," and returns to brokerage are contingent. I hasten to my third point, which is that recent research has documented strong bridges, a category of relationships that contradict the prevailing belief in fragile brokerage. Bridge relations are typically weak, but some are predictably not (Figure 5). Those exceptions — which turn out to be a numerous minority — are essential to the competitive advantage associated with brokerage (Figure 6). In sum, brokerage is much less fragile than has been assumed. The oft-cited link between tie strength and network structure can create the impression of fragility, but the link is merely a correlation. Separating tie strength from network structure reveals substantial evidence of strong bridges providing competitive advantage and high trust across the structural holes between groups.

In a desire to communicate across disciplines, I rely on data displays of what I believe to be key results. Data patterns in the figures are the main content of the chapter. Skimming through the figures should give you a sense of what is discussed. I provide references and sources, but this is not a review of the literature so much as a statement of core content.

FOUNDATION: BRIDGE & CLUSTER STRUCTURE

Figure 1 illustrates the generic bridge and cluster structure of social networks. The sociograms describe relations among 227 senior managers in a large EU corporation about a decade ago. Figure 1A is a sociogram of formal hierarchy: Lines indicate

reporting relations from people at the periphery up the ranks to the CEO in the center. Figure 1B is a sociogram of informal organization. Lines connect colleagues connected by frequent and substantial work discussion.

——— Figure 1 About Here ———

Clustering is the key difference between the two networks. There is no clustering in the formal organization. The density of connections between people connected to any one manager is uniformly zero.[1] There is substantial clustering in the informal organization. On average, three out of four work-discussion colleagues discuss work with each other (.74 mean density). There are occasional bridge relations between clusters, but relations are concentrated within clusters, known in management vernacular as organization silos.

The clustering in Figure 1B is foundation for much of network theorizing, building from two facts that emerged during the 1950s "Golden Age" of social psychology (Merton, 1949; Festinger, Schachter & Back 1950; Katz & Lazarsfeld 1955): (1) Clustering is a generic feature of social relations as a result of interaction opportunities defined by the places where people meet ("social foci" in Feld's 1981 discussion), and (2) Communication is more frequent and influential within than between clusters such that people in the same cluster develop similar behaviors, beliefs, and understandings. Clustering is based on geography and function in Figure 1B. Both are often criteria for clustering. Other criteria often seen are products, projects, legacy organization, and personal characteristics such as education, ethnicity, gender, and years with the organization.

Within clusters, information drifts toward tacit and homogeneous. People tire of repeating arguments and stories explaining why they believe and behave the way they do. They invent phrasing, opinions and behaviors that define what it means to be a member of their group relative to people outside the group. Beneath familiar arguments and experiences are new, emerging arguments and experiences awaiting a label, the emerging items more understood than said. What was once explicit knowledge interpretable by anyone becomes tacit, meaningful primarily to insiders.

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[1]There are 226 symmetric reporting relations in Figure 1A among the 227 managers (CEO reports out of the population). The ego-network around each manager is a star structure: No two of the n colleagues connected to a manager are connected to each other. So density is zero for the network around each manager (number of ties between contacts divided by n(n-1) possible ties). This is the local-structure parameter, termed "characteristic clustering," in Watts and Strogatz's (1998) formal definition of a small world.

With continued time together, information in the group becomes "sticky" – nuanced, interconnected, implicit meanings difficult to understand in other groups (Von Hippel 1994). For reasons of a division of labor in which groups specialize on separate bits of work, or variation due to the independent evolution of separate groups — holes tear open in the flow of information between groups. These holes between clusters in the social structure of communication, or more simply "structural holes," are missing relations that indicate where information is likely to differ on each side of the hole, not flow easily across the hole, and likely be misunderstood when forced across the hole (Burt 1992). In short, clustering in social networks is to be expected and makes network structure a proxy for information distribution, indicating where information is relatively homogeneous (within group) versus heterogeneous (between groups).

Of course, people are typically involved in multiple networks, nested across levels of aggregation such that multiple clusters at one level are together a cluster at a higher level (Lazega Nobel chapter) — but the simple bridge and cluster image in Figure 1B is foundation for much, including Milgram's (1967) discussion of the "small world" phenomenon, Granovetter (1973) developed his weak-ties paper on the significance of weak bridge relations, and Watts and Strogatz (1998) proposed elegant metrics to demonstrate that the bridge and cluster structure in Figure 1B can be termed one of many such "small world" networks.[2]

[2]The formal definition proposed by Watts and Strogatz (1998) was a step forward for network theory, but I do not make much of it here because I focus on substantive research. The reporting network in Figure 1A is irrelevant to the formal definition because formal networks are explicitly excluded by the requirement that everyone have two or more contacts (Watts & Strogatz 1998:440). The discussion network in Figure 1B meets the formal definition in that ego-network density (clustering coefficient) is higher than occurs if relations were distributed at random among the mangers, and the average path distance between managers is about the same as occurs if relations were distributed at random (respectively .74 average density and 4.15 average path distance in Figure 1B, versus .04 and 2.75 in 100 Erdös-Rényi random graphs with the same number of relations and managers). To make the Figure 1B network meet the formal definition of a small world, I had to exclude isolate managers (their discussion was with colleagues at lower ranks), and add a link between Lisa and her boss. Lisa is head of a large R&D unit (lower left in sociogram), which is isolated from the other managers (cf. original in Burt 2019a:23). Little is lost here by these edits, but in the broad issue of comparing senior management across organizations, the managers in Figure 1A look as if they are one social cluster. In fact, the isolated elements deleted from Figure 1B have substantive implications for company performance.

CHANGING THE STATUS QUO: BROKERAGE

The distribution of information in a bridge and cluster structure has implications for the distribution of successful creativity and innovation.[3] The people whose networks bridge cluster boundaries are more likely to be successful. Such people are termed "network brokers" and their network behavior "brokerage." Characterized by their position in social structure, network brokers correspond to Merton's (1949) "cosmopolitans," Katz and Lazarsfeld's (1955) "opinion leaders" (see Burt 2005:84-86, on network brokers as opinion leaders) and, more distantly, Schumpeter's (1911) and Hayek's (1945) touchstone images of what it means for a person to be an entrepreneur (Burt 2005:Chap. 5, for details), or in more recent terms, what it means for a person to have a high-dimensionality network (Carley Nobel chapter).

Network brokers have information advantages in breadth, timing, and arbitrage. With respect to breadth, bridge relations across groups provide exposure to more diverse information. With respect to timing, brokers are positioned at crossroads in the flow of information between groups, so they are early to learn about activities in other groups and are often the person who introduces to one group information from another. In terms of arbitrage, brokers' membership in multiple groups gives them an advantage in translating tacit information familiar in one group into the dialect of a target group.

