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The Ties That Bind: The Internal Structures Of Law Firms And The Dynamics Of Law
Firm Dissolution

by

Alan James Kluegel

A dissertation submitted in partial satisfaction of the

requirements for the degree of

Doctor of Philosophy

in

Jurisprudence and Social Policy

in the

Graduate Division

of the

University of California, Berkeley

Committee in charge:

Professor Calvin Morrill, Chair

Professor Lauren Edelman

Professor Heather Haveman

Summer 2020

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Abstract

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Professor Calvin Morrill, Chair

Research on law firms as organizations has largely grown up in literatures that rarely, if at all, speak to one another in sustained ways. Whether drawing from economic, ecological, network, or neo-institutional frameworks, organizational scholars often use law firms as sites for research without necessarily considering the unique qualities of a professional firm (for example, their ethical responsibilities or the type of legal work they perform). Legal scholars, meanwhile, largely focus on the legal characteristics of law firms without examining how their organizational structures or broader environments influence their behavior. Dialogue between these approaches can add significant theoretical grist to the organizations literature by identifying how the rules of different fields influence organizational behavior, while at the same time deepening legal scholarship by situating study of the law firm in broader theoretical discourses.

In this dissertation, I will review the theoretical treatment of law firms, discuss the internal structures and external environments of law firms, test whether network theories of organization explain the observed network of a professional firm, and examine the longitudinal trajectory of law firm growth and survival. To do so, I will develop novel hypotheses that integrate professional and organizational theories.

to the pain

Contents

Contents	ii
List of Figures	v
List of Tables	vi
1 The Professional Organization	1
1.1 Studying The Law Firm As A Unique Organizational Form	2
1.1.1 The History of the Law Firm	3
1.1.2 The Modern Law Firm	4
1.2 Theoretical Frameworks for Understanding Legal Organizations	7
1.2.1 Economic Theories of the Law Firm	7
1.2.2 The Firm As A Product Of Its Environment	10
1.2.3 The Firm As A Network	11
1.2.4 The New Institutional Perspective on the Firm	13
1.3 Organizational Theory Is Only The Beginning Of The Story	18
2 The Law Firm On The Boundary	19
2.1 Theories of the Professions	19
2.2 The Legal Profession According To Organizational Theory	20
2.3 Bringing The “Profession” Into The Study Of Professional Organizations . .	22
2.4 Theoretical Questions Raised By The Law Firm	23
2.4.1 Brokerage and Client Relationships	24
2.4.2 Specialized Knowledge	24
2.4.3 Collegial Profession, Collegial Organization?	25
2.4.4 Homophily, Social Capital, and Networks During Crisis	25
2.4.5 Lateral Hiring and Firm Cohesion	26
2.5 Networks, Actors, and Fields	26
3 Networking Among The Human Capitalists: The Internal Network of a Large Corporate Law Firm	28
3.1 The Organizational Network	28

3.2	Testing The Law Firm Network	29
3.2.1	Brokerage and Power	29
3.2.2	The Effect of Specialization	30
3.2.3	The Value of Strong Client Ties	31
3.2.4	Homophily in Networks	32
3.2.5	Closure or Brokerage in the Post-Crisis Network	33
3.3	Data Collection	33
3.3.1	Units of Analysis	33
3.3.2	Missing Data Issues	34
3.3.3	Advantages to Using Observable Network Ties	35
3.4	Methods and Variables	36
3.4.1	Exponential Random Graph Models	37
3.4.2	Outcome Variables	38
3.4.3	Actor Attributes	39
3.4.4	Network Position	39
3.4.5	Homophily	40
3.4.6	Network Effects	40
3.4.7	Cross-Network Measures	41
3.4.8	Network Control Variables	42
3.5	Modeling the Firm Network	42
3.5.1	General Characteristics of the Pre- and Post- Crisis Networks	44
3.5.2	Tie Generation Between The Networks	48
3.5.3	Does Network Position Predict Attorney Success?	50
3.6	Discussion	51
4	Do The Collapse: Individual Dynamics In The Firm and Causes of Firm Instability	54
4.1	Formal Legal Structures of Law Firms	54
4.2	The Regulatory Environment of Law Firms	56
4.2.1	Prohibitions on Lawyer Mobility are Unenforceable	56
4.2.2	The Client Owns the Firm's Work Product	58
4.2.3	The Prohibition on Non-Lawyer Ownership Favors Powerful Partners	58
4.3	Internal Law Firm Dynamics	59
4.3.1	The Firm as a Site for Human Capital Development	59
4.3.2	The Firm Network as Mediating Force	62
4.4	Network Position and Partner Leverage	64
4.5	Professional Norms of Loyalty and Trust	66
4.6	A Formal Model of the Law Firm as a Coordination Game	68
4.7	Discussion	71
5	The Harder They Fall: A Longitudinal Analysis of Growth and Mortality among Law Firms	72

5.1	Background	73
5.2	Law Firm Growth	75
5.2.1	Structural Explanations of Firm Growth	75
5.2.2	The Organizational Ecology of the Corporate Law Firm	77
5.2.3	Types of Law Firm Growth	80
5.2.4	Some Hypotheses About Firm Growth	83
5.3	An Empirical Analysis of Growth and Mortality	85
5.3.1	The Data	85
5.3.2	Law Firm Profits and Law Firm Growth	88
5.3.3	Law Firm Growth and Law Firm Survival	93
5.4	Discussion	97
6	Conclusion	100
	Bibliography	103
A	Dissolved NLJ 350 Law Firms 1984-2017	116
B	Goodness of Fit Tests for Firm Network Analysis	118
C	R Code	121
C.1	Creating the Dataset	121
C.2	Creating The Network and Network Statistics	124
C.3	Separable Temporal Exponential Random Graph Models	133
C.4	Exponential Random Graph Models of Pre- and Post-Crisis Networks	137
C.5	Survival Analysis	141
C.6	Structural Equation Modeling	143

List of Figures

1.1	Distribution of First Year Lawyer Salaries	6
3.1	The Firm Network 2006-2014	42
3.2	Partners Per Matter: Pre- and Post-Crisis	45
3.3	Comparing Pre- and Post-Crisis Working Tie Distribution	46
3.4	Comparing Pre- and Post-Crisis Firm Network	47
3.5	Network Positions of Executive Committee Attorneys	52
4.1	Mapping The Network Position Of A Defecting Partner	65
4.2	Centrality of Partner Threat	66
5.1	Golbe and White's Graph Of Pre-1985 Merger Trends	78
5.2	IMAA Graph Of Post-1985 Merger Trends	79
5.3	Non-Equity Partner Growth 2000-2010	82
5.4	The Law Firm Network, Once Again	85
5.5	Relationship between Firm Growth and Firm Profits by Decade	91
5.6	A Path Diagram of Profits, Lateral Hiring, and Growth	93
5.7	Survival Curve For Firms Based On Growth Strategy	94
B.1	Pre-Crisis Network Goodness of Fit: Simulated vs. Observed Networks	119
B.2	Post-Crisis Network Goodness of Fit: Simulated vs. Observed Networks	120

List of Tables

1.1	Organizational Theories Of Law Firms	8
2.1	Organizations and Professions	21
3.1	Popularity and Centrality By Attorney Specialization, 2006-2014	43
3.2	Network Statistics: Actual vs. Simulated	44
3.3	Changes In The Pre- and Post-Crisis Deal Networks	44
3.4	Separable Temporal ERGMs Of Pre- and Post-Crisis Network Ties	49
3.5	Centrality & Executive Position	50
3.6	Number of Ties & Executive Position	50
3.7	Centrality & External Award Recognition	51
3.8	Number of Ties & External Award Recognition	51
4.1	Human Capital Development in the Firm	62
4.2	The Law Firm Investment Game	69
5.1	Distribution of Discrete Law Firm Outcomes	87
5.2	Mortality Outcomes (With Merged Firms)	87
5.3	Hierarchical Model of Growth and Profits	90
5.4	Structural Equation Model of Firm Growth	92
5.5	Cox Proportional Hazards Model (Log Odds Ratio)	95
5.6	GLM Estimation of Firm Failure Based On Lateral Hiring Strategy	97

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Chapter 1

The Professional Organization

A law firm is an organization staffed, owned, and managed by professionals; as such, law firms sit at the nexus of two distinct strands of academic inquiry: work on the professions and work on organizations. However, there has been relatively little work examining the professional firm as a unique entity; the professions literature tends to examine professionals as members of a broad category, while organizations literature generally considers professional firms as being like any other knowledge-intensive organization. But instead of being either a collection of autonomous professionals or an organization like any other organization, professional organizations face distinct challenges, are governed by separate rules, and perform specialized work and as a result, professional organizations often grow and develop in unique ways. Thus, a law firm is a unique site to test how professional norms and organizational goals compete with, constrain, and channel each other.

Sociological approaches to the professions argue that professions are distinctive for having certain characteristics that conflict with the market-oriented and hierarchical structures typical in much of economic life e.g., autonomy from clients, fidelity to ethical codes over market logics, and intra-professional collegiality (Freidson, 1970; Abbott, 1988; Lazega, 2001). The nature of the profession's knowledge work essential, exclusive and/or complex (Halliday, 1987) thus grants the professional this autonomy, which is preserved through observance of professional norms.

Organizational theory, on the other hand, posits that organizations that embed themselves in relationships with those upon whom they depend (clients, suppliers, etc.) place themselves at an advantage in their field (Granovetter, 1985; Uzzi, 1996; Pfeffer and Salancik, 2003) suggesting that professionals who exhibit stronger ties with clients (e.g., less autonomy) will have greater power within a firm. Network theorists also pose that individuals within an organization can gain advantages as a function of their position within an organization's network, and that this relational capital (not what you know, but who you know) is predictive of success for both the individual (Burt, 1995) and the firm itself (Obstfeld, 2005).

But what do these theories have to say about the behavior of the members of a law firm—an organization that is composed of professionals? Is a law firm an organization of professionals or a professional organization? Or is it both? If it is both, which values dominate? The theories of professions and organizations are potentially in tension: autonomy from clients reinforces professional status, but strong ties to clients are valuable to organizational survival. Knowledge of abstract material is the source of the profession's power, but relational capital is a necessary component of power within an organization. Merging with a competitor firm adds to the subject-matter expertise of the firm, but can destabilize intra-organizational power dynamics.

In this chapter I review the scholarly literature on organizational theory as it has been applied to private corporate law firms. These firms are recognized as the most prestigious sites of legal practice, their lawyers are among the wealthiest and most powerful in the profession, and they provide services to the highest-profile corporate clients. I survey research on the development of the corporate law firm as a particular kind of organizational form, the changes in these firms resulting from their broader organizational environments, and the firm as a network of connections among lawyers and among lawyers and their clients. I summarize each of the major organizational theoretical perspectives (which I broadly group as economic, environmental, network, and neo-institutional) and assess the literature on law firms using these perspectives.

1.1 Studying The Law Firm As A Unique Organizational Form

There are multiple, specific reasons for situating the study of these firms in the broader context of organizational theory. First, a key proposition in much of organizational theory concerns the primary influence of the broader field in which an organization is situated, including other relevant organizations and regulatory structures (DiMaggio and Powell, 1983; Fligstein and McAdam, 2012; Granovetter, 2005). The field in which law firms sit is unique in that they are regulated in such a manner so as to maximize their professional status (forbidding nonprofessional ownership and prohibiting noncompete agreements) while sustaining fiercely competitive markets largely oriented toward large private corporate clients (Regan, 2004). In addition, the study of any profession without consideration of professional organizations is necessarily incomplete, because socialization into professions is controlled almost exclusively through organizations. In the legal profession, most lawyers' initial points of entry are through a legal organization, be it a government office, a public interest organization, or the most common initial employer: a law firm. Many lawyers spend at least a portion of their careers in law firms or dealing with firm lawyers, and these organizations in turn shape their careers and their understanding of the profession (Heinz, Nelson, Sandefur,

and Laumann, 2005; Kagan and Rosen, 1984; Patton, 2005).

Although law firms have been the subjects of many important works of social science research, this review does not attempt to review all such studies. I do not assess the literature on stratification within the legal profession, though the law firm has been a fruitful site for such research (Nelson and Nielsen, 2000; Ladinsky, 1963; Kay and Gorman, 2012; Payne-Pikus, Hagan, and Nelson, 2010; Chiu and Leicht, 1999) – see (Kay and Gorman, 2008) for an excellent review of the literature on gender and the legal profession. Nor do I survey the literature on lawyer satisfaction and lawyer career mobility, though quite obviously the large law firm is a major influence in both areas (Dinovitzer, 2011; Dinovitzer and Garth, 2007; Kay and Wallace, 2010). This review also will not address the literature on lawyers in nonlegal organizations, who individually perform within organizations the tasks of boundary definition and role construction that law firms perform on an institutional level (Chayes and Chayes, 1984; Edelman and Suchman, 1999; Nelson and Nielsen, 2000). Instead, I focus primarily on work from the perspective of organizational theory regarding the corporate law firms that developed in the United States during the twentieth century and underwent spectacular growth over the last 30 years.

1.1.1 The History of the Law Firm

The multi-member law firm first emerged as an organizational form around the turn of the nineteenth century (Swaine, 1948; Hurst, 1950; Friedman, 2005). In contrast to the standard professional forms of the time (solo practitioners and single-partner law offices), which were regional and handled mostly personal legal business (wills, real estate, criminal law, etc.), law firms sprouted up in cities and handled primarily corporate work. Law firms were well-suited to handle apprentices at a time when apprenticeship was a path to joining the bar (now, only four states – California, Vermont, Virginia, and Washington – allow lawyers to become members of the bar via apprenticeship). Status accrued to “office” work, which allowed lawyers to remain in one place and serve a community or a stable set of clients, as opposed to “riding” lawyers, who had to travel from courthouse to courthouse in search of work. The stability afforded by office practice allowed for lawyers in particular jurisdiction to organize, creating a more effective bar that was empowered to enforce its jurisdiction over legal work and entrench its monopoly over services.

Initial accounts of law firms tended to stress rational and economic explanations that were in line with the functionalist theories of the professions that predominated (Parsons, 1954). Historians studying this period generally attribute the emergence of the law firm to the post-Civil War economic turn towards industrialization and the establishment of large corporations that elite lawyers in firms came to serve (Friedman, 2005; Hobson, 1984). Large corporations became enormous consumers of legal services, as they encountered heavier litigation burdens than small businesses and engaged in legally demanding financial transactions

such as railroad mergers (Pinansky, 1986). Thus, the conclusion of these accounts is that client demand for the services of the top practitioners increased so dramatically that they had no choice but to combine forces with other established practitioners in order to satisfy these new corporate clients.

1.1.2 The Modern Law Firm

By the middle of the twentieth century, the corporate law firm was well established as the most prestigious, if not the most common, organizational setting for the practice of law. Examining the legal profession in mid-twentieth century American society, C. Wright Mills adopted a functionalist explanation – the societal shift to a new economy of the big corporation – for the development of the modern law firm (Mills, 1951). For Mills, the rise of the large industrial corporation was responsible for the stable of three or four hundred metropolitan law factories specializing in corporation law and constituting the brains of the corporate system. Moreover, as Robert Nelson puts it (Nelson, 1988, p. xi):

“law firms are the central institution in the development of the distinctive norms and cultural understandings that define the ideal of professionalism for American lawyers”

The first major in-depth study of the modern law firm was Erwin Smigel’s *The Wall Street Lawyer* in 1964, which identified several core organizational features of the firm - specialization by practice area, a team system for handling a client’s matters, a formalized partnership structure with identifiable management, a clear power hierarchy between partners and associates (with power among the partners distributed based largely on control of business), and a path for promotion to membership in the firm (Smigel, 1964). In his account, Smigel was struck by the looseness of the organization, particularly in comparison to other corporations of similar sizes. Smigel theorized that one of the factors that allowed for such an informal organization was what he termed professional bureaucracy - rules of conduct that are formed outside the organization but necessarily become part of the organization itself. Thus, Smigel’s work anticipates later organizational theory in hypothesizing a relationship between characteristics of the organization’s field in this case, the existence of a professional bureaucracy regulating practitioners and enforcing jurisdictional boundaries and the structures that the organization adopts.

Today, the typical corporate law firm is divided into two major practice areas: transactional and litigation (some practices, like bankruptcy or intellectual property, straddle this divide), with each of those further divided into areas of specialization. The services that large corporate law firms provide are tailored to assist mature businesses in navigating their legal environment. The major industries that form the client base for these corporate firms

include telecommunications, technology, pharmaceutical, energy, insurance, media, real estate, and – perhaps most importantly – finance. Clients may also come from other industries (retail, transportation, hospitality, etc.), but the primary client base for large corporate law firms are companies who are either highly dependent on property secured through contract (patents, licensing, leasing, etc.), or are heavily regulated (insurers, banks), or both (investment funds).

Broadly speaking, the practice areas of corporate law firms are designed to further three goals: protecting the client's market share, maintaining the client's access to capital, and minimizing the client's regulatory or litigation losses. As such, most large firms offer a similar menu of specialized practice areas: intellectual property and antitrust litigation (protect market share); mergers and acquisitions, capital markets, and structured finance (access to capital); and class action/mass tort defense, tax, insurance, and securities fraud/white collar defense (minimize losses).

The focus in each of these practice areas is on large-scale matters where the client is less sensitive to price concerns and thus where the law firm can maximize profits, such as multibillion-dollar transactions, bet the company litigation, or securities lawsuits/government investigations where the company (or its directors and officers) are at risk. For example, in 2008, the electronics manufacturer Siemens paid over \$1 billion to a single firm, Debevoise & Plimpton LLP, to conduct an internal investigation of an international bribery scandal and thereby avoid a federal criminal conviction that would have likely destroyed the company (Schubert and Miller, 2008).

Much as in Smigel's day, these corporate law firms generally hire lawyers in large cohorts straight out of law school and then have those lawyers work a period of several years as salaried associates before becoming a partner, which traditionally entails receiving an equity stake in the firm (this is called the Cravath system, named after a market-leading law firm). The draw for new attorneys is twofold: first, the starting salaries at these firms are drastically higher than in other practice settings (see Figure 1.1 for the National Association for Law Placement's data on the distribution of starting lawyer salaries), and new attorneys are often carrying large amounts of student debt from their professional education. Second, these firms offer the possibility of receiving training from experienced attorneys, improving their skills as an attorney and burnishing their reputation. Finally, new attorneys have been socialized through law school and the system of state bar examination to understand the law as a profession, but have little to no training in the skills necessary to understand law as a business. Firms have the ability to navigate the unfamiliar terrain of client acquisition and management, and thus young attorneys are allowed to focus on their professional development.

In this system, most attorneys either leave or are fired prior to achieving membership in the firm, as firms loosely adhere to an up-or-out policy of associate promotion and retention

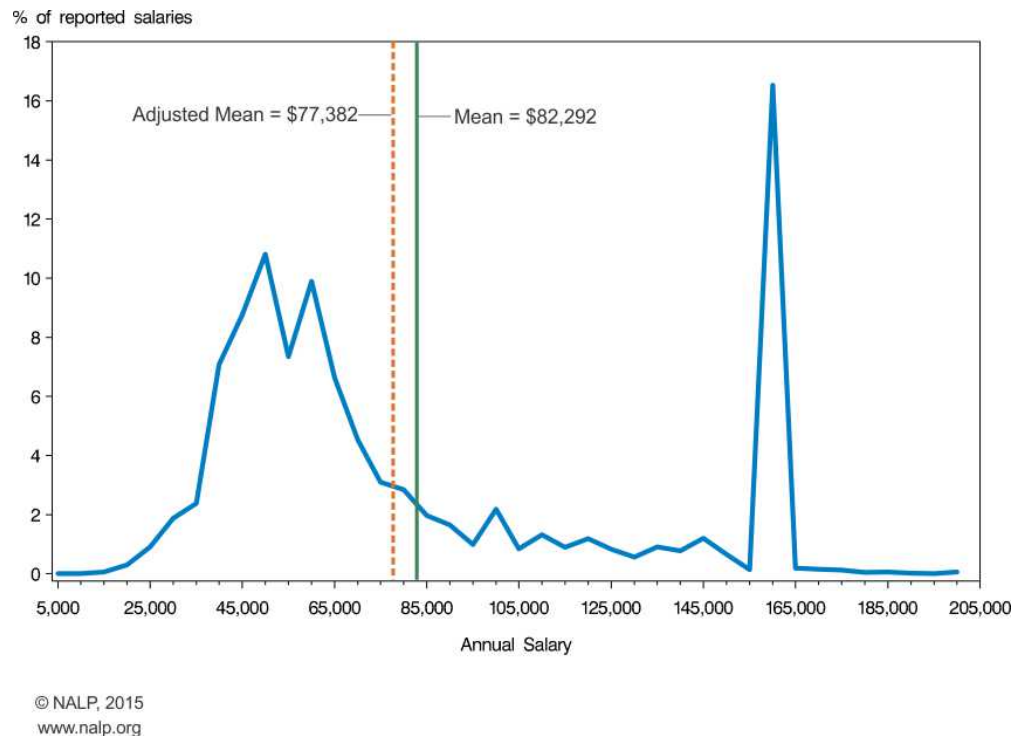


Figure 1.1: Distribution of First Year Lawyer Salaries

(Gilson and Mnookin, 1984). However, deviations from this ideal type, even among well-established firms, have become more common in recent decades. Large firms have begun to hire established attorneys from other firms (lateral hires) in increasing numbers (Henderson and Bierman, 2009). In addition, law firms have expanded their range of positions in the firm beyond associates and partners to include permanent non-equity positions for attorneys who do not win the prize of partnership but who still retain value to the firm (Galanter and Henderson, 2008; Gorman, 1999). Even with these developments, corporate firms at the top of the market generally adhere to the up-or-out promotion to partnership model.

To simply describe the functions, practices, and growth of the modern law firm, however, fails to fully explain these features. (It brings to mind Dylan Thomas's line about children's science books that would tell you everything there was to know about the wasp ... except *why*.) The next section reviews research on law firms from organizational scholars.

1.2 Theoretical Frameworks for Understanding Legal Organizations

Organizational scholars representing distinct research programs have used law firms as their object of study—either to explain the law firm and its development as an organizational form or to test organizational theories using law firms as a site for research. I now turn to these theories, each of which I explain in detail below. They are roughly grouped as economic (rational, exchange-based), environmental (resource dependence, organizational ecology), network (external and internal ties, intrafirm embeddedness), and institutional (organizational legitimacy, isomorphism, conceptions of control, rules of the field) theories of organizational behavior.