In sum, structural holes in a network are potentially valuable contexts for action, brokerage is the act of coordinating across a hole via bridges between people on opposite sides of the hole, and network brokers are the people who build the bridges and become more skilled brokers as they gain experience from the diversity in their environment. Brokers operate somewhere between the force of corporate authority and the dexterity of markets, building bridges between disconnected parts of markets and organizations where it is valuable to do so, translating what is known here into what can be understood as valuable over there. Network brokers are the social mechanism that clears a sticky information market.

Armed with their information advantages, network brokers are more likely to be viewed as creative leaders successful in their profession. With respect to proposing

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[3]As a concise statement of the link between brokerage and performance, this section draws on previous introductions, in particular Burt (2005; 2010; 2021). For other reviews of the broad literature on this topic, see Halevy et al. (2019); Kwon et al. (2020); Brass (2022).

good ideas, network brokers score high on creativity measured by supervisor opinion of a subordinate's work (Perry-Smith 2006; Jang 2017; Carnabuci & Quintane 2023), by executive opinion of manager ideas (Burt 2004; 2005:Chap. 2), or by external opinion of final product (Fleming et al. 2007; Soda et al. 2021). More generally, brokers provide absorptive portals for creative solutions to spillover between substantively distinct networks (Padgett 2025, Nobel chapter with respect to spillover between economic, kinship, and political networks in Renaissance Florence).

——— Figure 2 About Here ———

With respect to economic performance, Figure 2 contains illustrative evidence of broker high performance, which is simultaneously evidence of closed networks associated with low achievement. Across a variety of study populations in which success is indicated by compensation, annual performance evaluations, or promotions, individual success relative to peers is measured on the vertical axis in Figure 2 as a residual z-score after controlling for non-network success factors in each population such as job rank and kind of work.[4] A score of zero indicates a person whose success is what would be expected in his or her study population for someone with his or her job and characteristics. Positive numbers indicate managers ahead of the average peer. Negative numbers indicate managers lagging behind peers. The network metric across the horizontal axis is network constraint (Burt 1992:54), an index measuring the extent to which a person's social contacts are concentrated in one contact within one group.

To the left on the horizontal axis are network brokers, people whose networks reach across structural holes separating groups (illustrated by the sociogram of a person's network below the left side of the horizontal axis). Serial entrepreneur Alex Zaffaroni is a biotech exemplar. A former subordinate is quoted in an INSEAD video case described Zaffaroni's value: "…he is reading and thinking very widely. He is totally unafraid of any new technology in any area of human creativity. He has wonderful contacts with people in many different areas, so he sees the bridges between otherwise disparate fields."

[4]Performance (measured by compensation, annual evaluations, and promotions) and control variables (held constant within population to measure relative success) are described in published articles discussed with the source cited in the figure note. I here add to the source data from a 2006 census of avatars in the virtual world Second Life (Burt 2012:560), and a 2018 probability sample of 384 Chinese entrepreneurs (Burt & Opper 2024:29).

At the other extreme, to the right in Figure 2, are people embedded in a closed network of strongly interconnected colleagues (illustrated by the sociogram at the bottom right of the horizontal axis). These are people who prefer to discuss ideas within a clique of friends who think similarly, persisting similarly ignorant of thoughts beyond their clique.

The data plotted in Figure 2 are averages of the horizontal and vertical axes within five-point intervals on the horizontal axis within each study population. The circles describe three thousand managers in eight American organizations. The squares describe thirteen hundred managers in four European organizations. The triangles describe sixteen hundred managers in Asia, mainly China, in two large organizations and four stratified probability samples of CEOs leading small to medium-sized private enterprises. The hollow diamonds describe a census of 21,536 avatars in the virtual world of Second Life. As predicted by network theory and reported in published studies of the populations, relative individual success decreases as a person's network becomes more closed. The pattern is similar across the four regions: -.72 partial correlation in the US, -.70 in the EU, -.75 in Asia and -.76 in the virtual world.

STATUS QUO RESISTS CHANGE: THE CASE FOR BROKERAGE FRAGILITY

Brokerage runs counter to powerful forces maintaining the status quo, forces long studied in social science. The core of the argument is that closed networks facilitate trust within a network and distrust beyond. The unit of analysis is typically a dyad, two people embedded in a surrounding network of relevant others. That surrounding network varies from closed to open depending on the strength of connection through mutual contacts. The network is closed around two people connected by strong relations through many mutual contacts (measured by a count of such indirect connections or a sum of indirect connections weighted for each connection's strength). The network is open around two people with no mutual contacts. The more closed the network around two people, the more likely they are strongly connected to each other. Taking trust as an example strong relationship, I will refer to the association as the closure-trust association: Trust between two people increases with the strength of the indirect connection between the two people through third parties (Burt 2005:Chap. 3, for review). Distrust is a mirror image: Distrust between

two people increases with the negative strength of indirect connection (e.g., I distain people my friends distain).

Closure-Trust Association

The closure-trust association has a long history in the social sciences and can be expected with or without instrumental effort (see Burt & Opper 2026a for broader review). Some arguments make association a passive result of similarity (homophily) or logistics: People who like each other are likely to like the same other people, or relationships are likely to develop between people who spend time in the same place with the same people (Heider 1958; Cartwright & Harary 1956, on balance theory; Festinger, Schachter & Back 1950, on physical proximity facilitating social connection; Feld 1981, on social foci). The closure-trust association is more often argued with agency in terms of reputation: The more closed the network around a relationship, the more likely misbehavior will be detected, which creates reputational cost for misbehavior, which reduces the likelihood of misbehavior, which reduces the risk of trust, which increases the probability of trust. In economics, the association is at the heart of business relationships, which become manageable when embedded in a surrounding social structure (Coase 1937 to Greif 1989, see Jackson Nobel chapter for context), and in law, the association is the basis for discussions of social order with or without formal contract (Ellickson 1991; Bernstein 1992). In sociology, the association is the basis for Blau's (1974) work on the parameters of social structure, Granovetter's (1985) work on relationships embedded in social structure (terminology I use extensively in this section) and Coleman's (1988) work on social capital as the control people have over each other in closed networks (later applied in Putnam's work with the social capital metaphor, Putnam Nobel chapter). More recently, in computer science, the association is foundation for algorithms navigating the internet (Kleinberg 2000, Nobel chapter). As a final note, causality runs in both directions. Mutual friends cluster around the strong connection between two people, and a strong connection is likely to develop between two people who have many mutual friends. Strong ties generate adjacent strong ties, increasing the density of ties within a social cluster and closing the network around each member.

Illustrative evidence is displayed in Figure 3. Figure 3A illustrates the positive association between closure and trust within group. The top two lines are taken from interviews with a probability sample of Chinese entrepreneurs running small to

medium-size private enterprises. A respondent rated his or her trust in, and emotional closeness to, each cited business contact. The dashed-line association at the bottom of Figure 3A is managers in two American organizations evaluating whether to include their boss among the colleagues with whom they most discuss work. The associations are generic in that they are positive and non-linear.[5] Bridge relationships, to the left in the graph, show relatively low levels of trust. Embedded relationships, to the right in the graph, show the highest. Strength increases most with the addition of one or two mutual contacts.

——— Figure 3 About Here ———

Closure facilitates stronger connections in part by protecting from decay. The data in Figure 3B are from a population of investment bankers and analysts citing colleagues with whom they work (Burt 2010:181). On average, these are professions of rapid change in networks, but rate of change varies with closure. The horizontal axis is the years two people have worked together. The vertical shows the probability of that a coworker cited this year is not next year. Of new bridge relations, 93% expire before next year. For new relations embedded in six or more mutual colleagues, the decay rate drops by almost half to 53%. After four years working together, decay is independent of the surrounding network. In other words, closure primarily protects new relationships from decay.

Figure 3C illustrates closure associated with distrust of outsiders. The surveyed entrepreneurs in Figure 3A were asked to play one round of the Prisoner's Dilemma game with someone known to them only as a citizen of China and CEO of a private enterprise (Burt et al. 2022). Entrepreneurs embedded in more closed networks are more likely to defect against the outsider ($r = -.77$), especially the few who are successful despite their closed network: The bold line in Figure 3C shows that the .8 probability of cooperation from a network broker (left in the graph) drops to .2 for successful entrepreneurs in closed networks. A lack of trust in the outside world is particularly apparent among successful people in closed networks. I prefer micro-level evidence of closure facilitating a lack of trust in outsiders, as in Figure 3C, but

[5]The displayed curves are regression lines predicting the vertical from the horizontal using log(1+X) as predictor. Tests statistics for the two dashed-line predictions are strong (jackknife tests with respondent fixed effects: 27.45 for trust, and 6.15 for discussion with boss). As a research design issue, the Figure 3a associations can be obscured by sampling only positive relations since regression lines are flatter to the right in the graph.

diverse bits of related aggregate evidence are available such as Zuckerman's (1999) evidence of security analysts discounting the value of a firm not covered by the analyst's peers, or Putnam's (2007) correlation between neighborhood ethnic diversity and a lack of trust in neighbors (however, see Abascal & Baldassari 2015).

Returns to Brokerage Contingent on Social Standing

The closure-trust association illustrated in Figure 2.3 creates contingent returns to brokerage. When we accept an idea from someone, it is an act of deference. We acknowledge that the other person has an idea valuable beyond what we know. The act of deference is convenient if the broker is a prestigious source — the person leading our organization, for example, or a person of respect among us. But if the broker is of low social standing, or disreputable within our group, it is status-eroding to acknowledge accepting the broker's idea. Instead, we attribute the information to an alternative, respectable source (Menon & Pfeffer 2003), or claim to have the information without citing a source. In short, you may have a great idea, but it has no value to you as a broker if the audience does not wish to hear the idea from a person who looks like you.

For a pair of people, broker and target, let the broker be termed "legitimate" if the target is comfortable accepting an idea or advice from the broker. A broker can be legitimate across audiences, but the condition is audience-specific in that a broker legitimate in this audience need not be legitimate in the other. Graphs in Figure 4 illustrate the importance of such legitimacy for successful brokerage. The axes and plotted data in Figure 4 are the same as in Figure 2, but two subpopulations are distinguished: Legitimate individuals have above-average social standing (solid line through dark dots). They are contrasted with individuals of median or lower social standing (dashed line through hollow dots).

——— Figure 4 About Here ———

The competitive advantage associated with brokerage is concentrated in the brokers with above-average social standing. This is indicated in Figure 4A by the authority of high job rank among supply chain managers in an electronics firm (Burt 1997), in Figure 4B by high network status among HR officers in a commercial bank and managers in a software company (Burt & Merluzzi 2014), and in Figure 4C by positive reputation among investment bankers. In each graph, the solid line shows steep returns to brokerage for people with above-average social standing. These are

people accepted to operate as legitimate brokers in their populations.[6] In contrast, all three graphs show negligible advantage for people of low social standing — and those low returns can turn into negative returns for people of such low social standing that they are deemed “uppity” if they try to operate as a broker (whereupon analyses like the ones in Figure 4 can be a powerful tool for assessing diversity issues, Burt 2010:Chap. 7; 2021:392).[7]

Summary Through the 20th Century

The above summarizes core ideas about brokerage through the 20th century (and into much of contemporary work). The bridge and cluster structure of social networks creates information advantages of breadth, timing, and arbitrage that are the competitive advantage of network brokers, the people whose social connections bridge the structural holes between groups (Figures 1, 2). The efforts of network brokers to change the status quo are opposed by the social pressures of local cohesion within groups — that is to say, network closure. Trust is facilitated for the structurally embedded ties within groups, and the relative lack of structural embedding between groups fosters suspicion of ideas and people beyond the group (Figure 3), which limits successful brokerage to individuals with sufficient social standing to overcome the suspicion (Figure 4). With respect to the pipes and prisms metaphor often used in network theory, advantage is created by holding a broker position in the flow of information, but harvesting the value of that advantage is contingent on perception of the broker as an appropriate source (Podolny 2001; Borgatti & Halgin 2011). In short, brokerage is fragile.

A solution consistent with the closure-trust association is to embed bridges in partially-closed networks. A bridge can be reinforced with one or two third parties strongly connected to the individuals at either end of the bridge, thereby creating a closed-triad "Simmelian tie" (Krackhardt 1999; Tortoriello & Krackhardt 2010), or a

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[6]Graphs A and B in Figure 4 are adapted from Burt (2021:392; respectively taken from analyses in Burt 2004 and Burt & Merluzzi 2014). The same model is used in Figure 4C to predict banker bonus compensation from log network constraint, with level and slope adjustments for the difference between bankers with above- and below-average reputations (plus controls for job rank and location, Burt 2010:92). For the solid lines, jackknife test statistics for performance lower under network constraint are -4.24 in 4A, -6.25 in 4B, -4.35 in 4C. All are statistically significant beyond a .001 level of confidence.

[7]These points about status and reputation are sufficient for the purposes here, but their respective implications for returns to brokerage is a promising interface with the computer science concepts of PageRank and hubs (Kleinberg Nobel chapter).

"wide bridge" (Centola & Macy 2007; Guilbeault & Centola 2021). Aggregating up, Stovel et al. (2011) discuss examples of brokerage stabilized by embedding it in an institution: Brokerage can be made less fragile by confining it to a group that cannot abuse broker information advantage (e.g., marriage matchmakers in China), absorbing brokers into one side or the other (e.g., Protestant missionaries supporting practical community interests rather than colonial elite interests), or absorbing brokerage into the activity of an established organization (e.g., social welfare organizations that foster brokerage among members).