I group these theories in this manner, and in this order, for two reasons. First, they are arranged from most reliant on an assumption of actor rationality (in the classic rational utility-maximizing actor of the economic models) to least reliant (as with the taken-for-granted socialization model of institutional theory). Second, they are also ordered from methodologically individualist perspectives (that of the economic incentives of the individual actors that make up an organization) to social-level perspectives (that of the community of institutions, organizations, actors, and logics that make up an organizational field). Table 1 summarizes these groupings along these dimensions.

1.2.1 Economic Theories of the Law Firm

The traditional economic theory of the law firm, initially articulated by Karl Llewellyn, posits that firms are the product of a simple exchange relationship between older attorneys and newer attorneys (Llewellyn, 1934). Partners, who are generally older and more established, have more clients than time available to service them, whereas younger associates have time but have fewer clients to service. Thus, each party makes their contribution, with the associates giving their time (and surplus fees) to the partners in exchange for a salary and a future shot at partnership. Implicit in this theory are all the traditional assumptions about social behavior common to classical economics—utility-maximizing actors, shared perceptions of the social world, and rational informed decision making. Scholars have used this rational economic model of the law firm either to criticize the law factories it produced (Mills, 1951) or as a baseline model of firm behavior to further develop with added considerations and nuances (Galanter and Palay, 1994; Gilson and Mnookin, 1984; Ribstein, 2010).

One of the first major theories to emerge from the legal academy regarding the organization of the modern law firm was portfolio theory—the idea that firms add attorneys and practice areas to hedge against the loss of a client or an economic downturn in a particular sector (Gilson, 1984). In this model, the agglomeration of numerous specializations within

Table 1.1: Organizational Theories Of Law Firms

Theoretical framework	Actor rationality	Participants	Goals
Economic	Rational	Actors within firms	Efficiency
Environmental	Mostly rational, limited information during times of exogenous shock	Firms Clients Other firms Educational system	Survival, Innovation
Network	Shaped and bounded by relational commitments	Actors within firms Firms Clients Other firms Educational system	Exchange, Trust
Institutional	Reality as a social construction, culturally contested and shaped by normative commitments	Actors within firms Firms Clients Other firms Educational system Legal regulations Professional norms Other institutions	Legitimacy, Status

a single firm is a rational response to market uncertainty—a firm’s bankruptcy practice as something like insurance for a firm’s transactional attorneys. Gilson & Mnookin also explain the associate-partner structure of a firm as a rational response to uncertainties regarding human capital, arguing that the monitoring period prior to partnership serves as a way for partners to evaluate and incentivize attorneys, whereas the up-or-out system represents a credible commitment to associates that they will not be exploited indefinitely (Gilson and Mnookin, 1989). This theory has been recently expanded to explain why large law firms have advantages in maintaining their reputations (more repeated interactions) and prefer profit-sharing among partners (insurance against shirking) (Iacobucci, 2012).

By far the most prominent economic-oriented theory regarding the organization and growth of the large law firm was advanced by Marc Galanter, who posits that the firm’s management of human capital is the driving force behind its organizational form (Galanter and

Palay, 1994). In *Tournament of Lawyers*, Galanter and Palay argue that the promotion-to-partner tournament prevents associates who have accumulated human capital from gaming the system by shirking work, leaving the firm, or stealing clients. However, the tournament itself generates internal pressure to grow (Galanter and Palay, 1994, p.107):

So long as the number of promotions exceeds departures from the partnership, each promotion to partner will lead to net increases in both the number of partners and the number of associates at the firm. Because the promotion percentage is constant and the associate-to-partner ratio is constant or increasing, the firm's percentage growth rate will be constant (exponential) or increasing (faster than exponential).

Tournament theory remains a popular explanation for law firm behavior (Kordana, 1994; Rebitzer and Taylor, 2006), even as the promotion-to-partner tournament has been modified in ways such that it no longer fits the model – such as softening the up-or-out requirement for advancement and creating nonequity positions for senior attorneys (Galanter and Henderson, 2008; Gorman, 1999) – and even though empirical evidence supporting a logical mathematical function of firm growth remains largely nonexistent (Heinz, Nelson, and Laumann, 2001; Nelson, 1988; Wilkins and Gulati, 1998). Indeed, the mass layoffs of associates following the financial crisis suggest that firms view the tournament as something less than an imperative and do not necessarily consider young associates a critical resource (Burk and McGowan, 2011; Henderson and Bierman, 2009).

Ribstein's reputational bonding theory represents a more recent entry into economic theories of the firm, positing that the law firm performs a signaling function in the market for legal services (Ribstein, 2010), which in turn enables rational actors to avoid inefficient transaction costs (see also Akerlof, 1970; Spence, 1973). Ribstein argued that where the reputational benefits of the firm are greater for any given lawyer than their individual reputations, the lawyer will associate with the firm as a means of legitimating and vouching for their work. As a result, firms attract more lawyers, whose (presumably high-quality) work reinforces the firms' reputations and contributes to their long-term growth. Other scholars have lent support to this view, finding that many law firms function more as networks of cobranded cooperative teams than as integrated firms (Wilkins, Coates, DeStefano, and Nanda, 2011).

Although this chapter focuses primarily on sociolegal and organizational scholarship that has incorporated this rational economic framework into its analysis of firms, it should be noted that professional partnerships are a fertile object of study in the economic literature. One study of specialization in law firms concludes that, contrary to Gilson & Mnookin's portfolio theory, agents form partnerships because specialization requires sharing opportunities (Garicano and Santos, 2004). Another economic explanation for the organizational structure of law firms is that partnerships are necessarily forced to be more selective in hiring

because of their profit-sharing structure, and that selectivity serves as a signal of quality to potential purchasers of legal services who lack full information (Levin and Tadelis, 2005; but see Wilson, 2012 for a challenge to this view). While these works add needed nuance to the classical economic model, they share a common rationalist explanation whereby firm structures (in particular, the partnership arrangement) arise to address problematic market inefficiencies, and generally underplay broader environmental, social, or legal factors in firm development. (For example, Levin & Tadeles conclude from their model that law firms can use noncompete agreements to control human capital investments, when in fact such agreements are legally prohibited.)

1.2.2 The Firm As A Product Of Its Environment

Environmental perspectives on the law firm move beyond the analytic focus on individual firm dynamics to view legal organizations as members of a larger population of legal organizations. Consequently, scholars employing these perspectives to study law firms focus on (1) how these organizations respond to changes in their resource base and (2) how these organizations compete with the other organizations that share their environment.

The Resource Dependence of Law Firms

Resource dependence theory extends John Donne's no man is an island mantra to organizations, holding that organizational adaptation is often a product of exogenous changes to the resource bases that organizations rely upon (Pfeffer and Salancik, 2003). Law firms are certainly no exception to resource dependence, as they are financially dependent on the organizations that they service; that is, their success or failure depends not only on their immediate environment (their internal demography and their competitors) but also on the environmental conditions of the large corporations that they serve. Firms also rely on the supply of lawyers from elite schools, and in periods of high competition and relative scarcity of such elite graduates, law firms have adapted by changing their personnel structures (e.g., keeping permanent associates on in nonequity roles or hiring graduates from less prestigious law schools into staff attorney positions) (Sherer and Lee, 2002).

Sociolegal scholars who focus on the relationship between clients and lawyers—instead of on transactional models of the firm—have also embraced a version of resource dependence. Heinz et al. see the growth of the mega-firm as a transformation driven largely by growth and consolidation of corporate clients, who over time have grown bigger and are more likely to be financially oriented rather than industrial in nature (Heinz et al., 2005). Corporate law firms well placed during this economic shift had a substantial competitive advantage in capturing the resultant demand and grew, while the shrinking pool of clients led directly to

the failure of other firms (Heinz, 2009).

Likewise, changes in compensation within the firm are directly related to the increased demand for graduates of elite schools (a necessary resource for these firms, *à la* Sherer and Lee, 2002). Indeed, there is a fair amount of evidence for this narrative, especially in light of macroeconomic changes increasing the concentration of wealth and the rise of financialization (Krippner, 2005), which are consistent with demands for legal services from highest-status firms capable of handling complex financial transactions (Olson, 2014).

The Ecological View of the Law Firm

From an ecological perspective, the organizational behavior of firms depends not only on the status and control of the firm's resources but on the firm's efforts to adapt to the environmental conditions of the organizational field as a whole (Hannan and Freeman, 1989). Organizational ecology theorists apply biological concepts—birth, mortality, extinction, equilibria—to communities of organizations (Cook and Ormerod, 2003). In this view, law firms are not just free agents offering services to clients but must actively position themselves within their environment to survive. Thus, law firms that by virtue of their competitive environments are in a more feeble state and face a greater chance of mortality adapt by offering firm attorneys greater chances for advancement to partnership (Phillips, 2001). Similarly, when new law firms are founded by prominent members of well-established firms, the life chances of the parent firm decrease relative to other established firms, and the life chances of the new firm increase relative to other new firms (Phillips, 2002).

1.2.3 The Firm As A Network

Network theory, as posited by its adherents, offers a theory of action somewhere between the undersocialized atomistic utility-maximizers found in much economic theory and the oversocialized dupes merely following cultural scripts found in much sociological theory (Granovetter, 1985). Instead, concrete relations (connections or ties) between actors form social structures that allow for diffusion of information and norms, facilitate trust and exchange, and shape individual perceptions. Network analysis has been criticized for not offering much in the way of explanation for how networks form and for not specifying the causal mechanisms by which these ties affect organizational behavior (Salancik, 1995). Yet, the network perspective has been helpful in revealing both the internal structure of the profession and the internal structure of law firms themselves.

Networks of Lawyers

Early network analysis was used to study the legal profession in Chicago and revealed the social and professional connections that comprise the different hemispheres of the bar (Heinz and Laumann, 1982; Heinz, Laumann, Nelson, and Schnorr, 1997). According to these groundbreaking studies, the bar was composed of two main practice settings: individual and small business clients (which tended to be poorer) and corporate clients (which were represented by large law firms). Further, the identity of a lawyer's client base was the primary determinant of the lawyer's social and professional network. By positing the profession as a network, Heinz and his coauthors were able to provide support for the proposition that a law firm's main resource and largest influence were the corporate clients that they served.

Lazega, informed in part by resource dependence theory, used the mapping of firm networks to show the interdependence of firm lawyers (even though these lawyers were often competing for status with each other) and traced how those partners who could leverage their status in favor of policy changes contributed to the cohesion of the firm, even within law firms too large for any one person to effectively manage (Lazega, 2001). Briscoe & Tsai's network analysis of a law firm after an acquisition reveals that organizational change can lead to new client-sharing networks between central actors in the acquired and acquiring firm – but at the cost of disrupting existing networks in the acquired firm (Briscoe and Tsai, 2011). A network study of the Nashville legal industry found long-lasting advantages to law firms that maximized ties between themselves and other firms, hypothesizing that they were channels for the diffusion of new information and new practices among lawyers (McEvily, Jaffee, and Tortoriello, 2012).

An individual lawyer's network ties are important as well, as the presence of a high-status lawyer within an individual lawyer's network increases the social capital of that lawyer (Kim, 2009), a finding that may explain the draw of joining a high-status law firm as a junior attorney even when the expected development of human capital at such firms is low. Finally, Burk & McGowan offer a theory of law firm structure and growth as functions of a firm's internal referral network that allows attorneys to share information, refer clients, and pool skills among the lawyers in the firm (Burk and McGowan, 2011). As the internal referral network grows, it provides increasing benefits to the firm consistent with Granovetter's thesis that economic performance can increase with an integrated network improving information and trust (Granovetter, 1985).

The Client Network

Network theorists also have moved outside the law firm to examine the structural embeddedness of organizations in client networks, specifically exploring how ties with clients foster trust between market participants and facilitate ongoing relationships (Uzzi, 1996,

extending Granovetter, 1985). With regard to the legal market, strong ties between firms and clients allow for greater control and less uncertainty in setting prices for legal services (Uzzi and Lancaster, 2004). Firms that forge strong firm-wide ties with clients are likely to maintain stable relationships over the long run, compared with firms whose client ties reside at the level of the individual lawyer or department, even with increases in individual lawyer mobility (Wilkins et al., 2011).

1.2.4 The New Institutional Perspective on the Firm

The new institutional perspective deviates from each of the preceding theories, even as it often borrows from all three. In contrast with the economic theorists, who are preoccupied with the technical environment of the law firm (and assume rational actors seeking efficiency within that environment), new institutional theorists instead examine the institutional environment of the law firm (and posit actors seeking legitimacy and support within conceptions of appropriate action provided by the environment) (Scott, 1987). And in contrast to the resource dependence or adaptive perspective—whereby rational firms constantly change to adapt to changing environments—the new institutionalism concentrates on how fields become structured and create homogeneity among organizational forms (perhaps even when organizations should be adapting to environmental changes) (DiMaggio and Powell, 1983). Finally, the new institutionalism is more concerned with the rules of the game and the relations within and across fields than with the network structure of the field itself—even though institutionalists generally acknowledge that networks are an important component of understanding how fields form and reproduce themselves.

The Myth and Ceremony of Law Firms

As we have seen, many legal scholars ironically view the law firm much as earlier organization scholars perceived the corporation: as a scientific-rational organization driven by efficiency concerns, with brief forays into inefficiency or instability caused by human frailty or irrationality. The new institutionalism compels scholars to step back from rational assumptions and accept that law firm decision making encompasses multiple motivations and meanings. From the new institutional perspective, the professional status of these organizations necessarily prevents firms from pursuing claims to legitimacy through technological rationales (professions rely on unique and quasi-mystical claims to complex knowledge, and efficiency narratives undercut those claims) or through adoption of new management techniques (as the rules of the profession limit the role of management to maintain exclusivity of practice and control over practitioners).

Instead, professional firms must shape their responses to their environment by complying with preexisting institutionalized professional norms (Leicht and Fennell, 1997). Thus,

firms maintain cultural conceptions of status through symbolic acts—the hiring of only graduates of elite institutions, the tournament to achieve partnership, profit-sharing among colleagues—that are decoupled from whatever rational origins they might have had (rational myths), and are used because they carry legitimacy within the field (as signifiers of selectiveness and exclusivity) (Meyer and Brown, 1977). This system of hiring elite graduates and putting them in a tournament to partnership thus becomes institutionalized despite no particular evidence that it is superior to any other form of lawyer hiring and promotion, and it in turn shapes the perceptions of lawyers within these firms (Wallace and Kay, 2009). From an institutional perspective, therefore, elite legal graduates are not necessarily a resource upon which the firm depends, contrary to the assumptions of Galanter & Palay (1994) and Sherer & Lee (2002). Indeed, it is not clear why the firm would collapse upon admitting a different batch of untrained lawyers, or even upon hiring no new legal graduates whatsoever and simply picking off the losers of the other firms' tournaments. Instead, the tournament system is a sign of legitimacy used to maintain the resource upon which these firms truly rely (the firm's clients). And once a law firm has established a taken-for-granted status the firm must be careful to adhere to norms regarding membership in the high-status community and loyalty to their clients in order to maintain its legitimacy (Phillips, Turco, and Zuckerman, 2013).

Indeed, a key component of neo-institutional theory is that the broader field in which an organization is situated - including the other institutions that interact with the organization, and the regulatory environment - profoundly affects (and constrain) the forms and practices that the organization adopts (DiMaggio and Powell, 1983; Zucker, 1987; Granovetter, 2005; Fligstein and McAdam, 2012). The field in which law firms sit is unique in that firms are regulated in such a manner so as to maximize their professional status, yet law firms are competitors in a fierce market and remain almost wholly dependent on the largest private corporations as clients.

Conceptions of Control and Law Firm Culture

Another facet of institutional theory is that normative beliefs about the practices, goals, and power structures of organizations – conceptions of control – are subject to change, and therefore become sites for competition during periods when fields are unsettled (Fligstein, 1990). Although changes in these conceptions, or archetypes, can be initiated by external shocks – a nod to resource dependence and ecological theories – the ultimate resolution of these power struggles depends on how the actors in the field interpret and respond to them; thus, different professional organizations can respond differently to the same changes in their environment (Malhotra, Morris, and Hinings, 2006; Pinnington and Morris, 2003). Within law firms, these shared understandings about how things are done and who has power are generally referred to as a firm's culture (Tolbert, 1988; Wallace, 1995), and these conceptions are subject to both path dependence – the sedimentation effect whereby new

conceptions build on old conceptions rather than displace them (Cooper, Hinings, Greenwood, and Brown, 1996; Empson, Cleaver, and Allen, 2013) – and contestation by insurgents within and actors external to the firm (Chambliss, 2010).

For law firms, such contestation has been framed as a culture clash between professional norms committed to the traditional partnership form with its diffuse loci of power and managerial logics that use the insurgent managed professional form, typified by the centralization of managerial authority (Greenwood and Suddaby, 2006; Muzio and Kirkpatrick, 2011). From some perspectives, this culture conflict represents an existential threat to the law firm as managerial logics threaten to undermine professional norms and firm loyalty, perhaps even threatening the structure and status of the profession itself (Empson et al., 2013; Greenwood and Lachman, 1996).

Recent research suggests, however, that professional norms are resilient even in the largest law firms, and much more resilient in law firms than in other professional contexts, such as accounting (Ackroyd and Muzio, 2007; Pinnington and Morris, 2003). Core professional norms, such as collegial decisions on the promotion of partners and control over professional work, manage to survive even in the largest firms, whereas norms less central to professional identity, such as the equal distribution of firm profits and increases in partner-associate leverage ratios, are abandoned in favor of market logic (Faulconbridge and Muzio, 2008; Sherer, 1995; Tolbert and Stern, 1991). Indeed, a major critique of this archetype theory of managerial change is that it presents the change to professional management as an evolutionary process rather than a conception of control subject to contestation (Faulconbridge and Muzio, 2008; Fligstein and McAdam, 2012).

Institutional Isomorphism among Law Firms

According to neo-institutional theories, organizations can come to take the same form for reasons either competitive (i.e., economic) or institutional (i.e., social) (DiMaggio and Powell, 1983). DiMaggio & Powell identify three distinct kinds of institutional isomorphism: coercive, normative, and mimetic. Coercive isomorphism results from imposition of common regulations on an organizational field, and I discuss this phenomenon in the next section on the legal environment of law firms. Normative isomorphism, by contrast, is the result of the dissemination of organizational structures and practices through professionals in organizations. However, because law firms are by definition composed exclusively of professionals, it is not at all clear how normative isomorphism would influence legal organizations. Indeed, the primary mechanism by which normative isomorphism operates – individuals within organizations leveraging their professional status to shape organizational behavior/structure – would be impossible in an organization where everyone possesses the same professional status.

Mimetic isomorphism offers both a clearer explanation for the observed organizational homogeneity in the legal field and a way to account for the effect of power disparities within the profession. According to this theory, during periods of uncertainty organizations look to their most respected peers and – consciously or unconsciously – adopt their forms, practices, or goals as a means of trying to maintain legitimacy in their field (Haveman, 1993a). Mimetic isomorphism thus provides a powerful explanation for why law firms have coalesced around certain practices shared by market-leading law firms (e.g., the Cravath partnership structure, lock-step compensation systems, or choice of schools to hire from).

Another potential source of mimetic change for law firms comes from the firms' interactions with their clients (who are often themselves professional organizations, such as investment banks or hospitals). Caplan's study of the law firm of Skadden, Arps, Slate, Meagher & Flom LLP details how Skadden's organizational focus changed along with the focus of its clients – for example, opening overseas branches as the merger-and-acquisition work that formed the firm's corporate practice increasingly serviced foreign or multinational companies (Caplan, 1994). This isomorphism also involved a corporeal dimension as the firm opened new offices to physically resemble the multinational structure of the client. At the same time, Skadden partners invoked the specter of competitor firms opening overseas offices to justify their own expansion (Caplan, 1994). The sources of mimetic isomorphism can also carry a temporal dimension: the first major wave of overseas law firm expansion occurred at the behest of clients, whereas the second wave unfolded as a costly scramble to maintain legitimacy in the face of peer law firm international expansion (Spar, 1997).

The Legal Environment of Legal Organizations

A final insight of new institutional theory resides in the primacy of the organizational field, especially regulatory structures, for understanding organizational operations (Powell and DiMaggio, 1991). Regulations on actors in an organizational field (imposed by either the state or other institutions within the field itself) are critical in determining the structure of the organizational field and, by extension, the actions available to the organizations (Zucker, 1987). The organizational field of the modern law firm is no different and features several unique regulatory characteristics that have shaped the development of the firm.

First, law firms, unlike many other organizations, are specifically forbidden from placing restrictions on members leaving the organization and cannot use contracts to ameliorate losses from employees leaving to join a rival firm or to start up their own practice (Ribstein, 1998). The ethical codes of legal practice bar non-compete and non-solicitation agreements between firms and attorneys – under the theory that such agreements infringe on a client's right to select the representation of their choice – and courts have consistently enforced this principle against any contract seen to inhibit the free movement of lawyers from and between firms (Stroud, 2001). The popularity of the up-or-out model of the Cravath system can be

seen as a response to the threat of client theft (Rebitzer and Taylor, 2006). The effects of this prohibition are discussed in further detail in Chapter 4.

Second, legal ethics regulations prohibit ownership of law firms by nonlawyers and therefore neither investors nor managers can be given an equity stake in a law firm (Robinson, 2016; Nelson, 1988). In practice, this means that lawyers determine the organizational form of their firms (with the most powerful lawyers in the firm having the greatest say), and likewise lawyers dominate the formal managerial positions within a law firm (save the specialized positions over which other professions have made successful jurisdictional claims, like accounting or human resources), tying managerial power to the lawyers' power within the firm.

Finally, conflict of interest rules prohibit law firms from taking clients whose interests might be opposed absent an onerous process involving both client waiver and firm restructuring. Unlike accounting, where firms are not prohibited from doing business for and even advising competitors (and as a result, the field is dominated by relatively few enormous firms), there is a limit to the amount of business law firms can take, and consequently there are limits to law firm consolidation by merger (Fischel, 2000). Thus, maintaining ties with existing clients is even more critical because the firm cannot diversify its client base. Although it is generally true that organizations do not respond perfectly to formal legal dictates, instead operating in areas of contestation and ambiguity regarding the law (Suchman and Edelman, 1996), by virtue of their expertise and position, purely legal organizations are uniquely aware of their regulatory environment (if not always compliant).