These proposals reinforcing bridge relations are familiar in theory, and can be supported empirically, but they are strategies for converting brokerage into closure. Adding third parties to a bridge moves it across the horizontal axis in Figure 2, at some point converting a bridge between groups into a relationship within a group. Third-party reinforcement has several attractive features discussed in the above references, especially for loosely-connected networks across the internet. But for the general case, which includes unambiguously balkanized networks within and across organizations, third-party reinforcement is a theoretically unsatisfactory solution to the fragility of brokerage. Alternative solutions must exist: Despite ostensible fragility, people muddle through in that the people who have advantaged access to holes today are often the people who had advantage yesterday (Burt 2005: Chp. 5; Goyal et al. 2006; Burger and Buskens 2009; Quintane and Carnabuci 2016).

NOT SO FRAGILE

In our 2012 survey with a probability sample of 700 Chinese entrepreneurs, we included an event name generator so we could stretch networks back in time. Name generators are the questions used in surveys to elicit respondent contacts: “Who are the people with whom you have the most frequent and substantive work discussions?” “Who do you consider to be your close friends?” Et cetera. An event name generator asks for significant events in a personal history (for example, a career, or a marriage), then asks for the names of contacts most consequential in each event. We asked entrepreneurs to describe significant events in the history of their business, beginning with its creation (Burt & Opper 2017). We followed with familiar name generators about valued business contacts. Some contacts cited for help with an event were also cited among valued contacts. What constitutes a

significant event was left up to the respondent, and often differed in kind between respondents.

Existence of Strong Bridges

Some of our results contradicted the familiar closure-trust association. The axes in Figure 5A are the same ones used earlier in Figure 3A: Respondent trust in a contact is on the vertical axis, and number of mutual friends increases across the horizontal as a measure of structural embedding within a closed network. The dashed regression line describes trust in contacts currently valued, but not cited for help with significant events. That dashed line has the familiar nonlinear positive slope for closure-trust association illustrated in Figure 3A.

——— Figure 5 About Here ———

In sharp distinction, the solid regression line in Figure 5A describes trust in contacts cited for help with significant events. Call them event contacts. Trust in event contacts is higher and more consistent (less correlated with) structural embedding across the horizontal axis. Structural embedding surrounds some relations with event contacts (upper right in Figure 5A), so the high level of trust in those relations is consistent with the closure-trust association. The contradictory result is the high level of trust in event contacts reached through bridge relations (upper left in the graph). Call these strong bridges. They are relations of high trust at the same time that they are bridges, in that they are not supported by mutual friends.

Drawing analogy with the colloquial Chinese term, guanxi, which refers to relations that provide exceptional advantage (Bian 2019), we used the analysis of covariance model in Figure 5B to systematically study the strong bridges (Burt et al. 2018): To the usual closure-trust association ($T = \alpha + \beta \ln[1+TP]$, describing the dashed line in Figure 5B) we added level and slope adjustments to test, respectively, for the surprisingly high trust in bridge guanxi (γ, trust in guanxi when structural embedding is zero), and the fact that trust in guanxi is relatively independent of structural embedding (λ, a negative coefficient lowering slope β of the closure-trust association).

Figure 5C shows the results of fitting the model to data obtained in a 2018 survey with a new sample of Chinese entrepreneurs explicitly asked to distinguish which of their contacts they viewed as guanxi. Parameter estimates with individual fixed effects and jackknife test statistics are given in the graph. The closure-trust

association is prominent (.78 coefficient, 13.5 t-test). The high trust in guanxi bridges is now sharper with guanxi distinguished explicitly (1.48 coefficient, 18.4 t-test). And the solid line describing the closure-trust association for guanxi is almost flat across the horizontal axis in Figure 5C, showing relative independence of trust from structural embedding (λ significantly decreases β, -7.8 t-test, and there is no trust association with structural embedding when β is estimated exclusively from guanxi contacts, 0.81 t-test). Further analysis shows that the high trust in guanxi bridges — an example of "strong bridges" — does not depend on the kind of event in which help was provided, or the kind of help provided (Burt & Opper 2026b:Chap. 3), the role relations with which guanxi exist (family, colleague, neighbor, classmate, etc. (Burt & Opper 2026b:Chap. 5), or the language used to describe guanxi (Burt & Opper 2026b:Chap. 6). The primary predictors of the strong bridges provided by guanxi are time and help during an event significant for the respondent (Burt & Opper 2026b).

Those Strong Bridges Are the Core of Brokerage Advantage

The strong bridges turn out to be essential to the competitive advantage associated with brokerage. Figure 6 contains illustrative evidence (Burt & Opper 2024:31, and more broadly, Burt & Opper 2026b:109). The vertical axis indicates an entrepreneur's performance measured by average return on assets (controlling for industry, city, and years until the business became profitable). An entrepreneur with a score of 1.0 runs a business that earns profits that are one standard deviation above what is usual for that kind of business in that city.

Entrepreneurs are sorted across the horizontal by network. The first distinction is between relatively-closed versus relatively-open networks. Relatively-closed is defined by network constraint higher than the median level. Within the two categories of networks, entrepreneurs are sorted by a count of their bridge relationships.

——— Figure 6 About Here ———

Consistent with Figure 2, the aggregate network-performance association is illustrated in Figure 6 by higher bars over relatively-open networks. Strong bridges cannot compensate for a relatively closed network; the three bars to the left all show below-average performance. Nor can a relatively open network make up for the lack of bridges — there is no statistical difference between the first four bars in Figure 6. Entrepreneurs whose relatively-open networks are limited to weak (non-guanxi)

bridges show negligible improvement in performance (.06 above average). The primary increase in performance occurs in proportion to strong bridges in relatively open networks (two bars to the right in Figure 6). More, the Figure 2 performance association with constraint disappears if constraint is computed excluding guanxi (Burt & Opper 2024:27), and while weak bridges die off during COVID, the strong bridges persist (Burt & Opper 2026b:219; see Lazega et al. 2022, for broad review of network resilience).

Separating Tie Strength from Network Structure

For good reasons — per the discussion of Figures 1, 2, 3 , and 4 — it has long been assumed in network theory, research, and practice that relations are weak when they bridge the structural holes between groups. In this, tie strength is assumed to be a function of network location, with strong ties inside groups, and weak ties between. There is ample evidence for the belief: Bridge relations between groups are often weak (Figure 3). But some are not (Figure 5), and those exceptional strong bridges can be a numerous minority. The strong bridges provided by guanxi among our sample entrepreneurs number about one in ten cited relations, or a third of cited bridge relations (Burt & Opper 2026b:112).

It is convenient to adopt Granovetter's (1992) terms for two embedding sources of tie strength: The familiar "structural embedding" is about strength from the supportive structure around a relationship, while "relational embedding" is about strength from the history within a relationship. The two forms of embedding are correlated, but our research evidence shows that they can operate independently, even compensating one for the other (Burt & Opper 2024, 2026b; cf. Neal 2024). Once I know you, and you have proven your willingness to help when I was in trouble, I do not require the reputation security of mutual friends watching you; I know you are trustworthy. I might not be accurate, but I can be certain. A special bond forms during helpful exchange in a stressful event. For entrepreneurs, stressful moments reliably occur in founding the business and milestone events. Other settings also define such moments — soldiers looking out for one another during combat, people surviving together a disaster that for others proved fatal, successful people from the same student cohort. The phenomenon is neither peculiar to China nor contemporary business. The Greek playwright, Euripides, expressed it well: "Real friendship is shown in times of trouble; prosperity has friends galore." The

guanxi that provide strong bridges are positive sentiment forged to bond through felt support during a significant event (Figure 5). Further emphasizing relational embedding, these strong bridges are essential to the competitive advantage of brokerage. Advantage is not about weak ties, bridge connections, or trust so much as it is specifically about trusted bridge connections. Absent such connections, evidence of broker competitive advantage disappears (Figure 6).

CLOSE

In sum, brokerage is much less fragile than has been assumed. The oft-cited link between tie strength and network structure can create the impression of fragility, but the link is merely a correlation. Separating tie strength from network structure reveals substantial evidence of strong bridges providing high trust across the structural holes between groups. And those occasional strong bridges turn out to be the core of the familiar advantage associated with brokerage. Tie strength separated from network structure opens a frontier rich in implications for network theory, research, practice, and the substance of competitive advantage.

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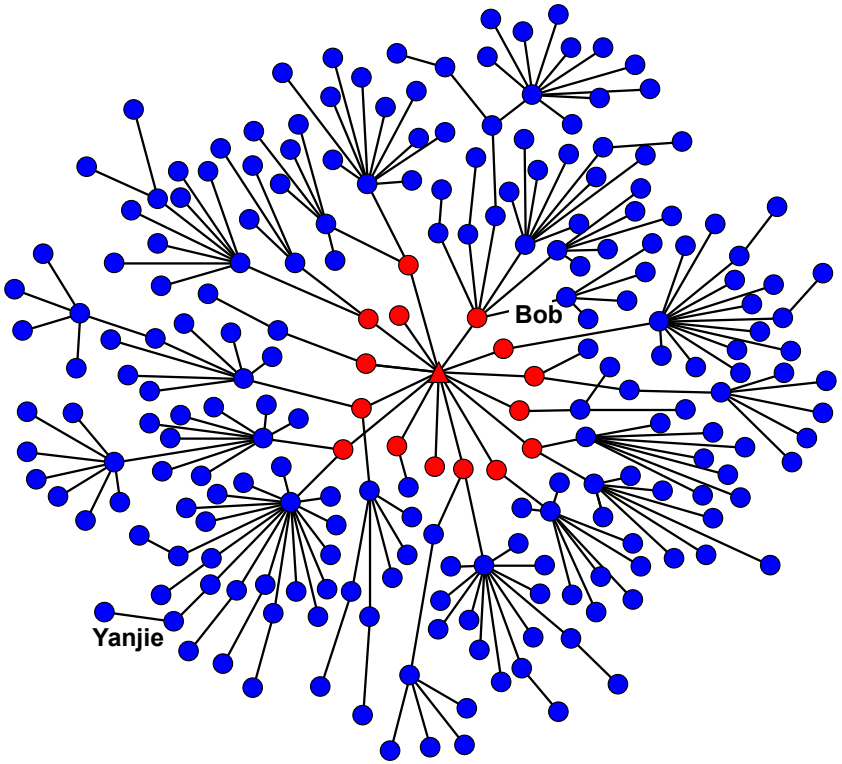
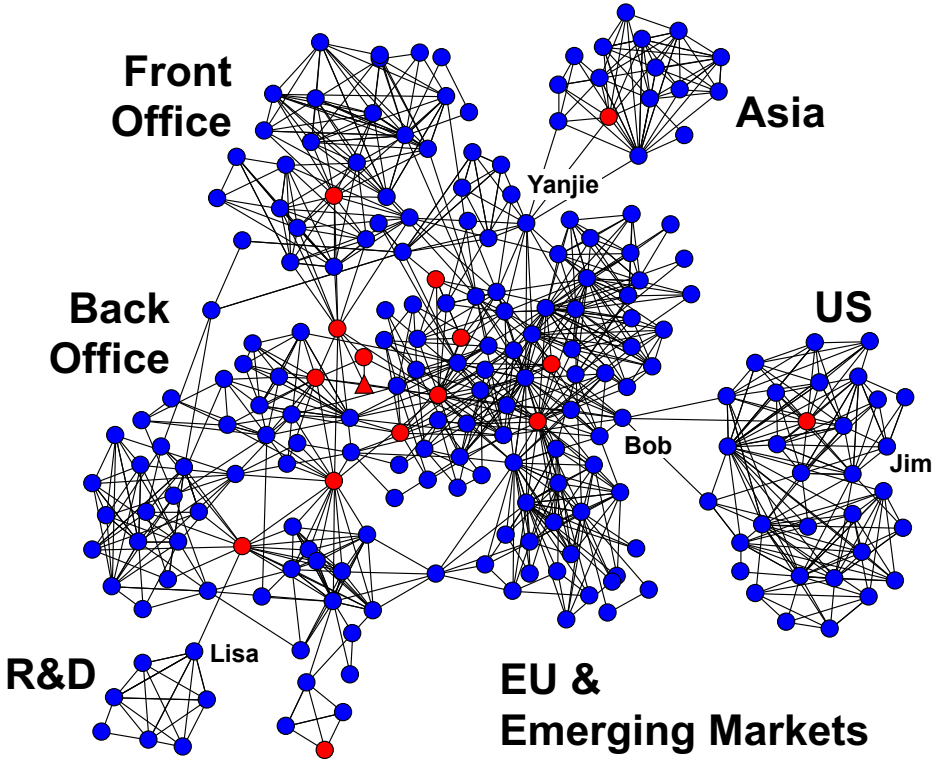
Figure 1
Foundational Context: Bridge and Cluster Structure

A. Formal Organization
(reporting relations among 227 top managers in a large EU company)



B. Informal Organization
(frequent and substantive work discussion; "small world" by deleting isolates, pendants, & adding bridge)