From this perspective, the regulatory regime of the law firm casts doubt on accepted ecological theories of organizational inertia, including Stinchcombe's famous observation that newness was a liability for organizations (Bruderl and Schussler, 1990; Stinchcombe, 1965). Although this conclusion may be generally true for industrial organizations with real property and other capital assets (or even high-tech businesses that can erect barriers around their intellectual property and human capital), in the world of the law firm, there are no legal/structural impediments to remaking the firm entirely, changing its personnel or mission, and thereby inviting the risk of failure. Indeed, the relatively high recent mortality rate for law firms appears to be equally spread among young upstarts and century-old white-shoe firms (Henderson and Bierman, 2009).

In addition, these considerations of the legal environment carry implications for theories of organizational isomorphism. The rules regarding free movement of lawyers, combined with the eat-what-you-kill structure of the profession, mean that firms can choose to grow via lateral hiring/firm merger without a large up-front expenditure of resources (provided they can avoid conflicts of interest). Firm growth, then, is a potential form of legitimacy-seeking behavior and not necessarily a consequence of success/survival in a competitive environment (Heinz et al., 2005).

1.3 Organizational Theory Is Only The Beginning Of The Story

While the institutionalist perspective is flexible enough to accommodate organizational pressures generated by professional regulation, a deeper understanding is required, however. In Chapter 2, I examine how sociological theories of the legal profession and organizational theories of the firm combine with – or contradict – one another in analyses of the law firm. I explore both the areas where the professional project guides organizational behavior, and the areas where organizational priorities shape professional norms, and suggest research questions raised by the intersection of the two perspectives. These questions then form the basis for the empirical analysis of law firm networks, law firm dynamics, and law firm growth and survival that follow.

Chapter 2

The Law Firm On The Boundary

In this chapter I review the prominent theories of the professions, show how those theories connect to different organizational perspectives and inform their models of law firm behavior, and suggest ways that each approach can benefit from a deeper interaction. I then review the interplay between professional theories of lawyer behavior and organizational theories of firm structures, and identify areas of tension. I argue that the study of the law firm as a professional organization necessarily requires an exploration of the interaction between the professional project and the construction of both the legal organization and the legal organizational field.

2.1 Theories of the Professions

There are four major theories of the role of professions in modern life. In brief, the functionalist perspective simply holds that professional norms and structures ensure quality and efficiency among practitioners of essential services, which includes lawyers (Parsons, 1954). The monopolist perspective on the legal profession (associated with Max Weber's theory of "social closure") sees the professional project as collective action to control the production and producers of law through specialized education, licensing requirements, and professional membership (Weber, 1978; Abel, 1986). The power-oriented perspective sees professions as the result of organized sectors of society applying their political and economic power to shelter their positions from market forces and thereby reinforce their advantage (Larson, 1977). Finally, institutional perspectives see the development of the profession as constitutive project not just defending jurisdictional boundaries from interlopers, but defining their knowledge base (Abbott, 1988), establishing criteria for legitimacy (Suchman and Edelman, 1996) and shaping its environment (Halliday, 1987).

While there is no consensus definition of a profession among scholars, the various theories of professions share a few general traits. An occupation is considered to be professional when (1) the practice is recognized by society as "essential, exclusive and/or complex" and

(2) as a result, practitioners are granted a certain kind of autonomy – autonomy from clients, from outside regulation, from market forces, etc. (Forsyth and Danisiewicz, 1985; Tolbert and Stern, 1991). The practice of law is considered one of the classic professions – almost an ideal type – and as such lawyers identify these traits (specialized knowledge and occupational autonomy) as core to their professional status (Abbott, 1988; Wallace, 1995; Sandefur, 2001). As valuable as the theories of the profession are, they generally consider professionals either as an individual (socialized to internalize the norms and values of the profession) or as a group (mobilizing to protect their position/claim jurisdiction/etc.); they do not analyze the professional as a member of a professional organization, nor consider the professional firm as a distinct form of organization. What is missing is a middle-range theory of professions that bring organizations and networks to bear on professional dynamics.

2.2 The Legal Profession According To Organizational Theory

Aside from the literature on the contested managerial versus professional conceptions of control within law firms, much of the organizational theory work on law firms ignores or downplays the influence of the professional project. Although it is certainly not the case that organizational theory has nothing to say about professionals – after all, a professional organization like a law firm shares many characteristics with other organizations, particularly information-oriented organizations – it is important to examine how theories of the legal profession might inform and interact with the organizational theories of the large law firm.

Table 2 summarizes how these organizational theories interact with existing theories of the profession to arrive at explanations for the law firm as an organizational form. In the following section, I first give a brief explanation of each of the theories of the professions and then show how different organizational perspectives borrow from and incorporate different theories of the professions.

Rational-economic theories of the law firm view organizational structure as arising out of a need to ensure (or signal) lawyer quality, which accords with either the functionalist or monopolistic perspective of the legal profession. The favorable view of the profession posits that corporate lawyers (and, by extension, their law firms) are “transaction cost engineers,” providing services that create efficiencies by providing intangible knowledge-based services for their corporate clients (Gilson, 1984; Hitt, Bierman, Shimizu, and Kochhar, 2001). Just as education and licensing procedures in the functionalist view keep unqualified lawyers out of the profession, the hiring and promotional structure of a law firm exists to weed out lawyers who do not possess the human capital necessary to adequately provide

Table 2.1: Organizations and Professions

Organizational theory	Theory of legal profession	Reason for law firm
Economic	Functional/monopolistic	Efficiency gains
Environmental	Social closure	Control competition
Network	Collegial	Enable exchange, trust
Institutional	Contestation and control	Establish legitimacy

these services to corporate clients (Galanter and Palay, 1994; Gilson and Mnookin, 1989). However, many economic-oriented appraisals of the profession as a whole – and not just of the law firm as an organizational form – are far more critical of the monopoly on the provision of legal services by lawyers (see, e.g., Hadfield, 2008, citing economists, legal ethicists, and others challenging self-regulation of the legal profession). Law firms still function as rational efficiency-maximizers in this view (and these critics concede that lawyers play a utility-maximizing role for their clients), but they do so within a market that is artificially constrained by ethical rules.

Resource dependence and ecological theories tend to side with the critics of functionalism and see the professional project as a method of achieving monopoly over a given market – creating a closed ecosystem in which lawyers and law firms can dominate as long as they can exclude competitors, such as accounting firms, banks, and consultants (Heinz et al., 2005). The rise of the large law firm creates challenges for this monopoly by widening the gap between the corporate-client and individual-client “hemispheres” of lawyers, a division that constrains collective action around a united professional project (Seron, 2007).

Network theory, by contrast, does not contain theoretical assumptions about professional projects, instead testing the assumed traits of the professional. Emmanuel Lazega and colleagues (Lazega, 2001; Lazega and Van Duijn, 1997) demonstrate, through a combination of detailed network analysis and qualitative interviews, how consultation, negotiation, exchange, and trust—the dynamics of collegiality among legal professionals—predominate in law firms. However, scholars have challenged traditional conceptions of practitioner autonomy from clients by demonstrating relational commitments to network of corporate clients (Rosen, 2010).

Not surprisingly, institutional theory takes the professional project as an attempt to not just control a particular market but shape an organizational field through, as Scott puts it, “the ability to create and apply a set of cultural-cognitive and normative constructions that provide guidance in confronting numerous types of uncertainty spills over into the regulative arena” (Scott, 2005 at p.130). Unlike the functionalists or even the social closure/monopoly

adherents, the new institutionalism sees the professional organization as both responding to and shaping its environment.

Whereas Smigel early on identified professional values as being inculcated in lawyers through training and socialization into the profession (and therefore both widely shared and external to the firms), neo-institutional scholars argue that elites construct professional values within the field to rationalize existing structures, which in turn take shape amid power struggles within and between firms (Fligstein, 1987). Thus, in law firms, even as professional values compete with managerial values for legitimacy and control, professional values themselves are contested (Nelson, 1988; Nelson and Nielsen, 2000). To take an example, the move from general practitioners to specialists within firms represents a break from the professional norms of the past and toward a more bureaucratic and rationalized conception of practice, and is now typical in modern large firm practice (Leahey and Hunter, 2012; Moorhead, 2010). Similarly, large law firms contributed to the erosion of professional rules regarding local practice as more of their legal matters involved multistate and multinational clients (Muzio and Kirkpatrick, 2011). Thus, just as professionals shape other institutional fields through their normative influence (DiMaggio and Powell, 1983), they can likewise shape their own. According to this view, the professional project shapes the rules of the field, the rules of the field shape the professional organizations, and the professional organizations in turn shape the professional project in the ongoing process of structuring the organizational field.

2.3 Bringing The “Profession” Into The Study Of Professional Organizations

This dissertation seeks to advance the project of analyzing professional organizations as shaped by both the demands of the profession and the realities of organizational life. Integrating both perspectives can only deepen our understanding of these organizations – for example, professional regulations might explain unorthodox organizational behavior, or organizational demands might explain the loosening of professional norms.

Management scholars are starting to focus on the professional service firm as a distinct area of study (Von Nordenflycht, 2010). Following Abbott, these scholars view the profession as a process – “a negotiated settlement which emerges from the interactions between different actors pursuing their own institutionalization projects” (Muzio, Brock, and Sudaby, 2013) – that necessarily includes professional organizations (Abbott, 1988). This line of research examines the ways professional organizations influence how professions at the field level acquire resources, create boundaries, and redefine professional rules and values, and how professional norms shape organizations themselves (Liu, 2013; Faulconbridge and

Muzio, 2012; Muzio and Kirkpatrick, 2011). This subfield also received a boost with the launch in 2014 of the *Journal of Professions and Organization*, a new specialty journal specifically devoted to professional service firm scholarship (Brock, Leblebici, and Muzio, 2014). The increasing visibility of this work presents an opportunity to apply new theoretical tools to the study of the law firm and to examine the firm from a multidisciplinary perspective.

Legal scholars have also employed this kind of multidisciplinary professional organizational research in their study of public interest legal organization. Specifically, scholars have shown that as pro bono work has become more prevalent in large law firms, the organizational form of the large law firm has spread throughout the broader field of legal organizations. By creating network connections with public interest organizations – either by farming out firm associates to provide services or by directly funding the organizations themselves – prestigious law firms are influencing non-profit legal services organizations (Caplan, 1994; Chen and Cummings, 2012). At the same time, public interest law organizations have grown in size and adopted more rationalized management structures similar to law firms (Nielsen and Albiston, 2005). This suggests that law firm organizational structures are diffusing within and across the legal field by virtue of lawyer career paths.

Moreover, failing to integrate these multiple perspectives can lead to trouble. In an otherwise valuable examination of the expanding role of in-house corporate counsel, Chambliss embraced archetype theory and argued that the managerialization of law firms was inevitable (Chambliss, 2010). Chambliss used the example of Bingham McCutchen LLP as a firm that has embraced managerial logic and reaped the rewards. However, five years after her article appeared, Bingham imploded, the victim of a revolt by the firm’s partners against “overly centralized, opaque” firm management (Triedman, 2015). Bingham’s failure – which showed that violating professional norms has real consequences, that the rules of the field influence organizational power, and that contestation for control is an ongoing process – suggests that a broader institutional perspective is needed.

2.4 Theoretical Questions Raised By The Law Firm

In the following chapters, this dissertation will apply insights from organizational theory – specifically: ecological, institutional, and network theories – to examine the structure and behavior of the law firm. Understanding these hybrid organizations and the behavior of both the firm and the lawyers that comprise the firm will clarify and extend existing theories of both organizations and professions.

Law firms – organizations situated in a competitive environment, reliant on interpersonal and inter-organizational ties, and infused with institutional logics and subject to regulatory directives – are an ideal site for testing a blend of organizational theories. In particular,

studying these firms can shed light on questions regarding the importance of brokerage among lawyers, the significance of specialized knowledge to the profession, the collegiality of professional firms, the role of homophily and social capital in forming working ties, and the effect of organizational growth on internal cohesion.

2.4.1 Brokerage and Client Relationships

From an organizational perspective, studies have found that benefits accrue to brokers – those who are in positions that connect otherwise disparate actors within a network (Burt, 1995; DiMaggio, 1992; Reagans and McEvily, 2003; Pollock, Porac, and Wade, 2004; Obstfeld, 2005). Brokers can control the flow of resources between actors in the network, and benefit from being exposed to ideas and information from all parts of the organizational structure. Theorists argue that this positional advantage allows actors in these positions to gain more money, power, and prestige compared to more peripheral actors in the organization (Burt, 2005). The implication for attorneys in a law firm – a knowledge-intensive organization – is that actors in brokerage positions in the firm will gain a greater share of the rewards than those in more peripheral positions.

However, within a professional organization (where client relationships are potentially more important than bridging actors within the organization), a brokerage position may hinder the development of the strong ties necessary for power within the firm, as a lawyer who works for multiple teams and multiple clients likely cannot forge the ties to control any one client’s business. Indeed, recruiting clients, claiming credit on legal matters, and fending off rivals within the firm are strongly associated with the share of the firm’s profits that attorneys reap (Regan, 2004). As such, it is possible that unlike in traditional organizations, network centrality will not be associated with power within a professional organization.

2.4.2 Specialized Knowledge

From a professions perspective, the knowledge base of a profession – the “esoteric” or “mystical” nature of its work – is the source of a profession’s power against other professions that might seek to invade its jurisdiction – but it is not necessarily a source of power within the profession. Generalists who directly advise clients have far less esoteric knowledge than specialists, but studies have shown that generalists tend to bring in clients and are thus more powerful within the firms (Nelson, 1988). Examining the effect of specialization on network ties will shed light on whether esoteric knowledge is associated with power within the firm (and, by extension, within the profession).

2.4.3 Collegial Profession, Collegial Organization?

Building on Granovetter's thesis that economic performance can increase with an integrated network improving information and trust (Granovetter, 2005), Burk and McGowan theorize that a law firm provides its lawyers with a valuable "internal referral network" (Burk and McGowan, 2011). They argue that large law firms benefit from a large internal network through which attorneys can share information, refer clients, and pool skills among the lawyers in the firm – and that this network grows and provides greater benefits as the firm expands (providing a plausible explanation for the high rates of growth observed among large law firms). Similarly, Lazega used a combination of network analysis and interviews to show how a dense network of interaction – involving consultation, negotiation, exchange and trust – predominates among smaller firms (Lazega and Van Duijn, 1997; Lazega, 2001). Lazega attributes this culture of exchange to the norms of collegiality generated by the profession's rejection of market-based hierarchy in favor of social closure.

Other studies of the profession, however, have found firms acting as atomistic exchange platforms for lawyers (Gilson and Mnookin, 1989), disconnected fiefdoms of entrenched lawyers (Liu, 2013), or sites for reputational bonding and exploitation (Ribstein, 2010). Examining the network as it is constituted and re-constituted over time, and how power within the firm relates to network position, can shine light on whether a law firm is indeed a cohesive whole.

2.4.4 Homophily, Social Capital, and Networks During Crisis

This project also touches on the ways that networks change in periods of uncertainty. Generally, there is a tendency towards relational inertia in networks – that is, even when exposed to new potential network partners, actors will generally continue with the ties that they have already developed (Kim, Oh, and Swaminathan, 2006; Burt, 2000). However, during periods of change for organizations – particularly change that is unexpected or difficult to interpret – this tendency can be reversed.

Research has found that periods of stress and uncertainty can influence actors to seek contacts outside their existing networks, as these new contacts can offer novel plans for action and new pathways for information (Saint-Charles and Mongeau, 2009). For example, network analysis of a law firm after an acquisition reveals that organizational change can lead to new client sharing networks between central actors in the acquired and acquiring firm – but at the cost of disrupting existing networks in the acquired firm (Briscoe and Tsai, 2011).

However, on the other hand, environmental uncertainty can prevent the formation of new ties, as people seek interaction with familiar and trustworthy colleagues (Krackhardt, 1990; Maurer and Ebers, 2006). This line of research also suggests that the tendency toward homophily may increase during a period of stress, as actors retreat to the socially familiar

(McPherson, Smith-Lovin, and Cook, 2001).

Researchers have found that network ties tend to form between actors that share like characteristics (McPherson et al., 2001; Dahlander and McFarland, 2013). Within firms, network ties are the avenues through which firm- and client-specific knowledge and opportunities flow (Burt, 1995). Moreover, development and advancement in the legal profession relies heavily on reputation-building and attorney mentoring, both of which are more easily facilitated through network ties (Kim, 2009; Wilkins and Gulati, 1998). Thus, a tendency towards homophily threatens to decrease the ability of underrepresented or marginalized groups to access these important resources and can reproduce discrimination.

2.4.5 Lateral Hiring and Firm Cohesion

In addition, law firms provide opportunities for research into the interaction between the institutional, network, and environmental approaches to organizational theory. In particular, studying potential mimetic isomorphic development of law firms is relevant for examining how the institutional theories apply to professional firms but also for network and ecological theories of the firm. The changing formal structures of law firms – including size, internal mobility, specialization, and non-partner positions – may directly affect both intra- and inter-firm practitioner and practitioner-client networks.

For instance, the embedded ties so critical to maintaining business relationships are much likely to be stronger in an organization where clients have relationships with the firm itself instead of individual lawyers. However, if a firm chooses to grow via lateral hiring – believing that raw size is an indicator of legitimacy and mimicking market leaders – it will likely solicit lawyers with preexisting ties to clients, as lawyers who can bring business are the least costly and least risky option. Lateral hires will be less likely to share their clients with the other lawyers in the firm, making the firm as a whole more susceptible to the loss of clients and more likely to fail. Thus, institutional beliefs can affect network structures, which can in turn affect survival chances.

2.5 Networks, Actors, and Fields

The following chapters grapple with these questions by applying organizational theories to test hypotheses regarding both an individual law firm and the lawyers who comprise it, and the field of large corporate law firms as a whole. Chapter 3 models the internal network of a representative large law firm, and examines the factors that shape the network and change the internal structure of the firm over time. Chapter 4 builds out the incentive structures for individual lawyers in the firm, and analyzes the effect of the professional regulatory

regime on the internal dynamics of these organizations. Chapter 5 extends this analysis to the broader population of corporate law firms, and examines the relationship between firm growth (either through traditional internal hiring and promotion or through firm mergers and lateral acquisitions) and firm stability. In doing so, this project builds the theory that generating and maintaining a cohesive firm network is critical to firm survival.

Chapter 3

Networking Among The Human Capitalists: The Internal Network of a Large Corporate Law Firm

In this chapter, I examine the internal network of a large law firm, determine how the internal dynamic of this firm changed during a period of crisis, and identify the factors driving these changes. Specifically, I investigate which factors – actor attributes, homophily, network position, or a combination of these – lead to tie formation between lawyers within a typical large law firm, and examine how the internal working network of lawyers changed as a result of the financial crisis of 2008-09. I chose the financial crisis as a break-point because it was an exogenous event that created a period of relative instability and deprivation in which actors needed to draw on various forms of capital to survive. I approach this question by performing a quantitative network analysis of the lawyers within the firm, both before and after the crisis, and analyze the firms network structure at the level of the firms member attorneys and at the level of the firm itself.

3.1 The Organizational Network

Networks are composed of actors and ties. The “actors” for a law firm network are the lawyers who are members of the firm. A “tie” between two actors in this network is established when two lawyers have worked on the same project together. The advantage to using a network approach to study a traditional organization is that networks reveal relationships and patterns of behavior that are often hidden in formal organization structure; this advantage is even more pronounced in the context of a professional firm, where formal structure is largely rejected in favor of a collegial partnership with few explicit hierarchical positions (Nelson, 1988; Wilkins et al., 2011).

Working ties are, of course, only one kind of tie between actors in the network. Like in other organizations, lawyers form many kinds of bonds with other lawyers in the firm, and find mentors, friends and even romantic partners within the organization. The value of examining working ties specifically lies in the firm resources that are shared through such collaboration: billable hours, opportunities for skill development, client contact, and intra-firm reputation building. While social ties may facilitate the exchange of non-public information (for example), these working ties provide resources critical for professional status and organizational advancement. For the purposes of this study, then, understanding collaborative ties and the mechanisms that them generate are necessary to understand firm lawyers in their professional and organizational contexts.

Using a large corporate law firm as a case study, I examine what factors influence the generation of this internal network, and then further determine how this network is affected by an external shock in the form the 2008-09 financial crisis. In doing so, I confront questions about power within professional organizations, stratification within the legal profession, and how professional norms interact with organizational goals to influence behavior within the firm.

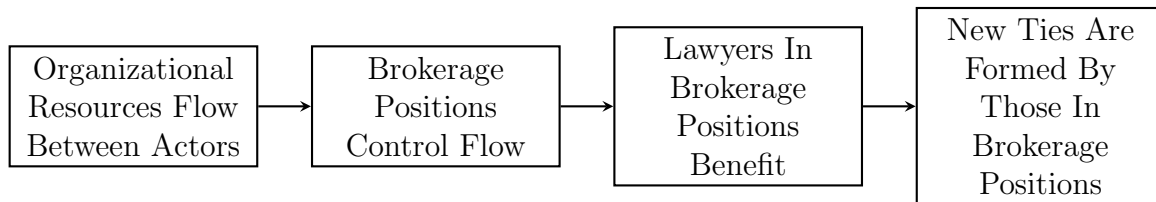
The primary dependent variable for this analysis is whether a working tie exists between any two actors in the network. Using this dichotomous variable representing the existence or lack of a tie between attorneys, I will then examine which factors are most relevant for the formation of these ties – and how the influence of these factors change under periods of organizational stress. Do generalists or specialists see more opportunities for ties during a period of instability? Do “birds of a feather flock together” (McPherson et al., 2001) – that is, actors who share a race, gender, office, or area of specialization – more or less in times of crisis? Does the density of a network shrink during a time of crisis (as actors entrench themselves around actors and clients with whom they have pre-existing relationships) or does it grow (as actors seek out new connections and opportunities)?

3.2 Testing The Law Firm Network

3.2.1 Brokerage and Power

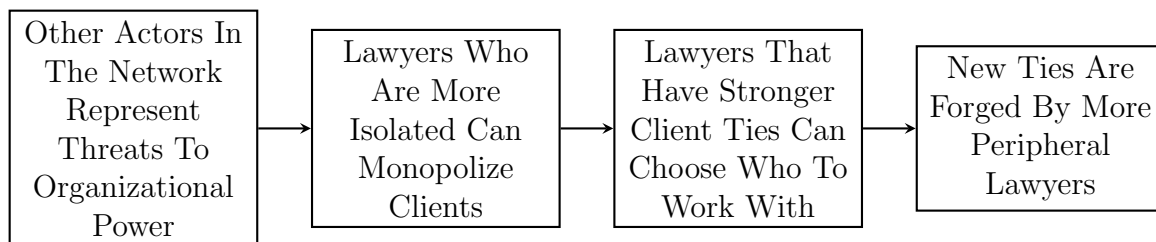
If the network effects of brokerage and exchange provide tangible benefits to those actors in positions that connect otherwise unconnected actors, then we should expect to see a positive effect of brokerage positions on generating new ties in the post-crisis period, as better-connected actors will use their position to marshal social capital and find business in conditions of scarcity (Lin, 2002). Using network centrality as a measure of brokerage, the first hypothesis is thus:

Hypothesis 1a *Brokerage is Positively Associated with the Creation of New Ties*



However, it is also possible that the environmental conditions of the law firm make bridging ties a problem for lawyers. Within a firm, a lawyer who works with multiple lawyers has the potential to act as a broker in the work network. However, a lawyer’s clients are the source of that lawyer’s power within the firm, formed by strong professional relationships. Furthermore, competition for clients exists both within the firm (non-compete agreements) and outside the firm (full client control over service provider). Thus, sharing clients with other partners dilutes the leverage that the actor possesses (Nelson, 1988). In this case, the ideal position within the firm is one where the lawyer has suppressed network ties with other lawyers – a position where he or she has successfully kept the other lions away from their kill. Thus:

Hypothesis 1b *Brokerage is Negatively Associated with the Creation of New Ties*



Another possibility is that, contrary to the expected network benefits of brokerage and the institutional pressure to maintain exclusive client ties, that the norm of collegiality brought on by professional values overrides both profit-seeking motivations, and Lazega’s theory of a collegial network across the firm dominates (Lazega, 2001). In this scenario, the brokerage ties do not hinder or benefit any actors.

3.2.2 The Effect of Specialization

Is “essential, exclusive and/or complex” knowledge the basis for professional power (Haliday, 1987)? Or is an attorney powerful because of the strength of the relationships they are able to form with their clients (Heinz and Laumann, 1982; Sandefur, 2001)?

A functional analysis of the profession would hold that the more esoteric the attorney’s specialty, the more irreplaceable and therefore valuable the attorney is to the client, as the

specialist provides services that the client cannot reasonably do in-house. Likewise, power-oriented perspectives hold that rare specialties should be able to claim power within the firm based on the relative scarcity of the resources they provide to the organization. (Pfeffer and Salancik, 2003) Therefore, specialists – the attorneys who perform targeted work on many deals (e.g., Environmental, Intellectual Property, Tax, ERISA, etc.) – should be better positioned than generalists to thrive in a more competitive environment. Thus:

Hypothesis 2a *Specialization Increases Chances of Tie Formation In The Post-Crisis Network*

Hypothesis 2b *Specialists with More Ties Are More Likely to Get Positions of Power Within The Firm*

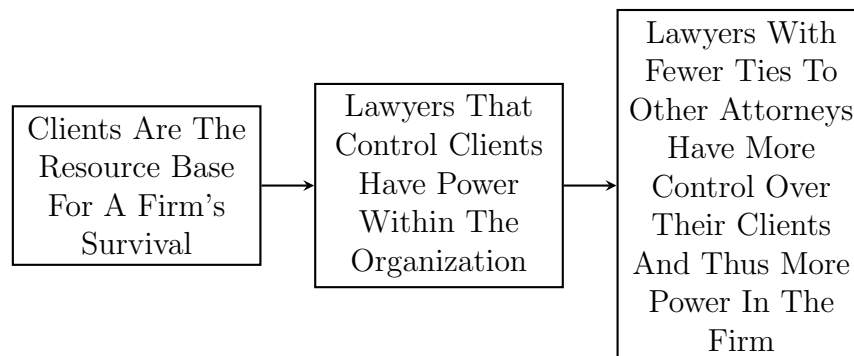


3.2.3 The Value of Strong Client Ties

However, if professional power is derived not from claims to “pure” legal knowledge and instead was linked to client relationships (Sandefur, 2001), we would expect generalists, and particularly those with stronger client ties to succeed in this new environment. Specifically, we would expect those lawyers with fewer network ties to succeed, as actors with fewer ties generally have stronger ties (Baker, 1990; Broschak, 2004). As Dahlander and McFarland note, “The relative importance of any given tie decreases with the number of ties one must attend to” (Dahlander and McFarland, 2013). This observation is particularly salient in time-intensive practices such as law, where a practitioner has a limited total amount of time that they must divvy up among matters and clients. Thus, contrary to typical networks where many weak ties are valuable (Granovetter, 1973; Podolny and Baron, 1997), in this network few strong ties would be ideal. Thus:

Hypothesis 3a *Generalization Increases Chances of Tie Formation In The Post-Crisis Network*

Hypothesis 3b *Generalists With Fewer Ties Are More Likely to Get Positions of Power Within The Firm*



3.2.4 Homophily in Networks

Classical understandings of the professions have held that professions are typified by a high degree of social closure (Abel, 1986; Weber, 1978) and norms of collegiality are enforced against traditional hierarchies (Freidson, 1970; Lazega, 2001). Pushing back against this implied professional cohesion, numerous studies have shown the myriad ways in which the profession is stratified by gender and by status (Heinz et al., 1997; Dinovitzer and Garth, 2007; Kay and Wallace, 2010; Dinovitzer, 2011). Moreover, it has been specifically theorized that this stratification is directly related to differential access to social capital within a firm (Kay and Hagan, 1998, 2003). We can use the firm networks to test whether homophily along gender and race affects attorney working ties, which in turn would explain the lack of access to social capital. Thus:

Hypothesis 4a *Gender Homophily Influences Tie Formation In The Post-Crisis Period*

Hypothesis 4b *Racial Homophily Influences Tie Formation In The Post-Crisis Period*

We can also use the firm networks to measure whether the effect of homophily is stable over time. Organizational networks have been shown to respond directly to environmental changes (Powell, 1990), while variance in organizational demography and organizational structure has been shown to influence the tendency toward homophily (McPherson et al., 2001). Using the pre- and post-crisis networks, we can examine whether changes in the organization's environment (here, a sudden and unexpected depletion of the organization's resource base) will affect the rate of homophily among the organization's members – and whether there are different changes for different kinds of homophily after the crisis (e.g., gender homophily increases as male lawyers retreat to the familiar but geographic homophily decreases as lawyers look outside their existing networks, etc.).

3.2.5 Closure or Brokerage in the Post-Crisis Network

Do actors retreat to the familiar in times of crisis or do they attempt to create new ties across the organization in an effort to maximize their opportunities? If actors stay within their network in an effort to “circle the wagons” and protect the working relationships (and business) that they already have, we would expect to a strong effect of ties replicating across both networks. Thus:

Hypothesis 5a *Ties That Exist Prior To Crisis Replicate In Post-Crisis Ties*

If actors instead buck the general network trend towards inertia during a period of crisis and seek out new ties, we would expect them to use their immediate ties to find and form ties with new actors, creating transitive ties in the network (Wasserman and Faust, 1994). In this scenario, the post-crisis position of uncertainty and scarcity would force organizations to seek out innovative arrangements and actors would activate Obstfeld’s “mediating” ties to find new collaborators and new channels within the firm (Obstfeld, 2005). As such, we would expect to see pairs of actors who were only indirectly connected in the pre-crisis period form direct connections through their common ties in the post-crisis period. Thus:

Hypothesis 5b *Ties in the Pre-Crisis Network Tend to Be Unstable in the Post-Crisis Network as Actors Seek Out New Ties*

3.3 Data Collection

The research site for this part of the study is a Northeastern law firm with over 800 lawyers (around 120 partners). The law firm is listed in Vault’s Top 100 rankings (based on prestige), National Law Journal’s Top 350 rankings (based on size), and The American Lawyer Top 100 (based on revenue). The firm is an older, established “white shoe” firm, whose client base and demographics are typical of firms of its size. The firm is representative of large corporate law firms within the field, both in terms of its practices and its formal structure. In fact, the firm is well-established enough to have been referenced in Erwin Smigel’s ethnographic study of Wall Street lawyers (Smigel, 1964).

3.3.1 Units of Analysis

The units of observation are the partners of the firm’s corporate department. The time periods chosen for study represent the period immediately before the financial crisis of 2008 and the period immediately after. Prior to the crisis, the volume of corporate transactional work – the work performed by the law firm in question – was at a record high, and after the

crisis the volume of business dropped off considerably.

As such, the pre-crisis period represents a period of relative stability and prosperity for law firms, and the post-crisis represents a period of decline and instability. I define the pre-crisis period as 2006-2008 and the post-crisis period as 2009-2011. While the object of this study is the law firm as a professional organization, the specific units of analysis used in this study are the dyadic network ties between lawyers and between lawyers and clients in the firm. A lawyer-lawyer tie is generated when lawyer i and lawyer j have collaborated on a project, a lawyer-client tie is generated when lawyer i represents client j on a project. Ties are undirected, as working on a project together generates a reciprocal tie for all actors.

I am restricting my analysis to partners of the firm, for three reasons. First, partners constitute the actual membership of the organization – only partners are allowed to own the firm, partners formally control the firm, and partners are the lead representation for the firm’s clients. Much as these kinds of large law firms dominate the legal profession, partners in the firms dominate those firms (Nelson, 1988). Second, allowing time for associates to advance to partner allows us to test theories regarding generalization and specialization, as specializing in a particularly abstruse or intense subfield (e.g., tax or ERISA law) often takes years of in-house training. Third, restricting the analysis to partners dramatically reduces the attrition of actors in the network, as both the promotion-to-partner tournament (Galanter and Palay, 1994) and changes in lawyer career paths (Kay and Hagan, 1998) winnow out an average of 90% of associates at large law firms.

3.3.2 Missing Data Issues

The data are collected from press releases issued by the law firm announcing the completion of corporate deals on behalf of the firm’s clients. These projects include mergers, acquisitions, capital market offerings (IPOs, etc.), sale of debt instruments, project financing, launching of private funds, and other transactions. The press release contains the date of the transaction, the identity of the client, and the lawyers who worked on the project along with their specialties. Lawyer attributes – including race, gender, date the lawyer joined the partnership, and membership in firm executive positions – are likewise taken from the firm’s website.

The sample contains all the lawyers in the firm active during this period. Because the sampling mechanism uses firm press releases, however, the sample only includes ties generated through projects that were made public. Two kinds of projects are not included in the sample: litigation matters and uncompleted deals. As to the first kind of matter, corporate clients prefer not to attract publicity over litigation, both because litigation can cause damage to their public reputation and because successful litigation against a company can expose that company to more litigation (becoming a “lawsuit magnet”). As a result,

generally only cases that are total victories for clients are publicized, and cases that are lost or settled are not announced. Therefore, the focus of the study will be on the behavior of corporate lawyers within a firm rather than litigators.

Second, lawyers often work on deals that do not come to fruition (failed merger talks, abandoned IPOs, etc.), and these matters are also absent from the sample. However, preliminary matters such as these are often staffed very leanly – they do not require the large teams of lawyers or sharing of expertise that a live deal would require, and clients are often reluctant to invest heavily in legal advice for deals that are purely speculative – and, as such, they are unlikely to have a great impact on the observed distribution of network ties in the organization.

While these two types of unobserved data represent a drawback for the sampling mechanism, there are benefits specific to this method. First, the data accurately reflects who performed the work on each matter, as firms use these deals as part of the process for determining the year-end compensation of its lawyers. Thus, the internal battles for credit within the firm ensure the accuracy of these press releases. Second, with the exception of the previously mentioned caveats, the data is complete, as external evaluators in the industry press use announced deals by to rank the success of law firms' practices, and firms themselves use these deals to advertise to prospective clients regarding their practices.

3.3.3 Advantages to Using Observable Network Ties

Researchers generally make two assumptions about networks: network relations are built out of the interaction of the members of the group (Bernard, Killworth, and Sailer, 1979) and these interactions are concrete and identifiable (Marsden, 1990). The most-common method of measuring social networks is the respondent survey, which relies on individuals within the network to identify the other actors with whom they interact. However, networks generated from the recall of informants have been shown to be unreliable representations of the actual patterns of interactions that constitute networks, and thus threaten the validity of inferences drawn from informant-driven networks (Butts, 2003). A network based on demonstrated interaction – as the network built from press releases is – does not have these concerns.

While the press release network is not immune to missing data problems (discussed below), the approach manages to avoid several of the most problematic forms of missing network data. Specifically, (1) the research design avoids omitting critical actors, (2) collects all actor covariate data, and (3) does not systematically exclude tie data; I will explain these in turn. First, the omission of an actor who is particularly central to a network can be highly problematic (Lusher, Koskinen, and Robbins, 2013). Consider a birthday party in which everyone in attendance is connected through the host; a sampled network that did not include the host results in a network where connections between actors cannot be

explained. Here, because the boundaries of the network are specified to include only actors who are members of a particular firm, and because the firm lists its members publicly, there are no missing actors in the network. Second, because all the members of the firm list their biographical information and specialties through the firm’s website, no actors are missing covariate information.

Finally, there is no evidence that the press releases systematically exclude working relationships between attorneys. While attorneys do work on deals that are unannounced (because the client withdraws their offer or fails to win the bid), the firm presumably has no way of knowing which potential deals will fail ahead of time. In other words, it is highly unlikely that there is a team of lawyers tasked with working exclusively on losing bids (indeed, if the firm knew ahead of time which bids were likely to fail, it would not take on those bids at all) whose ties would be excluded from the network by this design.

It should be noted that all these advantage accrue only under the epistemological assumption that a social network represents real instances of interaction, and is a thing that exists outside of its members’ perception (Krackhardt, 1987; Marsden and Campbell, 1984). As Butts has shown, however, the treatment of informant recall bias is far less problematic if networks are cognitive phenomena, and the press release method of extracting tie information based on actual co-membership rather than perceived co-membership no longer represents the “true” attorney network if the network is based on subjective ties (Butts, 2003). As interesting as the distinction between believed and observed networks is, for the purposes of this project, the choice to define ties between attorneys as “working” (as opposed to “friendship”, or “advice”, or other more subjective criteria) puts this network firmly in the observable camp.

3.4 Methods and Variables

In my analysis, I use a Separable Temporal Exponential Random Graph Model (STERGM) to test the hypotheses that involve tie generation across networks measured at different points in time. An Exponential Random Graph Model (ERGM) is a type of model that estimates the ways that an observed network differs from a network generated by chance, and in doing so estimates the effects of various factors on tie formation (Harris, Carothers, Wald, Shelton, and Leischow, 2012). Exponential family models use Markov random network models (Wasserman and Faust, 1994) to identify the complex dependencies within relational data structures (Lusher et al., 2013). A STERGM extends the ERGM to analyze changes in multiple observed networks involving the same actors over time, which allows for the estimation of the impact of various factors on network development.

3.4.1 Exponential Random Graph Models

ERGMs are a class of models that use MCMC methods to specify the probability distribution underlying a set of networks. ERGMs for social networks are a way to represent dependencies in cross-sectional graphs, while STERGMs model dependencies between graphs over time. When, as is the case here, the relevant observations in a network are the presence or absence of a tie between two actors, these observations are in part functions of the ties themselves. Specifically, network position and network effects represent the effect that the structure of the network has on tie formation, which ERGMs can estimate by determining whether the appearances of those structures occurs more or less often than expected by chance.

The reason to use an ERGM instead of a standard regression or auto-regressive model is that a regression can only estimate the effect of covariates on the outcome, but cannot estimate the influence of the outcomes on each other without violating the assumption of independence of outcomes. Thus, regression models cannot attempt to model the ways that the patterns of ties themselves can influence tie formation independent of the effect of actor attributes (Lusher et al., 2013).

With an ERGM, however, the observed network is treated as a single realization from a distribution of possible networks (which is randomly generated using the initial observed data), so assumptions about the independence of actors or ties within the network are not necessary (Harris, 2013). As such, the ERGM can model individual effects (actor attributes and actor position), dyadic effects (homophily), and effects that are endogenous to the network (structural effects in the network) (Wasserman and Faust, 1994). Structural effects terms in an ERGM reveal how actors in the network condition their tie formation behavior on the ties of other actors, while actor attribute and homophily covariates produce coefficients similar to those produced by logistic regressions (i.e., covariate β on variable x is a measure of how changes in x affect the probability of the formation of a given tie y).

For the hypotheses that involved executive positions (and therefore do not involve possible dependencies between the outcome variable), I use more traditional regression analysis to examine whether network position and/or specialization have strong relationships with post-crisis outcomes.

Separable Temporal ERGMs (STERGMs) are an extension of ERGMs for modeling dynamic networks in discrete time. While an ERGM examines a single network, an STERGM compares multiple networks by analyzing the formation of ties across networks and the dissolution of ties across networks. Using a STERGM thus allows for the analysis of dynamic data, and allows researchers to examine both the network effects and the social processes that lead to tie formation. Moreover, STERGMs can jointly model the formation and dissolution of ties, allowing the formation and dissolution of ties to occur independent of each

other but with each step modeled as an ERGM.¹

In this analysis, I use a STERGM to estimate (1) the effects of attributes unique to the actor (such as gender, specialization, etc.), (2) the impact of the actor's structural position in the pre-crisis network (do they have a high centrality score or are they relatively peripheral in the network, etc.), (3) the influence of homophily, and (4) the effects of network structures on the probability of a tie being formed between two actors.

3.4.2 Outcome Variables

The analysis will use tie generation as the primary outcome variable for attorneys in the firm. Tie variables will be used to measure what influences the development of the firm network and how the firm network changes during a period of stress, while executive role will be used to measure attorney success as a function of network position.

Ties: A tie exists where an attorney i has collaborated with attorney j on one or more matters ($y_{ij} = 1$ if yes, $y_{ij} = 0$ if no). This is taken from the firm press releases, as described earlier, and limited to partners in the firm.

While some studies have relied upon questionnaires soliciting "strong" and "weak" ties in legal communities (Nelson, 1988) and interviews with actors in law firms (Lazega, 2001), the benefit of the press release data is that it is unaffected by faulty recall, recency bias or social relations between the actors. Nor does it suffer from the network-limiting effects of respondent surveys that fix the number of respondent ties, which can be hugely problematic for networks with skewed degree distributions. As such, relying on known interactions over self-reported data provides a more accurate portrait of the working relationships within the firm (Marsden, 1990).

Executive Role: This outcome measures whether the attorney is appointed to a position of authority within the firm. This variable indicates whether the attorney is a member of the Executive Committee, is chair of the firm or chair of an individual office, or head of a particular practice group. Because positions of power in the firm are elected by the members of the firm, they are a particularly good measure of the social capital acquired and deployed by the attorney. In what is otherwise a formally flat hierarchy of partners, these positions are public displays of an attorney's power and status within the firm.

Award-Winner: This is a dichotomous variable indicating whether the attorney in question had won external recognition in their field, as recorded in the biographical information on the firm website. Examples of awards including being mentioned by name in

¹Goodness of Fit Tests for the models are attached in Appendix B.

Chambers & Partners or by *The American Lawyer* in their rankings of top lawyers by practice area. Winning an award is a sign of an attorney's professional reputation outside of the law firm, and I use it to examine whether an attorney's network position in one period has a relationship with that attorney winning awards in future periods. (Note that this only counts awards related to the attorney's field of practice – *pro bono* awards are, of course, good things to have, but they do not signal distinction in one's subject area.)

Number of Matters: This is given by the total number of matters the attorney has worked on in the post-crisis environment divided by the number of matters the attorney worked on pre-crisis, and it measures how well the attorney was able to find work in the new environment relative to their prior output. The measure is proportional to prior work volume rather than an absolute measure because specialists tend to work on more matters than generalists (specialists tend to handle small pieces of many deals; generalists handle large parts of few deals), so it is more helpful to use a measure that is pegged to the attorney's pre-crisis workload. A higher fraction represents a higher degree of attorney success, as attorneys able to maintain consistent business are more generously compensated and are less likely to face expulsion from the firm.

3.4.3 Actor Attributes

Race and Gender: The race and gender of the attorney is determined by an analysis of the images, associations, and personal pronouns on the attorney's firm webpage. There were no missing classifications.

Specialization: Attorney specialization is taken from the press releases announcing the deals (where available), or from the attorney's webpage. For the ease of analysis, attorneys are deemed corporate generalists if their specialty is "corporate" or refers to the market segment that they serve ("private funds", "capital markets", etc.) and specialists if their specialty refers to a form of purely legal knowledge ("tax", "ERISA", "environmental", etc.).

Office: The office in which an attorney practices, as indicated by the office listed on the attorney's webpage. When used as a homophily measure, this references whether two attorneys in the network share an office location; when used as an actor attribute variable, this references whether the attorney practices in the primary office of the firm (New York).

3.4.4 Network Position

Brokerage: To determine the brokerage position of an actor, I use the betweenness centrality measure, which asks how many shortest paths between two other actors the actor in question lies on, and which effectively captures the degree to which the actor can control the

flow of resources through the network (Freeman, 1978). Betweenness centrality is commonly used as a measure of brokerage power, along with Burt's network constraint measure (Rowley, 1997; Burt, 2005). But while Burt's network constraint measure examines how many unconnected actors are connected through a particular actor, Freeman's measure of betweenness centrality looks to brokerage in the network as a whole. Thus, while the measures are theoretically quite similar – and when used to evaluate a network will generally identify the same actors as brokers – betweenness is a sociocentric measure while network constraint is egocentric (Marsden, 2002). Betweenness centrality is thus more appropriate for a network that is both complete in population and reasonably large, as it provides information about the relationship of an actor to all the other actors in the network – not just their immediate contacts. As such, betweenness centrality is the most appropriate measure of the ability to control the flow of resources across the whole network.

Given that the actors are hypothesized to use their networks as a conduit to find other actors with work opportunities – and thus do not have restrictions on the kinds of paths that the connections can take – betweenness centrality functionally measures to what degree an actor is able to connect other members of the network (Borgatti, 2005). Of course, just because an actor lies on the shortest path between two other actors does not mean that those actors will use the shortest path; by no means is this assumption to be understood as a universal law of network behavior. But as information about the projects that other attorneys are working on is generally available to attorneys in the firm, it is likely that attorneys will activate ties with their most connected alters, justifying the assumption that actors will choose the shortest path through which to activate their ties more often than not. This measure of brokerage is used to model the effect of position on tie-formation in the post-crisis network and the effect of position on post-crisis attorney success.