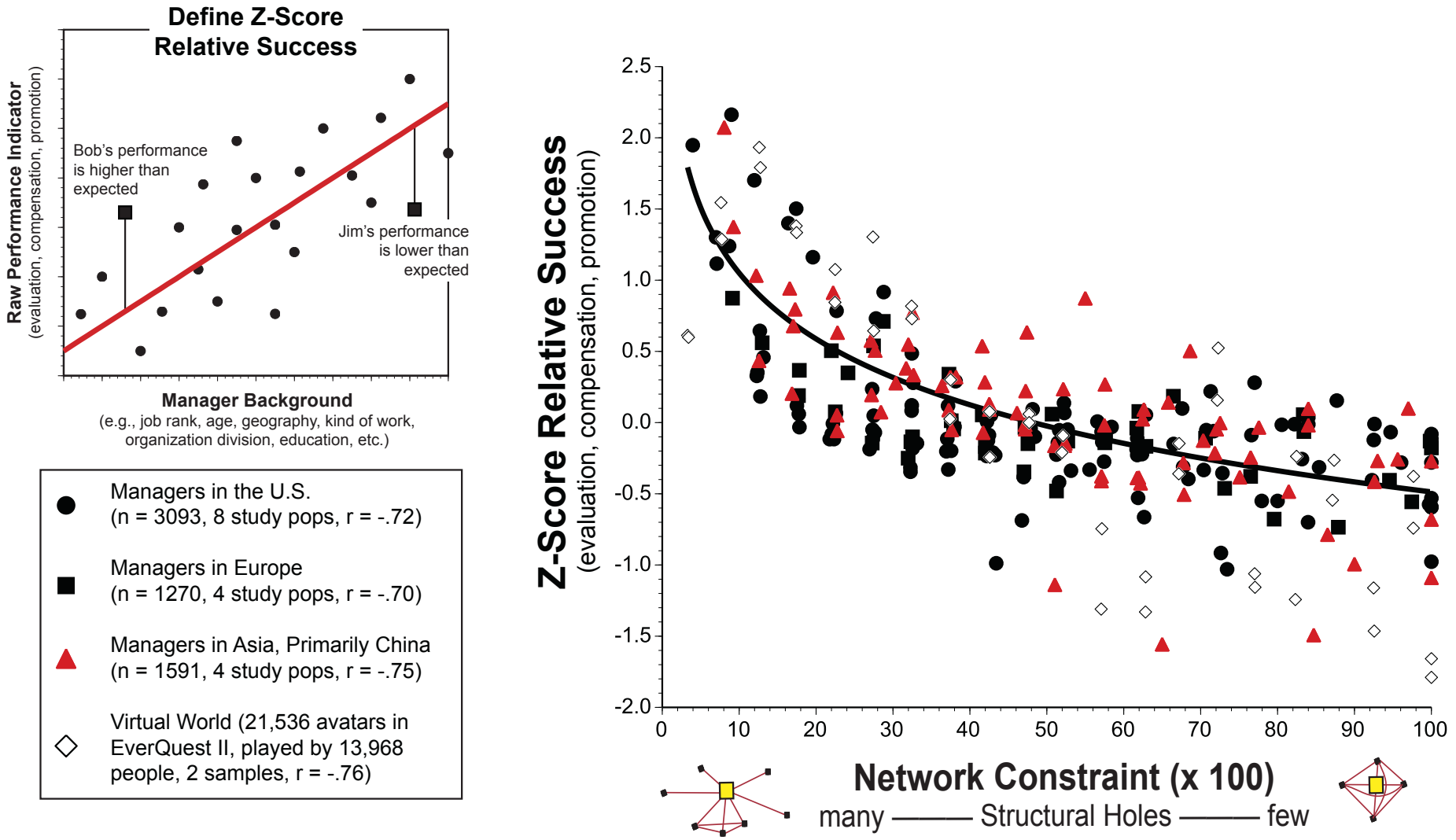
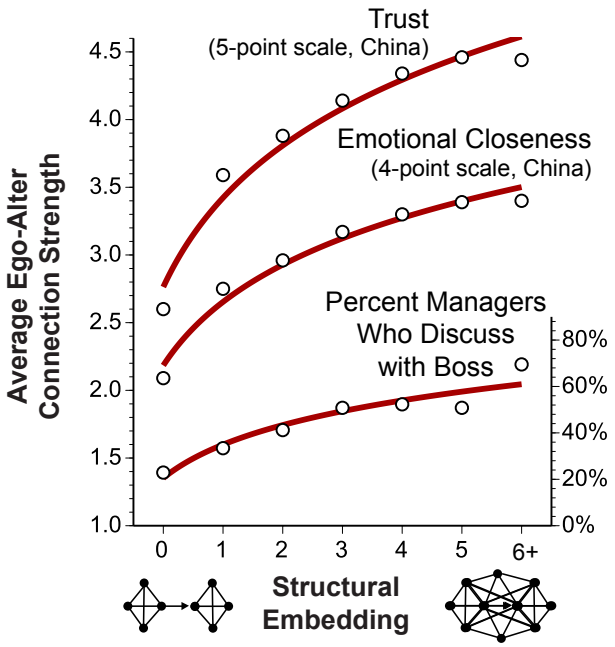


Figure 2. Returns to Brokerage

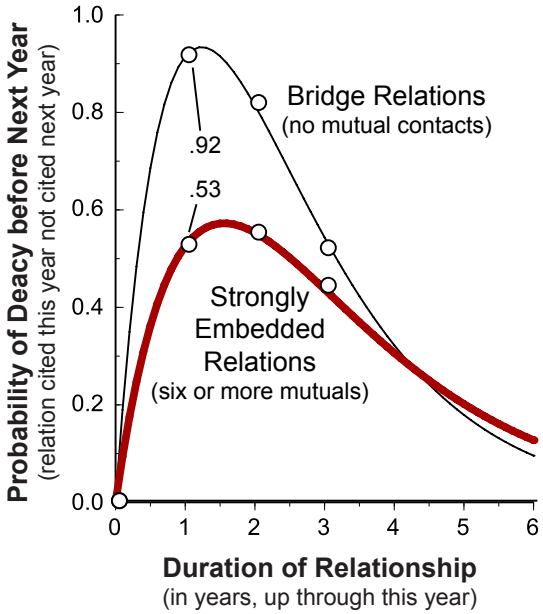
NOTE — Plotted data are average scores within five-point intervals of network constraint in each study population. Correlations are computed from the plotted data using log network constraint. Inset graph to the upper left contains hypothetical data illustrating computation of z-score relative performance. Adapted from Burt (2019b:38)

Figure 3. Fragile Brokerage: Local Cohesion Facilitates Trust Inside, Distrust Outside — Creating Weak Bridges & Suspicion of Brokers



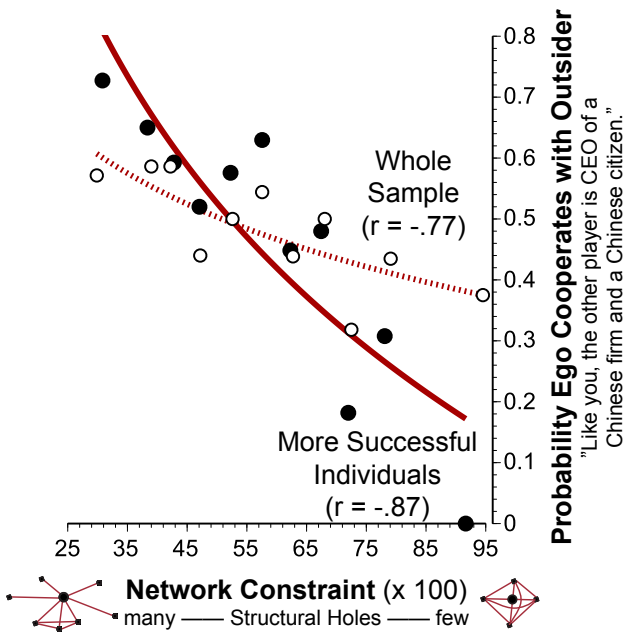
A. Closure-Trust Association

Rich history: **Economics** (Coase 1937 through Greif 1989), **Psychology** (Heider 1958, Festinger et al 1950), **Sociology** (Blau 1974; Granovetter 1973 1985, Coleman 1988), **Law** (Ellickson 1991, Bernstein 1992), **Political Science** (Putnam 1993). Two top lines are based on 7,166 evaluations by Chinese entrepreneurs of business contacts. Bottom line is based on 674 evaluations by American managers of discussion with corporate boss. Adapted from Burt and Opper (2026a:Fig. 2).