3.4.5 Homophily

The analysis of tie formation within the networks will also use variables that measure homophily – the tendency of similar actors to form ties with each other – along different actor attributes. Homophily variables will be created for gender, specialization, seniority, status, and location. While the actor attribute variables for each of these categories measure the effect of an actor being in a particular category (“male”, “corporate”, etc.) on tie formation, these homophily variables will measure the effect of both actors matching (“male”-“male”, “corporate”-“corporate”, etc.) on the probability of tie formation between those actors.

3.4.6 Network Effects

Network effects are included in ERGMs to account for certain structures that are common to social networks, including transitivity (the “friends of friends tend to be friends”), structural similarity (the tendency of actors to mirror the social positions of others in the

network), and popularity (the tendency of actors to form ties with actors who have a high number of ties). Without accounting for these network structures, measurements of the effects of covariates may be suspect (and in fact, the model may be degenerate).

Network Closure (Transitivity): Closure in an undirected network is indicated by the presence of closed triangles in the network (e.g., $y_{ij} = 1, y_{jk} = 1, y_{ki} = 1$), and is accounted for by including a term measuring the geometrically weighted edgewise shared pairs (GWESP) (Harris et al., 2012). A positive significant coefficient represents a high degree of closure among indirectly connected actors in the network, and would suggest that attorneys in the firm are using their networks to connect to other attorneys through common ties. This is a measure of transitivity in the network – the tendency to form ties between actors that share ties with a third (“friends of friends tend to be friends”).

Network Ties (Popularity): The tendency of an actor’s number of ties to independently generate ties is indicated by a positive effect associated with actors who have high numbers of ties. It is theorized that this effect is a product of the fact that well-connected actors enjoy high visibility within the network (Barabási and Albert, 1999), or because newer actors have an incentive to fit in, and therefore use ties to popular actors to boost their credibility (Podolny and Page, 1998). It is measured by including the degree of the actor as a term, and broadly represents the self-reinforcing effect of popularity (a “rich get richer” effect, but where popular actors tend to become more popular).

3.4.7 Cross-Network Measures

These measures are estimated in the multiple network extension of the ERGM analysis to identify structural processes between the pre- and post-crisis networks that influence tie formation in the post-crisis network.

Co-Occurrence: This is the tendency of ties in the pre-crisis network to exist in the post-crisis network, and serves as a measure of the propensity of actors in the post-crisis network to continue working with attorneys they have previously worked with. A negative coefficient on this covariate would indicate that actors in a period of crisis tend to look to form ties outside their established networks.

Cross-Network Transitivity: This is the tendency for the transitive “friend of a friend” effect to become realized in the post-crisis network, as actors who were not connected in the pre-crisis network but who shared an indirect connection through a third party form a tie in the post-crisis network. If the pre-crisis network is A, and the post-crisis network is B, then this measures the occurrence of the triad of $y_{Aij} = 1, y_{Ajk} = 1, y_{Bki} = 1$. A significant positive coefficient would indicate that actors in the post-crisis network are using their pre-crisis ties to form new ties.

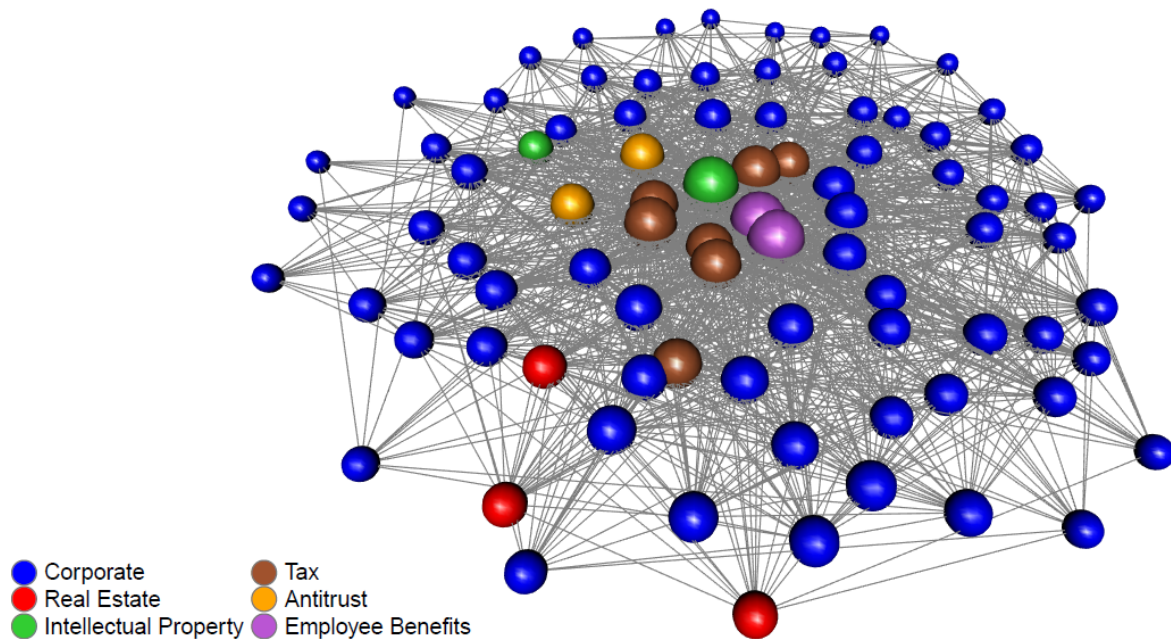


Figure 3.1: The Firm Network 2006-2014

3.4.8 Network Control Variables

Finally, in a STERGM, the number of ties (edges) and the distribution of ties throughout the network (weighted degree distribution) are used to set the parameters for the generation of random graphs. The coefficient on edges represents the baseline probability of any two actors in the network forming ties, controlling for actor attributes, homophily, and network structures. These are roughly equivalent to the intercept in a standard regression.

3.5 Modeling the Firm Network

In this section, I examine and compare: (1) the general characteristics of the pre- and post-crisis networks; (2) the structural properties of the pre- and post-crisis network; and (3) the tie-generating factors in the pre- and post-crisis network. In addition, I will determine (4) the effect (if any) of pre-crisis network position on the success of attorneys in the post-crisis era. Each of these approaches requires different methodological tools.

To begin, Figure 3.1 is a visualization of the full firm network during the entirety of the period under study, with colors indicating attorney specialties and the relative size of each of the nodes representing the number of ties that the attorney has to other attorneys within

the firm. Actors are grouped closest to those other actors with whom they share ties or with whom they share a common dyadic partner (that is, actors are near their friends and their friends-of-friends). Actors who have high brokerage scores – those who connect otherwise disparate actors and groups of actors – are placed by the network generating algorithm in positions closer to the center of the network.

As the visualization demonstrates, the firm has a clear core of specialist attorneys who are connected to many disparate practice groups through their work on multiple matters. General corporate attorneys (and real estate specialists), by contrast, find themselves spread out along the periphery of the network and loosely clustered together with other generalists who share a similar client base.

This network structure aligns with accounts of the law firm as an organization with lawyers differentiated not by title but by role (Samuelson, 1990). Specialists (the “grinders” or “workers”) form the core of the network, service partners (the “minders” or “managers”) are situated in a ring around the core, and the rainmaker partners (the “finders” or “planners”) dot the periphery.

Attorney Specialty	Average Network Ties	Average Centrality Score
Antitrust	30.5	0.003
Corporate	32.1	0.008
Employee Benefits	56.1	0.030
Intellectual Property	24.5	0.003
Real Estate	19.1	0.001
Tax	23.9	0.003

Table 3.1: Popularity and Centrality By Attorney Specialization, 2006-2014

Table 3.1 breaks down network popularity and network centrality by attorney specialty. While Real Estate specialists have the lowest numbers of network ties – indicating that the attorneys in this group rely less on other firm specialties and tend to be more peripheral in the network – the specialists in the Employee Benefits group have both the highest numbers of ties to other lawyers and the highest centrality score. The reason for the disparity in centrality among specialists is because some specialties function as a firm-within-a-firm, with particular clients and dedicated practitioners, while some specialties function more as an internal firm resource, with practitioners playing a small part in a number of matters (akin to a relief pitcher in baseball) but not dominating client relationships.

3.5.1 General Characteristics of the Pre- and Post- Crisis Networks

Next, Table 3.2 gives the general network characteristics for both the pre-crisis and post-crisis network: the density of the networks, the structural cohesion of the network (measured by averaging path lengths across the network), and the clustering in the networks (measured by averaging the density of every actor’s individual network). Comparing these simple network statistics across time periods shows that the network contracted in the post-crisis period, increasing in density and shortening the distance between actors in the network.

	Pre-Crisis Network	<i>Simulated</i>	Post-Crisis Network	<i>Simulated</i>
Network Density	0.164	<i>N/A</i>	0.175	<i>N/A</i>
Shortest Path	5	3	4	3
Clustering Coefficient	0.563	0.171	0.525	0.176

Table 3.2: Network Statistics: Actual vs. Simulated

Furthermore, comparing the statistics for the actual network’s shortest path and clustering coefficient to a randomly simulated network with the same number of actors and ties, it is clear that there is far more formation of cliques and far more distance between unconnected actors in the real-world network than we would expect by chance. This bolsters the idea that the firm is a network of small working groups rather than a network comprised solely of individual actors (Wilkins et al., 2011).

	Pre-Crisis	Post-Crisis
Number of Deals	219	426
Average Partners Per Deal	3.502	2.965

Table 3.3: Changes In The Pre- and Post-Crisis Deal Networks

Table 3.3 shows the changes wrought by the financial crisis in the way partners in the firm worked with one another. Where deals before the crisis had an average of around 3.5 partners per deal, the deals after the crisis period were more leanly staffed. The post-crisis period also featured an increase in overall deals for the firm, a consequence of partners working on many smaller deals compared to the larger deals that corporate clients were entering into in the pre-crisis period.

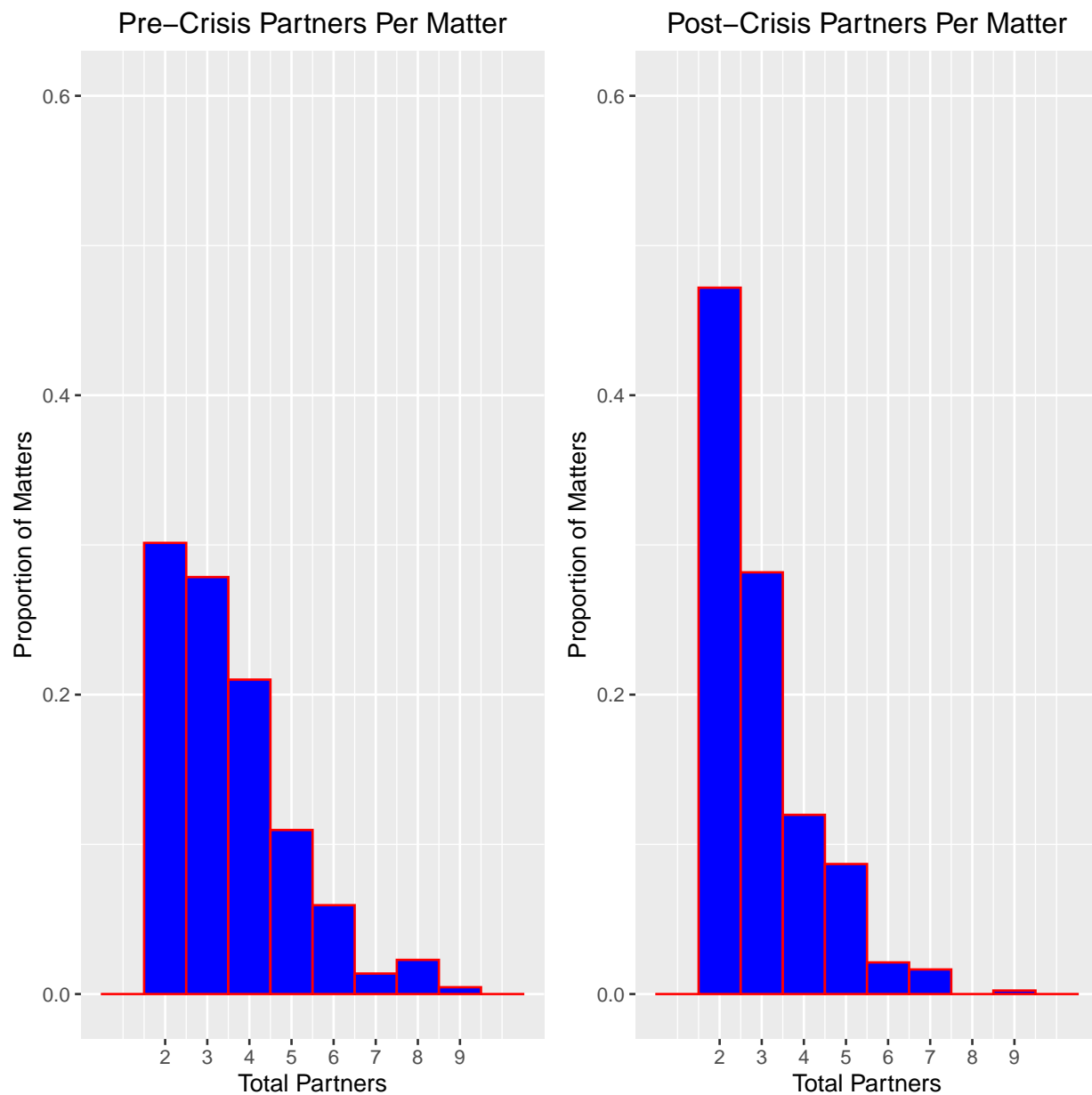


Figure 3.2: Partners Per Matter: Pre- and Post-Crisis

Figure 3.2 shows the distribution of partners-per-matter before and after the crisis, revealing a new reality where even though the number of deals was increasing, the opportunities to join a matter were harder to come by.

Figure 3.3 shows the distribution by partner of the number of working ties they had pre-crisis and post-crisis. The shift in the distribution of ties represents the broadening of the

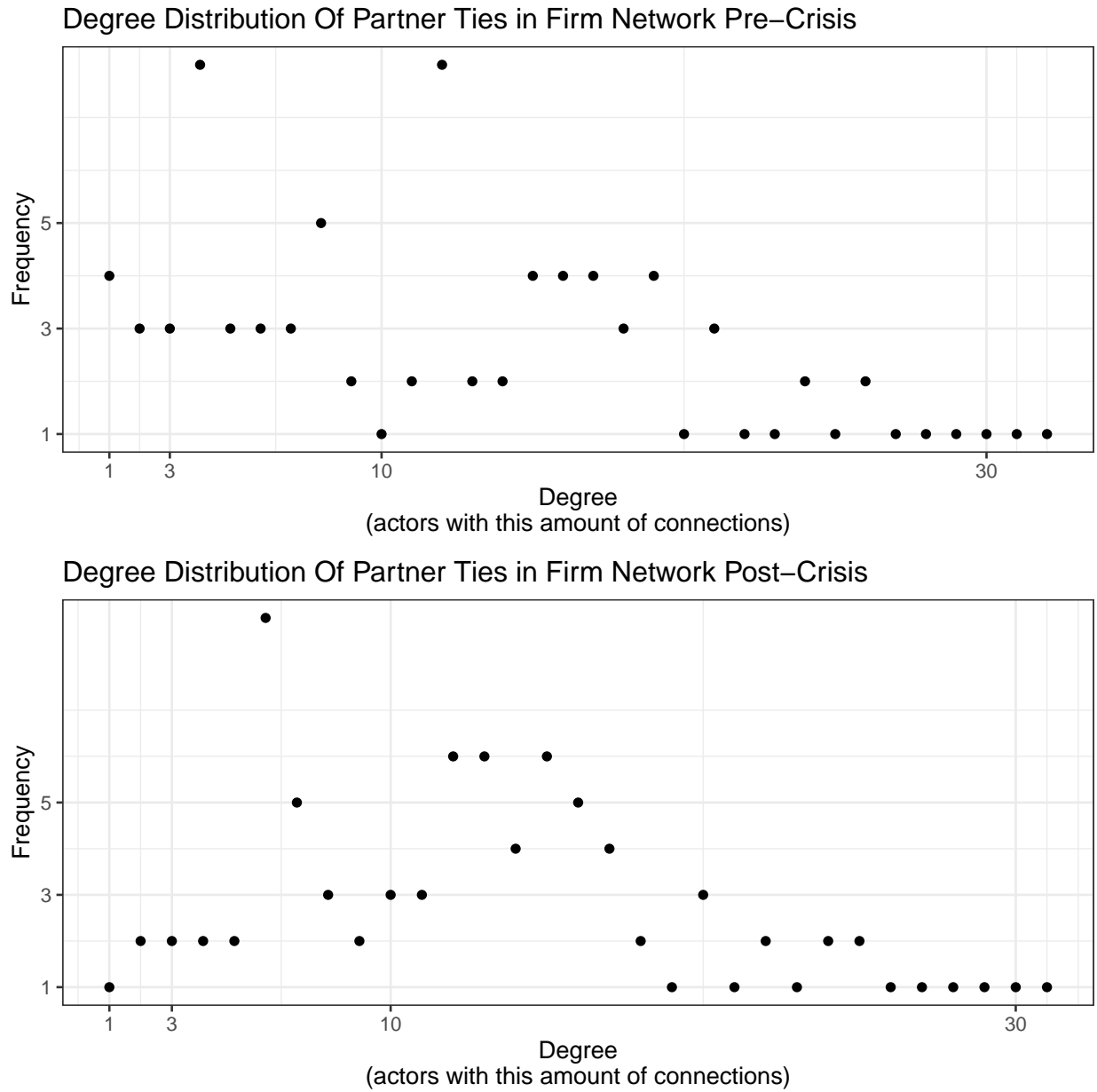


Figure 3.3: Comparing Pre- and Post-Crisis Working Tie Distribution

number of ties each partner had in the post-crisis period. This supports the idea that partners were expanding their networks and building new ties during this more precarious period.

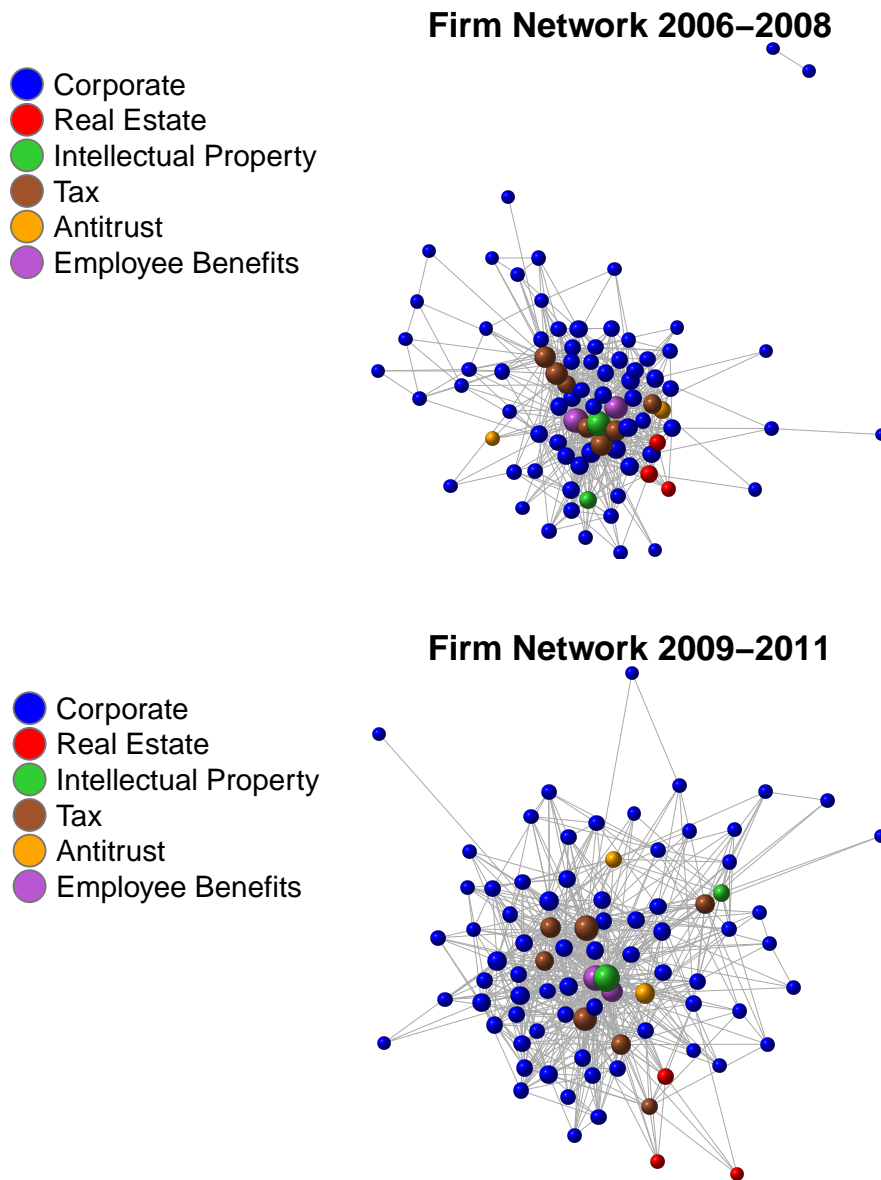


Figure 3.4: Comparing Pre- and Post-Crisis Firm Network

Figure 3.4 shows the networks of firm partners in the pre-crisis and post-crisis periods. These network visualizations of the pre-crisis and post-crisis networks show the change in network density as the effect of the crisis on firm matters requires partners in the firm network

to establish a broader set of ties than they had established in a time of relative prosperity.

3.5.2 Tie Generation Between The Networks

To determine the factors that are most important in the creation of ties between attorneys, I fit three variations of STERGMs. The first (“Network Model”) used only network statistics to model tie formation and dissolution. The second model used network measures as well as homophily in its estimation. The “full” model used network measures, homophily variables, and actor attribute variables to estimate the factors that most influenced tie formation.

The models look at both tie formation and tie dissolution across the pre- and post-crisis networks. Cross-network effects will control for co-occurrence of ties (evidence of actors sticking with actors they are familiar with in a time of crisis) and for cross-network transitivity (evidence of actors activating their friend-of-friend ties in a time of crisis). Table 3.4 gives the results of these models.

First, all the models show a significant and positive effect of transitivity on the formation of new ties across networks, supporting Hypothesis 1.a that new ties are likely to be formed through mutual connections in the network. Ordinarily, this would reinforce the importance of broker positions in the network, but the dissolution model cautions against that. Somewhat surprisingly, the transitivity term is both significant and significantly larger for the dissolution of existing ties between the two networks compared to its effect on the formation of new ties. This means that ties that were part of a transitive triangle (i.e., friends-of-friends becoming friends) in the pre-crisis period were more likely to dissolve in the post-crisis period. This provides some support for Hypothesis 5.b, in that it is evidence that actors sought out new ties in the face of a crisis rather than entrench with their existing network. More interestingly, it suggests that it is easier to form new ties through brokers in the network, but that ties formed through brokers are less resilient than other ties.²

Race and gender, by contrast, showed no effect on tie formation or dissolution, failing to support Hypothesis 4a or 4b. This was true when modeled as an attribute effect or as a homophily effect, and is possibly an artifact of restricting the analysis to the partners of the firm. It can be true that law firm networks are, in fact, heavily shaped by race and gender, but that effect is felt primarily by young associates and dissipates as the attorney progresses through the promotion-to-partner tournament (Wilkins and Gulati, 1996). Location likewise did not produce a significant result in any of the models.

²“The Weakness Of Weak Ties”?

	<i>Network Model</i>		<i>Homophily Model</i>		<i>Full Model</i>	
	Formation	Dissolution	Formation	Dissolution	Formation	Dissolution
Intercept [†]	-4.42*** (0.29)	-3.30*** (0.40)	-4.20*** (0.32)	-2.93*** (0.48)	-3.94*** (0.49)	-1.77 (0.97)
Transitivity (Closure) [‡]	0.36*** (0.07)	1.32*** (0.27)	0.35*** (0.07)	1.29*** (0.29)	0.34*** (0.08)	1.30*** (0.28)
Popularity (Ties) ^{‡‡}	0.64 (1.11)	1.81*** (0.43)	0.73 (1.11)	1.85*** (0.48)	0.76 (1.28)	1.77*** (0.50)
Gender (Homophily)			0.03 (0.13)	0.31 (0.18)	0.06 (0.13)	0.27 (0.18)
Race (Homophily)			-0.12 (0.12)	0.21 (0.18)	-0.15 (0.12)	0.30 (0.20)
Specialty (Homophily)			0.10 (0.11)	-0.61** (0.19)	-0.11 (0.30)	-1.38 (0.81)
Office (Homophily)			-0.20 (0.11)	-0.50** (0.16)	0.04 (0.28)	-0.33 (0.41)
Specialty (Attribute)					-0.17 (0.27)	-0.64 (0.76)
NY Office (Attribute)					-0.20 (0.19)	-0.22 (0.33)
Award (Attribute)					0.05 (0.10)	-0.30* (0.15)
Executive (Attribute)					0.07 (0.09)	0.24* (0.12)

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

[†]Edges, [‡]GWESP, ^{‡‡}Degree

Table 3.4: Separable Temporal ERGMs Of Pre- and Post-Crisis Network Ties

The effect of popularity (as measured by network ties) was not significant for tie formation, but was consistently a significant and strong factor for tie dissolution, supporting Hypothesis 3b. In every version of the model, having more network ties was associated with the dissolution of existing ties. This contrasts with most friendship network studies, where actors with many ties were more likely to attract new ties (Feld, 1991). It may be that one effect of the crisis on the organization is that relatively well-connected actors were more careful about who they worked with in the post-crisis landscape. Interestingly, after controlling for popularity, neither specialists nor generalists had any observable advantage in generating new ties in the post-crisis period.

Finally, attorneys who were of high quality (measured by winning an award from an

external organization) did not form ties at a higher rate, but they did better at maintaining the ties they had. Meanwhile partners who were serving in an executive position likewise did not have an advantage in generating new ties, but did have a slight disadvantage in retaining existing ties (likely because their energy was focused elsewhere at the time).

3.5.3 Does Network Position Predict Attorney Success?

In Tables 3.5 and 3.6, I compare the attorneys who were elevated to a position of executive authority with the attorneys who were not, on the basis of their network position and network ties prior to their promotions. In Tables 3.7 and 3.8, I compare the attorneys who won awards from external organizations for distinction in their field with the attorneys who did not, again on the basis of their network position and network ties prior to the period in which they won their award.

For attorneys who were elevated to positions of authority, they had *less* central network positions and *fewer* network ties than those who were passed over for executive positions, supporting the hypothesis that positions of brokerage and multiple network ties are actually harmful to the acquisition of power and status in the firm, as they allow rivals to threaten strong client relationships. By contrast, attorneys who won awards in the later period had more central network positions than those who did not (there was no meaningful difference in popularity scores between the groups). This is evidence for the proposition that brokerage positions can give actors in those positions access to necessary resources (here, the experience and the high-profile matters of other attorneys) to succeed. This also accords with the theory that network centrality is beneficial to specialists but negative for generalists.

Executive Position (at $t = 2$)	Betweenness Score (at $t = 1$)
<i>Yes</i>	0.010
<i>No</i>	0.014

Table 3.5: Centrality & Executive Position

Executive Position (at $t = 2$)	Average Ties (at $t = 1$)
<i>Yes</i>	11.459
<i>No</i>	15.542

Table 3.6: Number of Ties & Executive Position

Award-Winner (at $t = 2$)	Betweenness Score (at $t = 1$)
<i>Yes</i>	0.013
<i>No</i>	0.010

Table 3.7: Centrality & External Award Recognition

Award-Winner (at $t = 2$)	Average Ties (at $t = 1$)
<i>Yes</i>	13.636
<i>No</i>	14.211

Table 3.8: Number of Ties & External Award Recognition

Figure 3.5 shows the interplay between network position, professional specialization, and executive power within the firm. The corporate attorneys who achieve power within the firm tend to be more peripheral – fewer ties to other attorneys and thus stronger client ties. The specialists who ascended to executive positions, by contrast, had high levels of centrality in the network, indicating that they were in high demand from other attorneys and were thus able to leverage their reputation to gain prominence in the firm. Thus, brokerage positions do not necessarily predict power within the firm, but are instead a consequence of the type of work that the attorney performs and the power dynamics between the partner and the partnership.

3.6 Discussion

These findings add much needed nuance to theories about the role of networks in organizations and contribute to the project of establishing the professional firm as a unique object of study in and of itself. Moreover, there are several key implications for this study on existing theories of organizations and professions.

The results of this study show how professional roles work to not merely shape network structures but determine how network connections are exploited by the actors in the network. One of the persistent criticisms of network analysis is its “myopic” focus on the structure of the network to the exclusion of external forces (Fligstein and McAdam, 2012). This work answers that challenge by analyzing how professional priorities mediate the effect of network position and structure. While brokerage positions are generally associated with organizational power, the fact that attorneys in firms can be both resources and rivals complicates

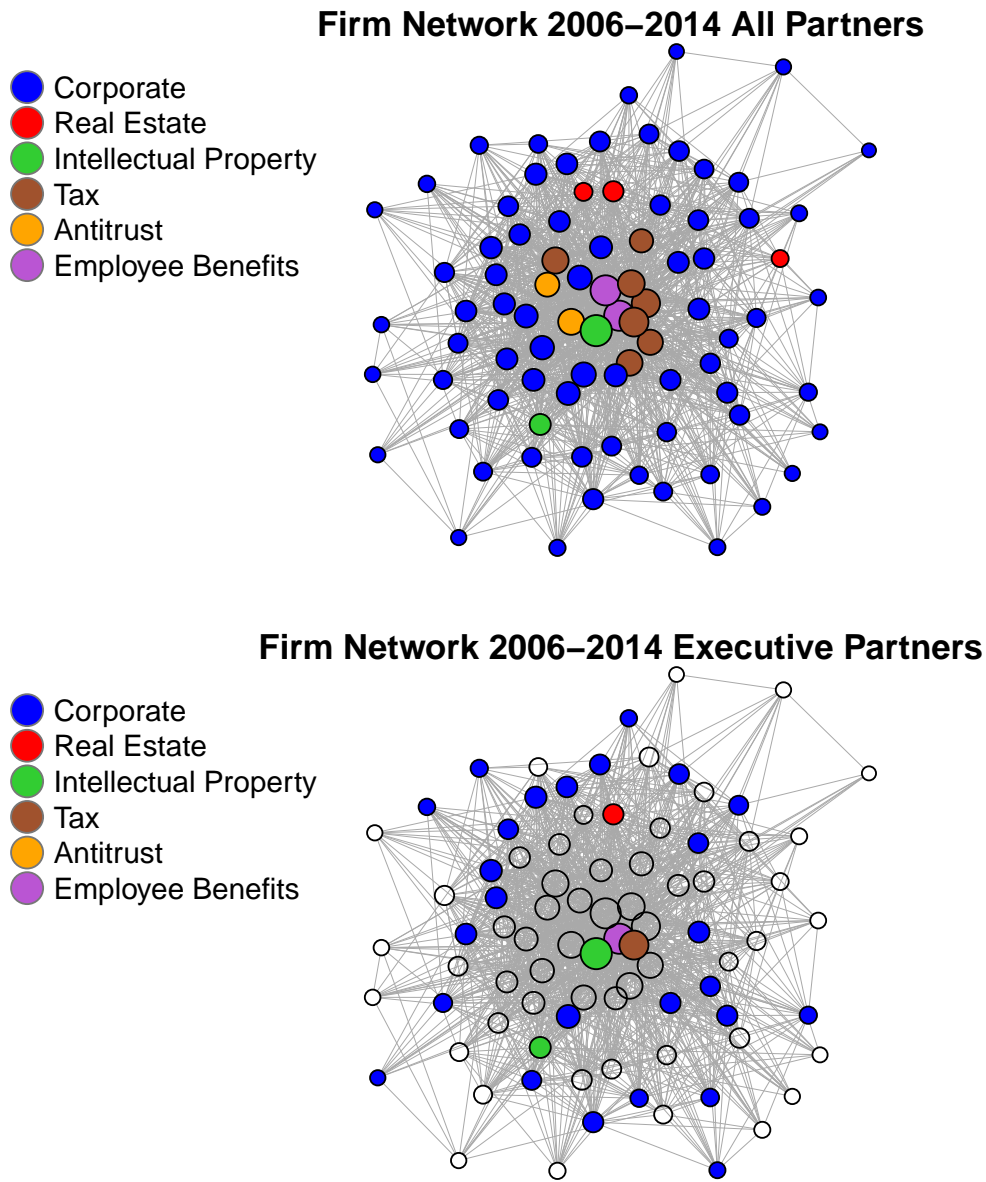


Figure 3.5: Network Positions of Executive Committee Attorneys

that picture. For attorneys competing over strong client ties, the least-connected actors can be the most powerful; for specialist attorneys who leverage deep and exclusive knowledge, though, the inverse is true. This suggests that the answer to the question of where professionals draw their power – whether from esoteric knowledge or from institutionalized status and relationships – might vary by the kind of professional work: esoteric knowledge for some practitioners and social capital for others.

In addition, these results also challenge theories about the roles that brokers play in networks. The data show that pre-existing transitive relationships (i.e., those that formed in part through brokers) dissolved at an even higher rate than new transitive relationships formed through brokerage positions, suggesting that brokered relationships are easier to form but are less resilient in times of uncertainty.

Finally, while much of the study of brokerage assumes that network structure determines opportunities (Burt, 1995), this analysis reveals that attorneys in the firm network actively changed their intra-organizational ties to find new opportunities. In this network, attorneys used these bridging ties in the network to expand their personal connections in the post-crisis period, lending support to a more actor-directed approach to network-building (Obstfeld, 2005). In other words, in the professional organization, actors in highly-central may not be brokers at all, but a hinge for strategic actors to exploit.

Chapter 4

Do The Collapse: Individual Dynamics In The Firm and Causes of Firm Instability

In this chapter, I examine the legal entities that law firms choose to form, the regulations that shape professional organizations, and the complicated internal dynamics of the law firm that are, in part, a consequence of that legal regime. I examine the consequences of these organizational structures for the sharing of capital within the firm, the role of professional and organizational norms on attorney expectations and attorney behavior, and I model a game theoretic account of the relationship between law firm partners and the firm. Using a particular case from the firm data in Chapter 3, I provide evidence of the interplay between network position and opportunistic behavior in the firm.

4.1 Formal Legal Structures of Law Firms

Law firms have historically been organized as partnerships, and with the statutory creation of limited liability partnerships (“LLP”), the majority of large corporate firms are organized as LLPs (Hillman, 2003). An LLP is a specific kind of general partnership, where each partner has the power to act on behalf of and bind the partnership (absent provisions to the contrary in the partnership agreement) but enjoys limited liability protection from the debts and obligations that the partnership incurs. Moreover, LLPs are taxed as pass-through entities, meaning that a firm’s earnings are not taxed at the entity level (as with a corporation) but instead are distributed directly to the partners of the firm, who pay income taxes on their distributions. While some states allow any business entity to form an LLP, many states limit the use of the LLP to professional organizations exclusively.

While law firms can and do organize themselves using other kinds of business entities,

including limited liability companies (“LLC”s), professional corporations (“PC”s)¹, or professional limited liability corporations (“PLLC”s) – depending on state availability – the largest firms almost exclusively avail themselves of the LLP for several reasons.

First, organizational status change can disrupt not only formal relationships – contracts with both clients and non-client counterparties would need to be transferred to the new entity and novated – but also relationships between attorneys within the firm. The creation of a new entity would necessitate creating a new foundational document to which all attorneys would have to sign on (a new operating agreement for LLCs and PLLCs and new articles of incorporation and bylaws for a PC), a move which could potentially re-open negotiations between member attorneys and firm management over the various arrangements of power and distribution of capital among the attorneys. As such, it is often in the interest of firm management to muddle through with the current arrangement, rather than upset the previously negotiated terms of the organization.

Second, the largest law firms almost all have multijurisdictional practices (Samuelson, 1990), and an advantage of the LLP is that it is a form common to every state. By contrast, rules for PCs vary across states (including statutory limits on the number of attorneys who can own shares in a PC), the LLC is not always available for professional practices (e.g., California bars their use for professional firms), and not every jurisdiction has established the PLLC form. Moreover, large law firms generally do not structure themselves as PCs because, unlike the LLP and LLC forms, most PCs do not get the benefit of pass-through tax status.

Finally, organizational inertia and path dependence are such that an organization is unlikely to make a disruptive change to their legal status unless the reward for doing so is particularly large. In this case, each of the legal forms has similar pass-through tax status, member-management structure, and liability protections, so the benefits of change are minor compared to the costs (Rutledge, 2003; McLaughlin, 1993).

As a result, the historical structure of law firms – general partnerships where partner attorneys are residual claimants on firm income (Pinansky, 1986) – remains the dominant organizational form, with the minor tweak of extending limited liability protection to the firm’s partners such that they are personally shielded from the firm’s debts and obligations.²

¹In a development that perhaps amuses only me, the practice at the law firm Kirkland & Ellis LLP is for partners to incorporate single-shareholder professional corporations in their names, and then have those PCs join the partnership instead of the attorney (Strom, 2020). Combined with their practice of having a class of non-equity partners who are really contracted employees and not legally partners in the partnership, this means that Kirkland & Ellis’ partner ranks contains both people who aren’t partners, and partners who aren’t people.

²Note that in a minority of states, partners are only shielded from claims against the partnership resulting from the negligence of other partners, and not obligations resulting from contracts entered into by the

The result is an organizational form where admittance to the partnership is closely guarded (Galanter and Palay, 1994), but once an attorney becomes a partner in the firm, they have weak legal ties to the organization itself, both in terms of personal liability and in terms of access to the firm's capital. The former is because partner liability is limited to the capital contributions of each individual partner, there is no legal mechanism to bind an attorney's personal fortunes to the fortunes of the firm itself, and the latter is because, unlike with a corporation, the firm's income is pooled and distributed on an annual basis, so there are no reserves of firm capital whose future distribution could induce an attorney to stay with a firm over the long-term.

4.2 The Regulatory Environment of Law Firms

As explained above, large law firms are primarily structured as limited liability partnerships (or professional limited liability companies which have similar liability protections and impose similar duties on members). As such, partners owe fiduciary duties to one another by virtue of their membership in the partnership.³ Ordinarily, such fiduciary duties would prohibit opportunistic behavior by firm members, including self-dealing or taking of opportunities that rightfully belong to the firm itself.⁴ However, ethical rules established by state bars not only modify those fiduciary duties but affirmatively prohibit firms from adding other provisions to the partnership agreement that could effectively bind a lawyer to a firm.

4.2.1 Prohibitions on Lawyer Mobility are Unenforceable

Lawyers have always been free to jump from firm to firm, at least from a professional regulations standpoint, as the ethical duty to provide clients with representation has been interpreted to bar restrictions on practicing, competing, or taking clients – meaning there is no formal barrier to a partner leaving to join a rival firm or to start their own practice.

First, the ethical codes of legal practice bar non-compete and non-solicitation agreements between firms and attorneys under the theory that such agreements infringe on a client's right to select the representation of their choosing. Specifically, the Model Rules of Professional Conduct Rule 5.6 states that:

partnership.

³See, e.g., *Meehan v. Shaughnessy*, 535 N.E.2d 1255 (Mass. 1989) (holding that attorneys violated their fiduciary duties by misrepresenting their intentions to other partners in their firm and misleadingly communicating with firm clients).

⁴See, e.g., *Meinhard v. Salmon*, 164 N.E. 545 (N.Y. 1928) (a seminal case establishing the duty of loyalty owed by partners to their partnerships).

*A lawyer shall not participate in offering or making: (a) a partnership, shareholders, operating, employment, or other similar type of agreement that restricts the right of a lawyer to practice after termination of the relationship, except an agreement concerning benefits upon retirement*⁵

In interpreting this rule, the American Bar Association Committee on Professional Ethics (hereinafter the “ABA Ethics Committee”) initially found that post-employment covenants restricting competition were *per se* invalid under the Code of Professional Responsibility.⁶ The ABA Ethics Committee then found that restrictions on representing former clients were also prohibited,⁷ and finally found that communications from departing lawyers to firm clients were permissible so long as they were not disparaging.⁸ Thus, by developing ethical guidelines for “grabbing and leaving,” the ABA Ethics Committee removed legal ambiguity around partnership withdrawal, making it easier for departing partners to seamlessly transition out of their firms (Hillman, 1988).

State courts have enforced and extended this principle to void both explicit non-compete provisions and any contractual provision seen to inhibit the free movement of lawyers from and between firms.⁹ Courts have also consistently voided non-solicitation provisions restricting representation of firm clients after withdrawal.¹⁰ In most jurisdictions, contractual restrictions on professionals (in medical practices, accounting firms, etc.) are examined under a “reasonableness” standard (with an exception for non-compete provisions for physicians, which can be voided when in the “public interest” to do so) – only among lawyers are non-

⁵Model Rules of Prof'l Conduct R. 5.6(a) (2011).

⁶ABA Comm. on Professional Ethics, Formal Op. 300 (1961).

⁷ABA Comm. on Professional Ethics, Informal Op. 1171 (1971).

⁸ABA Comm. on Professional Ethics, Informal Op. 1457 (1980).

⁹See generally *Cohen v. Lord, Day & Lord*, 550 N.E.2d 410, 413 (N.Y. 1989) (holding a non-compete provision of a partnership agreement unenforceable because of its negative effects on the ability of clients to choose their lawyers); *Dwyer v. Jung*, 336 A.2d 498, 501 (N.J. Super. Ct. Ch. Div. 1975) (striking down a partnership provision restricting lawyers within a firm from representing clients of other lawyers in that firm); *White v. Medical Review Consultants, Inc.*, 831 S.W.2d 662, 665 (Mo. Ct. App. 1992) (holding that a non-compete provision in an attorney's employment agreement is void); *Dowd & Dowd Ltd. v. Gleason*, 693 N.E.2d 369 (1998) (finding a clause limiting the ability of departing lawyers to other attorneys from their previous firm unenforceable); *Law Offices of Windle Turley v. Giunta*, No. 05-91-00776-CV, 1992 WL 57464, at *2-3 (Tex. App. Mar. 23, 1992) (striking down a restriction in an associate's employment contract preventing the associate from joining a breakaway firm on the grounds that the restriction was functionally the same as a non-solicitation provision). Only California, which famously disfavors all non-compete provisions, has entertained applying a reasonableness standard to penalties for partnership withdrawal. But see *Howard v. Babcock*, 863 P.2d 150, 160 (Cal. 1993) (allowing a partnership agreement that withheld certain benefits to departing partners), though even in that case the provision was found to be reasonable in part because it would not actually dissuade the partners from withdrawing.

¹⁰See generally *Whiteside v. Griffis & Griffis*, 902 S.W.2d 739, 744 (Tex. 1995) (finding that non-solicitation clause restricted the client's freedom of choice); *Cohen v. Graham*, 722 P.2d 1388, 1391 (Wash. Ct. App. 1986) (voiding partnership covenant prohibiting a departing attorney from representing firm clients).

competes *per se* invalid (Kafker, 1993; Kalish, 1984). Thus, where other organizations can deter or even prevent competition from their members through contractual arrangements, law firms exist in an environment where their member attorneys are perpetual threats to exit the firm and take with them their human capital, client relationships, and fellow attorneys (Stroud, 2001; Ribstein, 2010).

This inability of law firms to discipline or punish defecting partners greatly increases the leverage of partners who can credibly draw clients to a new firm.

4.2.2 The Client Owns the Firm's Work Product

In addition to the prohibition on impairing partner withdrawals, the ethical rules regarding client files give control of work product produced on behalf of the client to the client itself (Rhodes and Hillman, 2009; Slovut, 1992). Unlike a standard knowledge-intensive firm – say, Google or a biotech firm – where the employees' work product is the property of the firm, an attorney's work product belongs to the client and client files must be produced by the firm in case of the termination of the relationship. As such, a partner can decamp to another firm, take a client with them, and then the client can retrieve that partner's work product from the original firm. The firm cannot retain the work produced on behalf of a client, and thus cannot leverage that work to retain the client.