B. Which Protects Against Decay

For a population of investment bankers and analysts in a large US firm, this graph plots the probability of a relationship cited this year not being cited next year (based on 48,231 relations, from Burt 2010:181).



C. And Intensifies Distrust of Outsiders

For a probability sample of Chinese entrepreneurs, this graph plots averages for 5-point intervals on X with thin tails of X truncated for infrequency. "More Successful" are entrepreneurs whose businesses had above-median profit last year. Adapted from Burt et al. (2022:503). Regression lines in all three graphs are through the plotted data.

Being reputable is not essential for acquiring information, but it is to rewards for sharing information.

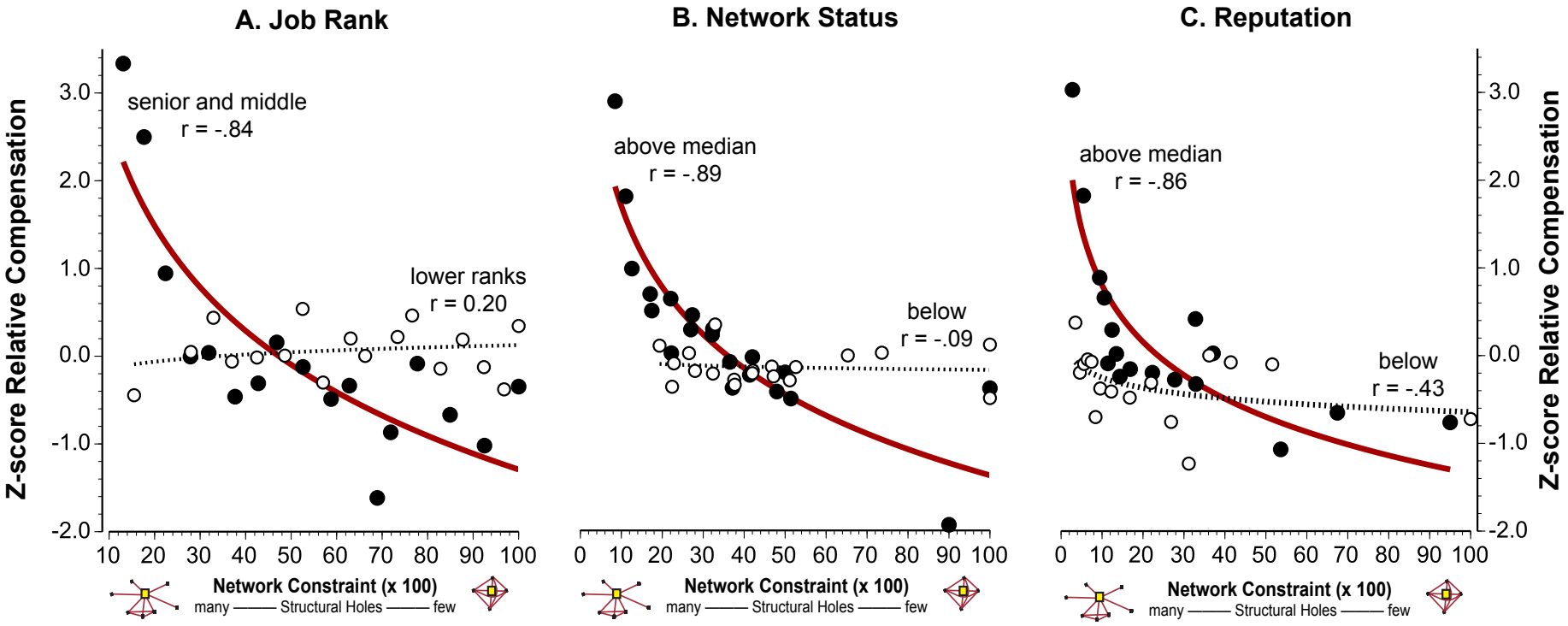


Figure 4. Fragile Brokerage: As a Result, Returns Are Contingent on Broker Social Standing

Note: Plotted data are average scores within five-point intervals of network constraint within four populations (electronics company for job rank, software company and HR in commercial bank for network status, investment bankers for reputation). Solid dots refer to people with high social standing (senior/middle job rank, above-median network status, above-median reputation). Correlations are computed from plotted data for log network constraint.