Nor can the firm protect its legal work (or its strategies) as intellectual property under patent or copyright like a typical company could (Schwartz, 2006; Birch, 2002). Moreover, even if the firm could obtain the rights to specific works, much of the legal work product that does not go directly to the client is publicly filed – either with a court or a government agency – and can easily be copied by a departing partner.

4.2.3 The Prohibition on Non-Lawyer Ownership Favors Powerful Partners

Finally, regulations prohibit ownership of law firms by non-lawyers (and therefore neither investors nor managers can be given an equity stake in a law firm) (Molot, 2014). In practice, this has meant that lawyers determine the organizational form of the firm, and likewise lawyers dominate the formal managerial positions within a law firm (save the specialized positions over which other professions have made successful jurisdictional claims, like accounting or human resources). Non-lawyer managers acting in their self-interest would fight for an organizational structure that maximized managerial control over the firm; lawyer-managers, by contrast, serve a dual role, and as such have a competing incentive to promote their own autonomy and maintain a firm structure which gives individual lawyers power

instead of the firm (Nelson, 1988; Fligstein, 1990).

By potentially empowering individual attorneys at the expense of the firm, these regulations shape both the structure of these law firms and the strategy of the lawyers who work within them, which I address next.

4.3 Internal Law Firm Dynamics

Most theories about the internal dynamics of a law firm posit the firm as a site of individual exchange or an organization designed to optimize member contributions. Ribstein’s “reputational bonding” theory holds that law firms essentially lend their reputation to young, unproven attorneys in exchange for their labor, and that the attorneys in turn give their time to the firm to build their own reputational capital (Ribstein, 2010). The “internal referral” theory of Burk and McGowan, on the other hand, argues that the firm facilitates the reciprocal exchange of skills, information, and clients among its lawyers, building valuable social capital for the individual members of the firm (Burk and McGowan, 2011). And Sherer identifies the law firm as a hierarchical structure designed to maximize the human capital contributions of its attorneys (Sherer, 1995).

There is a certain tension in each of these accounts of the firms dynamics, though. A law firm benefits when a lawyer acquires valuable skills, burnishes their reputation, and deepens their connections with clients; however, each of those could be used by the lawyer to take firm clients and leave. A firm is thus caught between needing to develop their attorneys and needing to constrain them. Moreover, while all of these are persuasive descriptions of different functions the law firm performs, they all assume that a firm is either a collection of atomistic individuals or a single-minded entity.

In the following sections, I will review how the firm works to develop different kinds of human capital (lawyer-specific, firm-specific, and client-specific) for attorneys within the firm, and explain how the internal firm network serves to both augment its lawyers’ individual human capital with the firm’s social capital – while also managing the tensions between attorney-level and firm-level incentives.

4.3.1 The Firm as a Site for Human Capital Development

An important part of the structure and organization of the firm is the need for the firm to engage in both productive revenue-generating activity while also engaging in the human capital development necessary to maintain the firm as a long-term endeavor. In order to both draw new graduates and train young attorneys to take over key roles in the organization, the

firm must expend resources on developing various kinds of human capital for firm attorneys to draw upon.

Lawyer-Specific Human Capital

First, firms must provide opportunities for their members to develop lawyer-specific human capital. This means that firms must give attorneys the opportunity to master the technical knowledge required for the various areas of law practiced by the firm – a task which requires long-term planning and a fair degree of insulation from market forces via the sharing of profits across the firm (Garicano and Santos, 2004). To become a specialist, a lawyer needs to commit to a particular area for an extended period of time to gaining both the necessary technical expertise and the ability to signal said expertise. However, changing market conditions can disrupt this process if lawyers were to value their investment in their specialization in real time (e.g., knowledge of intellectual property law would be valuable in a tech boom, where as knowledge of bankruptcy law would be valuable in a market downturn, etc.). Joining a firm allows new lawyers - who are functionally blind to the future market conditions that make their specializations more or less valuable - to fully commit to their career development under conditions of uncertainty.

In this environment of imperfect information, the partnership structure allows attorneys to construct organizations in which both the attorney (by sharing downside risk) and firm (by maximizing flexibility) benefit in the face of an unpredictable market dynamic (Garicano and Santos, 2004). Note that this differs from the Gilson and Mnookin perspective where the firm (acting as an entity) chooses to diversify their legal services portfolios (Gilson and Mnookin, 1984). According to this competing account, the multitude of practice areas empowers individual attorneys to undertake necessary skills-building, which then redounds to the benefit of the firm when the market creates demand for some areas of legal practice. The consequence of this firm development model is that attorneys whose skills become high in demand can reap greater rewards by defecting when the conditions that make their practice area desirable materialize. As Garicomano and Santos point out, this problem could be ameliorated by employing non-compete agreements (Garicano and Santos, 2004), but these are unavailable to legal organizations, as I explained earlier in this section.

In addition to subject matter knowledge, the other forms of lawyer-specific human capital include both legal skills (document drafting, assessment of evidence, communication with legal institutions, etc.) and market skills (acting “like a lawyer” to the satisfaction of legal market participants). Participation in the team-oriented legal practice within a law firm offers the ability to develop both.

Firm-Specific Human Capital

Lawyers within a firm also develop firm-specific human capital. Part of this development is the process of socialization within the firm, where lawyers learn the received ways in which members of the law firm are supposed to behave, and thus demonstrate their belonging in the organization (Gilson and Mnookin, 1989). This kind of firm-specific knowledge is provided by the mentoring of junior attorneys by firm partners who have an ongoing stake in the profitability of the partnership – a consequence of partners having a largely illiquid stake in the business, and thus being reliant on the next generation of partners to maintain the firm’s reputation and continue the successful business of the firm (Morrison and Wilhelm Jr, 2004).

Law firms are particularly focused on developing a unique corporate culture, focusing (often to the exclusion of marginalized or underrepresented groups) on the necessity of fitting in with the existing firm culture (Rivera, 2012). As a consequence of this focus on firm-specific traits, firms are less inclined to expand their labor forces to a degree that might strain the transmission of firm practices (Levin and Tadelis, 2005). Firm-specific human capital is, of course, valuable only to the extent that attorneys need to survive and advance in the firm’s tournament (Galanter and Palay, 1994) or in jockeying for positions of power within the partnership, and not necessary to either acquire new clients or maintain the firm’s existing client base.

Client-Specific Human Capital

Finally, firm attorneys gain client-specific human capital by acquiring knowledge about their clients’ businesses and the specific legal issues that their clients require assistance with. The rules of legal practice and the law of evidence both allow for clients to share information with their legal counsel without fear that the information would be revealed to the world; as such, lawyers are in a position to learn unvarnished truths about their clients. Because firms are arranged as “knowledge hierarchies” – where partners leverage the skills of their teams by distributing work at every level of the firm hierarchy and coordinating the composition of the final product (Garicano and Hubbard, 2007) – client-specific information is distributed to both senior and junior attorneys to effectively facilitate the efficient provision of legal services.

Human Capital and the Firm

It is important to note that, from the firms’ perspectives, the development of lawyer-specific and client-specific human capital is both beneficial to the firm (in that the firm can leverage these skills to satisfy existing clients and potentially draw in new clients) and a source of power for the individual lawyer against the firm (in that the lawyer can leave the firm and use their lawyer-specific capital in a new practice setting, and can draw upon their client-specific capital to poach the client from the firm). The development of firm-specific human capital, by contrast, is only valuable to the individual lawyer within that firm and

Type of Capital	Attorney Development
Lawyer-Specific Capital	Skill-building Specialization Professional Presentation Industry Knowledge Client Recruitment
Firm-Specific Capital	Socialization Knowledge of Firm Culture Communication and Management Skills
Client-Specific Capital	Business Practices Confidential Information Client Trust

Table 4.1: Human Capital Development in the Firm

does not transfer to any new employment setting.

Furthermore, the human capital development function of the firm can be costly. The conduits through which development occurs – feedback from senior attorneys (Galanter and Palay, 1994), opportunities for client contact (Wilkins, 2009), institutionalized programs for junior attorney development (Henderson and Bierman, 2009), and informal mentorship (Wilkins and Gulati, 1996) – require senior attorneys to give up their time and for junior attorneys to forego billable tasks.

In other words, there is a significant risk to a firm in helping its lawyers develop human capital, particularly when faced with the risk of lawyers leaving. Moreover, there is a parallel risk for lawyers to develop human capital if they are going to be shut out of the gains that accrue to their development of the capital, and particularly if the capital is non-transferable to a different firm or practice setting. Thus, if the firm is to be able to reproduce itself, it must resolve this coordination problem.

4.3.2 The Firm Network as Mediating Force

Understanding the firm as a network offers a solution to this problem of conflicting incentives. As shown in Chapter 3, the law firm is an organization best understood as a network of integrated actors (Granovetter, 2005). The network perspective offers a middle ground – one that allows for strategic behavior but also identifies the influence of organizational structure on individual action. Moreover, the law firm network incorporates all of the functions – human capital development, reputational capital exchange, distribution of social capital,

and the reciprocal sharing of resources – that law firms can perform.

If a firm was a collection of atomized lawyers pursuing their own ends, the network would be sparse, with few connections between lawyers. The observed network of the firm analyzed in Chapter 3 does not support this view, however, and instead shows numerous ties among firm lawyers, particularly between specialists (clustered in the center) and generalists (on the periphery and less well-integrated). This supports the theory that the firm is a site for resource sharing and social capital exchange, empowering its partners to strategically collaborate on complex legal matters that require repeat coordination among teams of lawyers (Wilkins et al., 2011).

In addition to more accurately representing the practice of law, the network approach also allows us to theorize about why some law firms can remain stable, even given the pressures of their broader environment and the professional regulations that give their attorneys license to defect at any time. A highly networked firm has two primary advantages: (1) the return on investment for any attorney’s human capital contribution is magnified by the contributions of the other attorneys in the network, and (2) a strong firm network can prevent a partner from taking firm clients.

The first advantage to a highly networked firm is that the network allows teams to pool not only information and skills (particularly important when tasks require the work of specialists), but also leverage the reputational capital and client ties of the team. Lawyers who are embedded in a highly cohesive network can more readily take advantage of the resources available through the firm; less collegial firms do not have this advantage (Lazega, 2005; Lazega and Pattison, 1999). Furthermore, sharing client ties can minimize the likelihood of a client leaving for a rival firm, as each attorney can marshal resources from each other attorney to maintain the ties between the client and the firm.

The second advantage to a highly networked firm is that the network structure can alleviate tensions between the lawyer and the firm. The firm wants the lawyer to build relationships with clients, as firms whose lawyers embed themselves in client networks are more successful than those that engage in arm’s-length market relationships, due to the coordination and integration fostered by client ties (Uzzi, 1996). However, the stronger the bond between the lawyer and their clients, the more the lawyer can leverage the threat of leaving to increase their power within the firm. A key to defusing this tension is having multiple ties between lawyers and clients, so that one lawyer does not essentially control the client relationship.

4.4 Network Position and Partner Leverage

If, indeed, stronger within-firm ties predict individual lawyer leverage as speculated in the previous section and in Chapter 3, then we would expect defection from the firm to be more common among the partners at the periphery of the firm network, as these are the attorneys who have stronger ties to individual clients and fewer ties to other firm lawyers – that is, lawyers who could dilute the relationship between those lawyers and the client and create stronger ties between the client and the firm.

Using the network data from the law firm that was the subject of the analysis in Chapter 3 offers a potential illustration of this hypothesized dynamic. During the time period studied in this dissertation, a prominent corporate partner in the capital markets group was recruited to leave the firm and join a rival large corporate law firm.¹¹ In response, the firm broke with its tradition of lockstep partner compensation, and lured the partner back prior to the partner’s official departure by exceeding the salary offered to the partner by the rival firm. As a result, the defecting partner stayed with the firm and received a guaranteed salary that made the partner one of the highest paid lawyers in the firm.

This particular partner was initially hired out of law school and spent nearly 20 years with the firm, advancing through the ranks and winning the partnership tournament. The threat to the firm was not that the partner would leave and deprive the firm of the partner’s skill and experience; by all accounts, the worry was that the partner’s reputation in the field was sufficiently high that the partner would poach clients and induce other defections from within the firm. Just as partnership is often extended to attorneys who gain leverage over the firm by virtue of strong client relationships (as opposed to a system where partnership is a signal from the firm to the client about the attorney’s quality, *a la* Ribstein), the same kind of leverage also amplifies a partner’s threat to leave.

Figure 4.1 gives the network position of the defecting partner (represented as the solid black node in the network). As one can see, this particular partner had neither a central role in the firm network, nor (as indicated by node size) a large number of connections to other attorneys in the firm. As such, they had minimal connections that could act as counterweights to their ability to grab clients and leave the firm.

Meanwhile, Figure 4.2 shows that the defecting partner (represented by the red marking) is ranked in the bottom half of the firm on the measure of betweenness centrality, a measure of brokerage. Rather than gaining an advantage within the firm by occupying a position connecting lawyers in the network – that is, being a conduit for the flow of information, skills, and resources within the firm – this partner gained an advantage because of the comparative

¹¹This incident – including the identity of the defecting partner and the poaching firm, the timeline of the purported move, and the details of the original firm’s response – was widely reported in the industry press at the time.

Network Location Of Threat To Leave

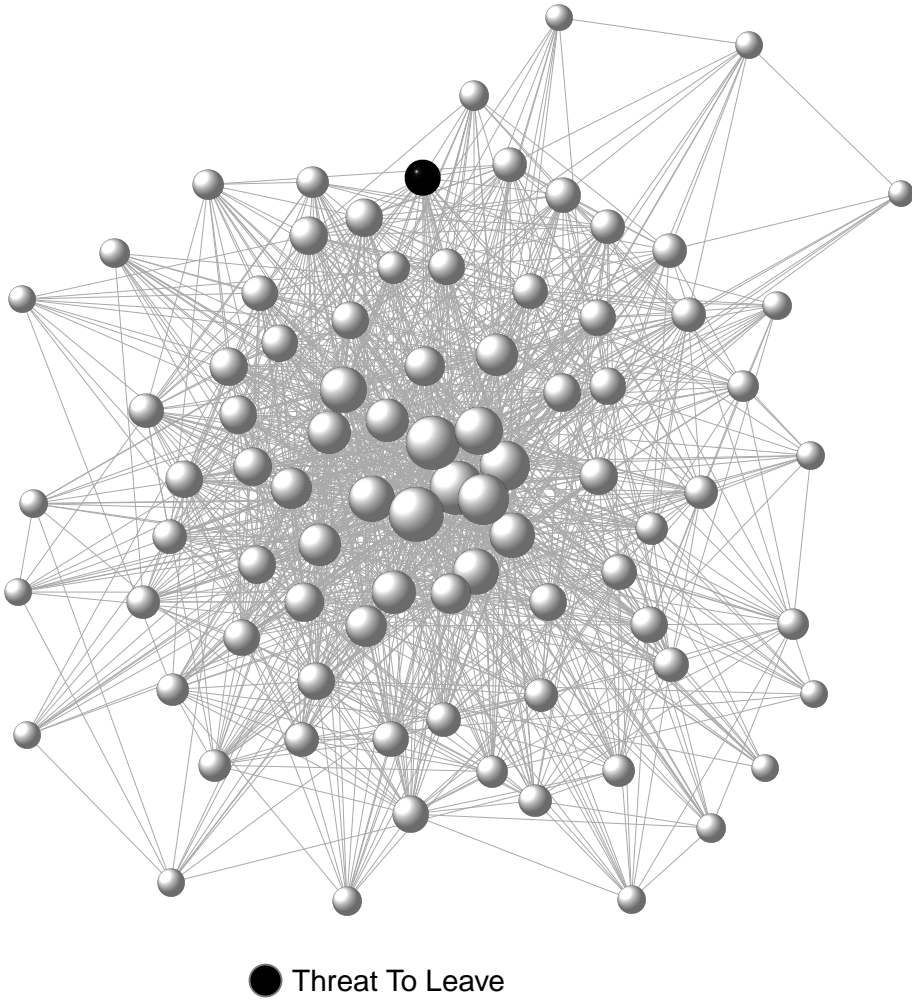


Figure 4.1: Mapping The Network Position Of A Defecting Partner

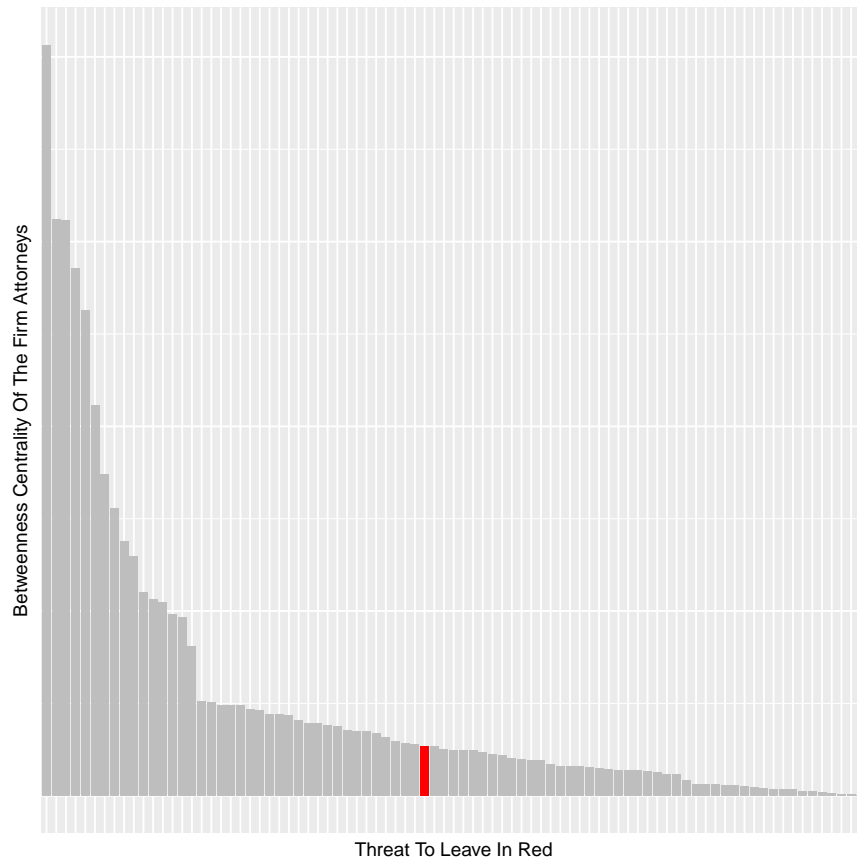


Figure 4.2: Centrality of Partner Threat

looseness of their ties to the firm (and the corresponding strength of their ties to their clients).

Given that attorneys can materially benefit by occupying more peripheral positions in the network (and thus failing to contribute to the network density that makes the firm greater than the sum of its parts), what keeps every firm attorney from acting opportunistically and opting out of the network. In other words, what makes attorneys continue contributing their capital to the firm when the alternative – hoarding clients and maintaining distance – can generate leverage? In the following sections, I explore the role that professional norms of loyalty and trust play, and model the law firm partnership as an investment game.

4.5 Professional Norms of Loyalty and Trust

This threat of “grabbing and leaving” – and the increasing frequency in which the threat is acted upon – has led to many commentators speculating on the end of loyalty in the legal

profession (Rehnquist, 1986; Johnson, 1988; Hazard, 1998; Hillman, 2010). This genre even features an article written by a law firm partner who left her law firm while she was writing about the ethical implications of partners leaving law firms (Corwin, 1998). And it is clear that the last forty years of legal practice have brought rapid organizational changes – for example, in the time it took John Flood to publish his detailed ethnography of a corporate law firm, the firm was merged out of existence (Flood, 2013).

However, as with many shifts in social norms, it is not entirely clear how to disentangle exogenous environmental factors (the sharp increase in volume and profitability of corporate legal work, courts enforcing free movement of lawyers and clients) from an endogenous change in professional or organizational culture (Mische, 2011; Dilloff, 2011; Chambliss, 2010; Tolbert, 1988). It is thus unclear whether the rapid change in the culture of law firm practice changed the structure of these organizations, or if the causal arrow flows the other way.

Either way, the breakdown of these norms shook the legal profession. No longer could the prospect of a partner leaving their firm be described as James W. Jones described it in a 1988 law review article (Jones, 1988):

A lawyer leaving his firm was analogized to getting a divorce – and divorce in those days was not a respectable choice.

Market participants were acutely aware of this change, as one representative article flatly declared that a “decline in reciprocal loyalties has led to increasing lawyer mobility” (Hamilton, 1996), and a practice that started at less prestigious firms has spread to firms at the top of the market, as lawyers at the very highest status firms jump to new firms at a rate never before seen (Stewart, 2018).

The phenomenon of organizational exit, of course, is not new. Albert O. Hirschman's *Exit, Voice, and Loyalty: Responses to Decline in Firms, Organizations, and States* holds that the options for a dissatisfied actor boil down to “exit” or “voice” (Hirschman, 1970):

[I]ndividuals faced with a decline in service or performance from an organization (including a state) can either exit (switch to a different product, move to a different jurisdiction, etc.) or exercise their voice (complain, vote, protest, etc.), and that the degree to which they will opt for exit over voice depends in part on their loyalty to the organization.

According to Hirschman, “[h]igh fees for entering an organization and stiff penalties for exit are among the main devices generating or reinforcing loyalty in such a way as to repress either exit or voice or both” (Hirschman, 1970). As to the former, law firms are fully capable of acting as stringent gatekeepers; as to the latter, law firms have their hands tied in terms of doling out penalties for breakaway lawyers.

Thus, in order for a law firm to build the kind of internal network that facilitates resource sharing, cooperation, and capital development, the organization must build a level of trust between the actors in the network without effective organizational tools to punish deviation (Hamilton, 1996). Without trust, opportunistic behavior would lead to a mutually reinforcing cycle of hoarding, non-cooperation, and withdrawal (Ahn and Esarey, 2008).¹²

The legal profession has long stressed the need for a trust relationship as between lawyer and client, but the same logic applies to the importance of trust between lawyers in a law firm. In one particularly prominent case, *Bohatch v. Butler & Binion*, 977 S.W.2d 543 (Tex. 1998), a court upheld the expulsion of a partner from a law firm because the partner had violated the trust of her fellow partners. It did not matter that the breach of trust stemmed from the partner's decision to report professional misconduct to a client – fulfilling her obligations under the code of professional responsibility – as the court held that trust was so clearly necessary for a law firm to adequately function that a loss of trust was a reasonable ground for forcing the partner to leave (Grenardo, 2015).