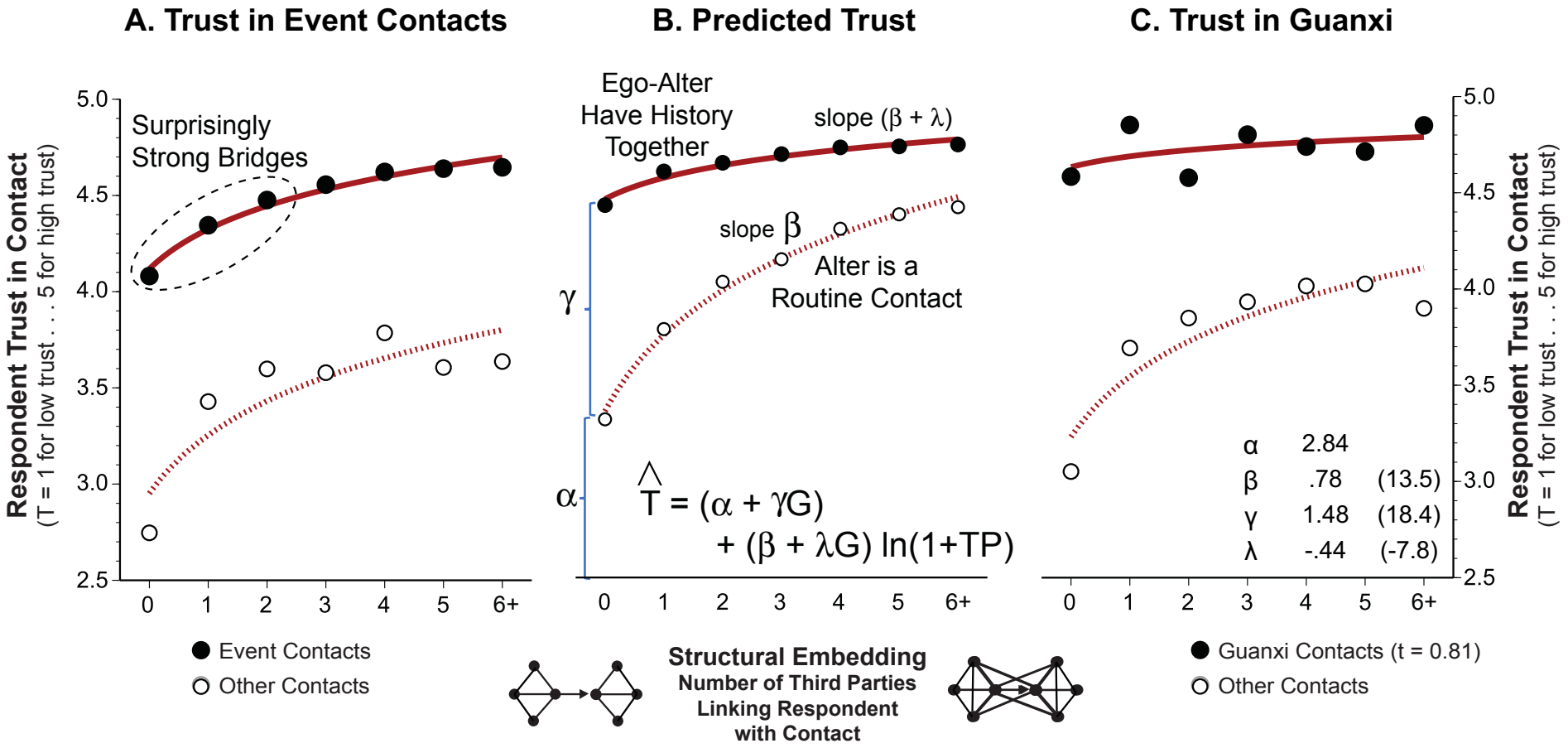


Figure 5
From Event Strong Bridges to Guanxi Strong Bridges

NOTE: Dots are average Y scores at each level of X. Graphs describe relationships (a) with 4,464 contacts cited in 2012 by 700 respondents, (c) with 2,702 contacts cited in 2018 by 384 respondents. Vertical axis is respondent trust in contact, measured on a five-point scale. Horizontal axis is the number of other people in a respondent's network connected with the contact. Dummy variable G equals 1 for contacts cited as guanxi. Estimates in (c) are with individual fixed effects and jackknife test statistics.

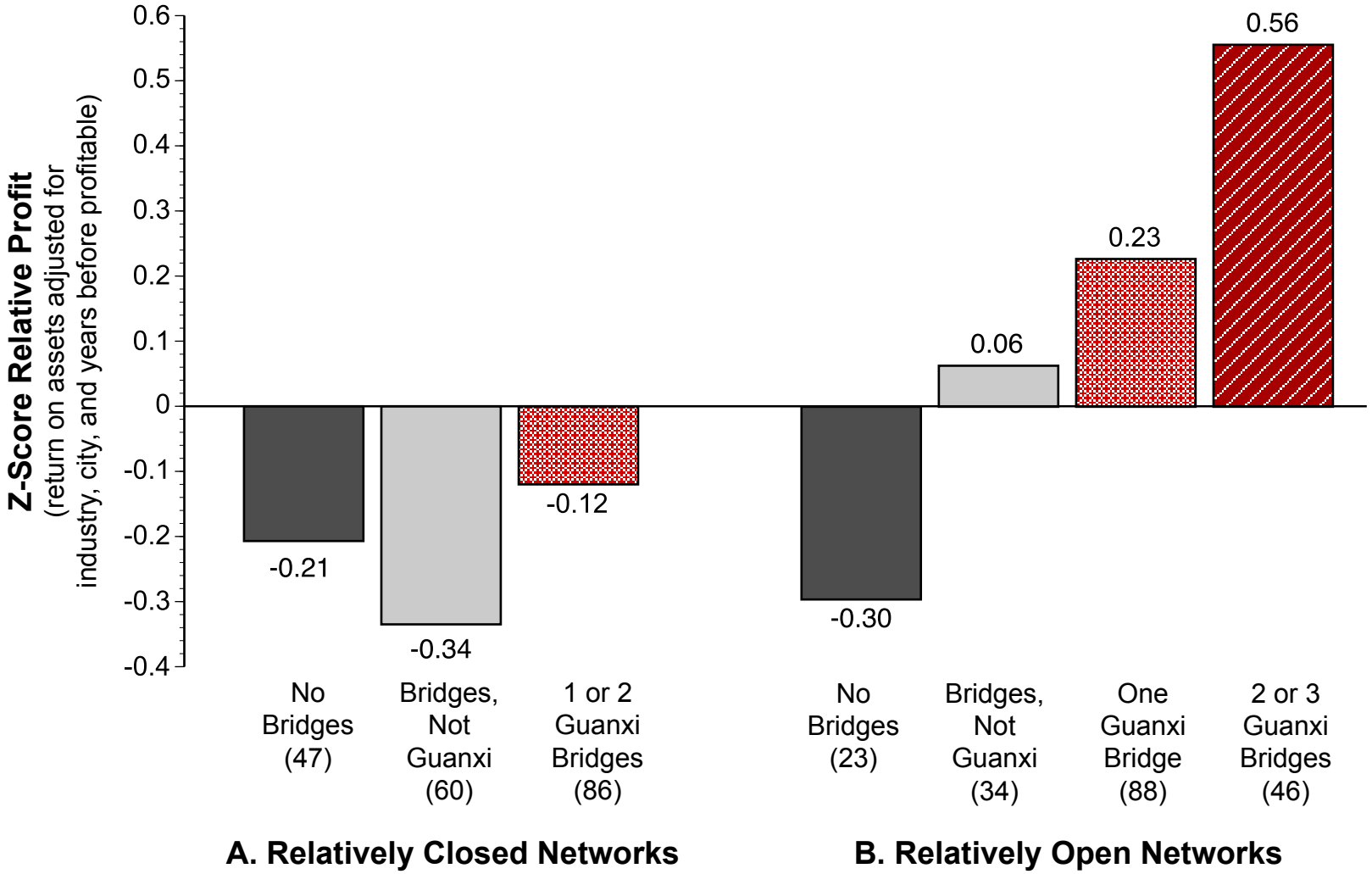


Figure 6 Strong Bridges in the Network-Performance Link

NOTE: Adapted from Burt and Opper (2026:Figure 4.7; cf Burt & Opper 2024:31). Bars show z-score relative profit. Networks are sorted on the horizontal (parentheses contains number of entrepreneurs in each condition). Closed versus open networks are distinguished by median network constraint computed from all ties except the strongest guanxi. No bridges refers to networks in which no relationship is embedded in less than a strong indirect connection. Seven entrepreneurs with two guanxi bridges are combined in the high category of relatively closed networks, and six entrepreneurs with three guanxi bridges are combined in the high category of relatively open networks.