4.6 A Formal Model of the Law Firm as a Coordination Game

To show the effect that beliefs about the behavior of other partners in the firm have on the incentives of individual partners, we can construct a formal model of the law firm as a coordination game.¹³ In doing so, we can identify how trust can create incentives for repeated cooperation and mutual sacrifice, while the lack of trust can induce actors to grab and leave – an outcome that repeated at scale can lead to the dissolution of a firm.

Unlike the (much, much) more popular Prisoner's Dilemma, which by virtue of the structure of its payouts has a single equilibrium where both parties betray each other, coordination games often have multiple solutions, meaning that the player payouts alone do not determine the action that the players in the game will take (McAdams, 2008). Instead, the outcome of a coordination game can be influenced by individual belief, interpersonal trust, and the broader culture in which the game is played (Ahn, Ostrom, Schmidt, Shupp, and Walker, 2001; Kahan, 2003). Thus, modeling the firm as this type of game can reveal the interplay between individual-level incentives, firm reward structures, and dyadic relationships between firm actors.

¹²Note briefly that opportunistic hoarding of clients and client work can be a *defensive* mechanism in addition to a leverage-enhancing maneuver. Keeping clients under the individual control of an attorney can be also insurance against expulsion from the firm or demotion to non-equity partner status (Richmond, 2009a).

¹³For arguments in favor of bringing formal models into sociology, see Swedberg, 2001; Petersen, 1994

A relatively straightforward type of coordination game is the investment game, where two players choose to invest their deposit D in a bank, which in turn invests their deposits in a long-term project. If both players withdraw before the project is complete, they receive less than their original payout ($D - 1$). If only one withdraws, they get their full deposit D back, but the other party bears the brunt of the losses and receives $D - 2$. If they both keep their investment until the project is complete, they both get a return of $D + 1$ (Gibbons, 1992).

Here, I use the investment game to represent the payoff structure of the sharing of human capital in a law firm. If both attorneys share their human capital, at some future date they will – by virtue of being able to use the skills/resources/experience of the other attorney – reap benefits greater than they could have with just their initial investment D , and both will receive $D + 1$. If one decides to jump firms and take clients, they will take with them their initial investment D (with no additional benefit from the other attorneys in the firm) and leave the other attorney in a worse position with a payoff of $D - 2$. If both attorneys leave, they will split the losses and walk away with $D - 1$ apiece.

Thus, the payoffs of this game are:

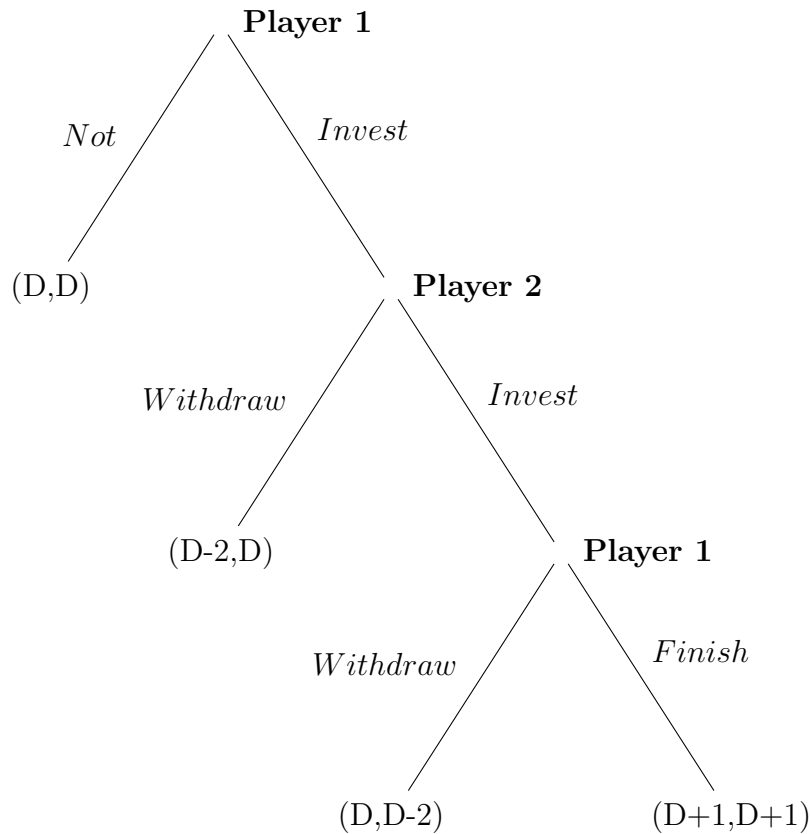
Player 1	Player 2	
	Withdraw	Invest
Withdraw	D-1, D-1	D, D-2
Invest	D-2, D	D+1, D+1

Table 4.2: The Law Firm Investment Game

There are two stable equilibria in this game – either both players invest or both players withdraw. If one player withdraws, it is strictly better for the other to withdraw; if one player invests, it is strictly better for the other player to invest. Each players’ best response function is to mirror the other player (Tadelis, 2013). In other words, it is just as rational to keep investing one’s human capital in the firm under the belief that nobody is grabbing and leaving (indeed, as this option producing the highest payout, this is the optimal strategy) as it is to remove it under the belief that others are withdrawing (the best response to a situation where other partners are also withdrawing) (Diamond and Dybvig, 1983). Thus, even though the players are together far better off leaving their capital invested in the project, a “bank run” where the players jointly withdraw is still a stable equilibrium given the incentives (Gibbons, 1992).

Note that if each player in the game were to move in sequence, with knowledge of how the other person chose, things would be different. If we instead model this as a sequential

game where Player 1 has to choose between Invest (joining the firm) or Not (practice on their own) in the first time period, with Player 2 getting an Invest/Withdraw choice in the next time period, and subsequent time periods having a similar choice for Player 1, the result is an equilibrium where both parties invest. The extensive form of that game is represented by:



Using backward induction, we find that there is one subgame perfect Nash equilibrium: $\{\text{Invest-Finish, Invest}\}$. Finish dominates Withdraw at the last node, and Finish strictly dominates both Invest and Withdraw at the second node, and thus Invest dominates Not at the first node.

The coordination problem preventing this outcome is that partners in a law firm do not necessarily owe one another the duty of honesty, as they (at least formally) owe their clients. While partners can be sanctioned for outright lying to their fellow members of the partnership,¹⁴ they are under no affirmative obligation to disclose their plans to other partners.

As such, each partner must make decisions with no concrete knowledge of how the other partner is going to behave. If each partner trusts the other, then continuing with their in-

¹⁴Meehan, 535 N.E.2d at 1260

vestment in the firm makes sense; if that trust erodes, however, then the rational choice for each partner would be to withdraw and cut their losses, leading to catastrophic results for the firm as partners rush for the exits in the human capital equivalent of a run on the bank. Importantly, neither of these outcomes are irrational given the expected payouts for each partner and the expectations that each partner has regarding the other partners. Absent strong network dynamics preventing grabbing-and-leaving, or strong professional norms of trust and loyalty, a cascading series of partner defections can put these firms into a death spiral.

4.7 Discussion

Thus, a law firm can find itself in either a virtuous or a vicious cycle: the existence of trust is a necessary component to get partners to stay and invest their capital in building the network that makes it rational to stay in the firm and build trust; the absence of trust means that it is irrational for any party to stay in the firm making it irrational for all parties to stay in the firm – and hence, firm collapse.

If, indeed, the role of trust is critical in maintaining that all the players in the law firm game choose to continue investing their capital, it is worth exploring what kind of organizational behavior could change the level of trust among the firm's attorneys – and thus change the way that those attorneys perceive their incentives and the incentives of the other attorneys at the firm. The next chapter examines the role of law firm growth – and, in particular, law firm mergers and acquisitions – in potentially destabilizing the equilibrium that builds integrated attorney networks and keeps law firms stable.

Chapter 5

The Harder They Fall: A Longitudinal Analysis of Growth and Mortality among Law Firms

“Now, everyone has become a free agent. It has changed and destabilized the nature of the legal profession.”

– Stuart Saft, partner at Dewey & LeBouef LLP, on the cause of Dewey & LeBouef’s collapse, May 4, 2012¹

“We’re delighted to have someone with Stuart’s expertise and reputation join the firm’s already formidable real estate practice.”

– Steven H. Davis, chairman of Dewey & LeBouef LLP, on hiring Stuart Saft away from his previous firm, Wolf Haldenstein Adler Freeman & Herz LLP, May 10, 2007²

Conventional wisdom holds that law firms that grow through entry-level hiring and training young attorneys (a practice associated with the prestigious “white shoe” firms) are more stable in the long run than law firms that poach attorneys from other firms via lateral acquisition. But why should hiring inexperienced and untested lawyers result in greater success for the firm than hiring lawyers that are proven to be competent and successful?

This chapter presents a comprehensive empirical analysis of the relationship between firm profits, growth strategy, and life course of large American corporate law firms. I draw

¹Stewart, 2013

²Business Wire, 2007

on a longitudinal dataset that I compiled to provide new insights on the determinants and effects of firm growth over a quarter of a century, from 1985-2011. I hypothesize that (1) “organic” growth, which relies on entry-level hiring and internal promotion, helps successful firms protect their positions by creating dense firm networks that allow the firm to survive threats to the organization, while (2) “mimetic” growth, which relies on firm merger or mass lateral hiring fails to create these dense networks and thus fails to provide long-term benefit to these firms.

The findings both corroborate and complicate the conventional wisdom, with special resonances for what predicts the longevity of corporate law. I find that firms that pursued mimetic growth were less profitable than firms that pursued organic growth. Controlling for observed potential confounders, firms that grew internally in response to organizational need were at lower risk for dissolution than firms that grew laterally by design, and that the increase in risk associated with a mimetic growth strategy would hit low-status firms hardest. Mimetic growth has the potential to damage firm cohesion and upset the unique internal dynamics of law firms, thus fraying the professional ties that bind clients and lawyers alike to the firm.

5.1 Background

Beginning in the 1980s, the environment for corporate law firms changed dramatically. Corporate consolidation reduced the pool of clients, while the rise of finance in the economy created more lucrative legal work. As a contemporaneous account (Jones, 1988, p. 685) put it:

“Mergers and acquisitions practice dominates the work of corporate lawyers. Most corporations spend inordinate amounts of time and money dealing with the current wave of takeover attempts. In 1986 American industry spend some \$177 billion in hostile takeover bids, a sum that, for the first time in our history, exceeded the amount spent on acquisitions of new plants and equipment.”

Firms that were initially successful in navigating this changing landscape were rewarded with increased business, which created opportunities for growth via expanded entry-level hiring (Galanter and Palay, 1994). Other firms, however, pursued an alternative method of growth in which they brought on established lawyers by hiring lateral partners and/or practice groups from rival firms, acquiring a smaller firm, or merging with a peer firm (Hillman, 1988). Because this alternative method is often not in response to a direct organizational need – bringing aboard attorneys with established practices would not necessarily help a firm meet increased client demand – I argue that this method of growth is “mimetic” and arises when a firm observes its peers growing and expands to keep up (Haveman, 1993a; DiMaggio

and Powell, 1983).

At the same time that corporate law firms were expanding, firm practice – once characterized by organizational stability, predictable career paths, and conservative management – became more volatile and dynamic, as lawyers moved between firms, clients followed “rainmaker” partners to new firms, and firms left behind suddenly collapsed. This period thus offers an important site from which to analyze the determinants of firm expansion and firm mortality.

In this chapter, I use insights from organizational theory to analyze the internal dynamics of law firms, review how professional ethics rules shape firm behavior, and examine why changes in a firm’s network of client ties could affect the firm’s mortality risk. I propose the theory that (1) “organic” growth (growth through entry-level hiring and internal promotion) helps successful firms protect their positions by creating dense networks between firms and clients that allow the firm to survive threats to the organization, while (2) “mimetic” growth (growth through firm merger or lateral hiring) fails to create these dense networks – and thus undermines the firm’s long-term stability.

To examine the factors that lead firms to adopt different strategies, and test whether growth strategy contributes to firm mortality, I compiled a longitudinal dataset that tracks the most prominent American corporate law firms from 1985-2011. I collected and synthesized information from industry periodicals, contemporaneous news reports, and the law firms themselves to create a dataset with detailed law firm headcounts, partner and associate numbers, profits per partner, growth rates, profit trends, lateral hiring events, acquisitions, and dissolutions. Armed with this unique dataset, I use structural equation modeling, survival analysis, proportional hazards modeling, and logistic regression techniques to examine the potential causes and consequences of law firm growth and law firm mortality.

I proceed in this chapter as follows. In the next section, I introduce the recent phenomenon of rapid law firm expansion and I explain why that expansion has been so difficult to theorize. I then apply organizational ecology perspectives from Chapter 1 that incorporates the environment in which firms are situated, and examine the different types of firm growth as a response to changes in the organizational ecology that firms inhabit. I follow by hypothesizing that a firm’s growth strategy can impact a firm’s internal dynamics in ways that fortify or attenuate its stability. I then examine longitudinal data on law firm growth and suggest that mimetic growth may be an organizational response to loss of status. I next analyze the relationship between a firm’s method of growth and its likelihood of dissolution. I conclude by noting the implications of these results for our understanding of the organizations of the legal profession.

5.2 Law Firm Growth

The most dramatic change in the law firm as an organizational form has been the precipitous and seemingly unstoppable rise over the past half-century in the headcount of the nation's top corporate law firms. In 1960, the largest firm in the country had 125 lawyers, and only 20 firms had more than 50 attorneys (Smigel, 1964; Fox, 2008). In 1983, the average size of the top 100 law firms was roughly 217 attorneys (Gilson and Mnookin, 1984). In 2012, the average size of the top 100 firms had grown to roughly 880 attorneys (National Law Journal, 2013), and today the largest law firm employs a truly staggering 4,720 lawyers (National Law Journal, 2019).

While general growth in the market for legal services can explain why there are more lawyers now than there were in 1960, scholars have struggled to explain precisely why the size of the most prominent firms continues to swell at an almost exponential rate. In this section, I argue that the traditional explanations that have been proffered for the growth of firms are inapt, and suggest that instead we should look to the broader environment in which law firms are situated to explain the pressures on firms to grow.

5.2.1 Structural Explanations of Firm Growth

The traditional economic explanations for large-scale organizational growth – the benefits derived from economies of scale or the monopolization of a market – are inapplicable to the largest law firms, as (1) large firms do not achieve any kind of cost savings vis a vis their smaller competitors (in fact, they generally charge much more for the same work) (Sherer, 1995), (2) the cost of monitoring attorneys to avoid malpractice is much higher in larger firms (O'Malley, 1988), and (3) complicated conflict of interest rules actually make administration of larger firms more costly than smaller firms (Shapiro, 2002; Epstein, 1991). Other structural theories of growth have been advanced, but they each have their flaws.

Tournament Theory

Galanter and Palay's "tournament theory" (reviewed in Chapter 1) holds that law firm growth is a product of the firm's internal labor market (Galanter and Palay, 1994). According to this theory, associates are hired to perform the work that the partnership generates and are put through a promotion-to-partner tournament (otherwise known as the "up-or-out" system) as a means of maintaining associate loyalty and effort. A certain percentage of associates must be made partner as a reward for winning the tournament to keep the structure credible for the remaining associates, who would otherwise have incentive to shirk or take work for themselves – and this system of ongoing hiring and promotion creates a geometric rate of growth.

Contrary to Galanter's theory, however, neither law firm growth nor promotion occur automatically. Despite the theory's accurate reflection of the mechanism by which associates advance to partnership – and its evocation of the cutthroat atmosphere such a tournament creates – firms often vary considerably in their partnership promotion rates (Heinz et al., 2001). Another problem is that firm structure is more flexible than tournament theory might admit. More recently, Galanter acknowledges that multiple alternatives to partnership have become available to losers of the tournament – “of counsel” positions (permanent associates), non-equity partnerships, etc. – and that the tournament is therefore not strictly a tournament after all (Galanter and Henderson, 2008).

Furthermore, there is no evidence that the credibility of the associate promotion tournament is at all a consideration for law firm partners. Indeed, immediately following the financial crisis in 2008, firms laid off several thousand associates and all but reneged on agreements to hire thousands more new law school graduates, apparently oblivious to the fact that these moves would clearly violate the terms of the “tournament” (Burk and McGowan, 2011).

The larger problem with tournament theory as an explanation for firm growth, however, is that it mistakes lawyers for a law firm's critical resource (Sherer and Lee, 2002), when a law firm's most important (some might argue its only) resource is its stable of clients. Promotion to partner does not occur whenever an associate has “earned” it in the tournament – it occurs when the associate can demonstrate that she is necessary to maintain a client relationship or has the capability to generate business for the firm.

Portfolio Theory

Another popular theory is that firm growth is driven by “portfolio theory” – the idea (also reviewed in Chapter 1) that firms add attorneys and practice areas to hedge against the loss of a client or downturn in a sector (Gilson and Mnookin, 1984). However, this theory, too, crashes against the rocky shoals of empirical evidence, as diversification can only work within a firm that can exercise control over its members to keep the firm together. While high degrees of social cohesion within law firms have been shown to suppress status competition and prevent practice groups from breaking off (Lazega, 2001), the increased size of corporate law firms makes high degrees of social cohesion impossible, and law firms lack strict controls to keep partners from electively leaving the firm (see Chapter 4 on the legal restrictions on firm employment agreements).

In truth, partners in a large law firms can and do leave their firms for greener pastures when they overperform relative to the rest of the partners in the firm. And on the other side of this, firms routinely shed practice areas that do not deliver high profitability to the firm. For example, white shoe firms traditionally had a trusts and estates practice for wealthy individual clients, but the work did not generate outside bills or attract price-insensitive clients,

and the largest firms are increasingly dropping it from their areas of practice (Lattman, 2013). Likewise, large law firms used to represent corporations in individual product liability suits (Slade, 1988), though as these suits became more common and formulaic, this repetitive work was outsourced to smaller local firms who could provide cheaper services. Indeed, lawyers who specialize in practice areas where prices are being driven down by market competition are leaving large firm practice in order to maintain business they would otherwise not be able to keep at the prices charged by their firms (Potkewitz, 2010). There is little empirical support for diversification as a driver of the increased size of law firms.

A flaw common to these structural theories is that they do not take into consideration changes in the environment of the organization (either its resource base or the manner in which it is regulated) as a driver of firm growth. Another flaw is that they assume that law firm growth occurs for the same reason for all the firms in the population. A final flaw is that these theories assume that firm management responds rationally to major structural changes in the legal economy, even though these firms are often operating in an uncertain environment with incomplete information.

A broader perspective – one that incorporates the firm as an actor operating in a dense and highly-regulated field, and with dependent relationships to other organizations – is necessary.

5.2.2 The Organizational Ecology of the Corporate Law Firm

Like all organizations, the organizational behavior of corporate law firms depends on the environmental conditions of the industry in which they are situated (Hannan and Freeman, 1989). In addition to the environmental conditions that specifically affect the practice of law, however, law firms further depend on the demography of the organizations they service – that is, their success or failure depends not only on their environment, but also on the environment on which they are dependent (Pfeffer and Salancik, 2003). In the case of law firms, that means their survival depends on the conditions of the large corporations that they serve. Understanding the growth of law firms over the last 25 years requires an understanding of both the role of the law firm and the larger corporate ecology.

Changes in the Law Firm’s Ecological Niche

The services that large corporate law firms provide are generally tailored to help successful, mature organizations navigate and succeed in their particular environment. Two major structural shifts fundamentally changed the broader environment of corporate America beginning in the 1980s: corporate consolidation and the financialization of the economy.

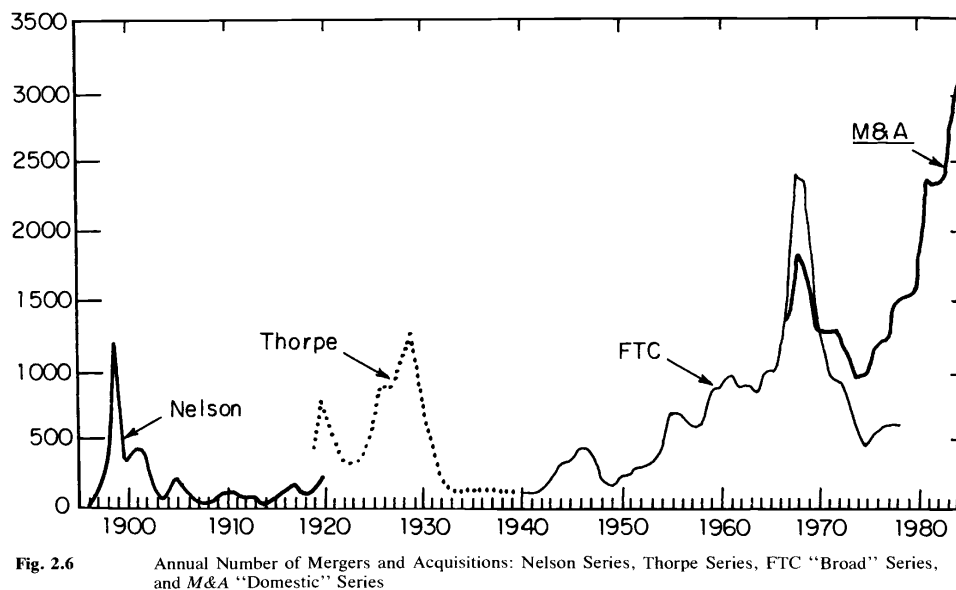


Figure 5.1: Golbe and White's Graph Of Pre-1985 Merger Trends

First, the massive wave of mergers and acquisitions brought on by the relaxation of antitrust enforcement by the Reagan administration and continued by subsequent administrations had the effect of massively increasing the amount of legal work available for large law firms (Jones, 1988; Nelson, 1988; Heinz et al., 2001). Figure 5.1 is a graph of pre-1985 mergers and acquisitions activity, combining several data sources to show that transactions began to increase sharply during the early-to-mid-1980s.³ Figure 5.2, from the Institute for Mergers, Acquisitions, and Alliances, shows that the rise in corporate combinations continued to increase dramatically in the post-1985 period, as well.⁴

The secondary effect of this massive increase in complex corporate transactions was a net reduction in the number of large corporate clients. As a result of this consolidation, more wealth became concentrated in the hands of fewer and larger corporations – in 1955, Fortune 500 companies had revenue equivalent to 39% of GDP; in 2006, the Fortune 500

³Devra L. Golbe & Lawrence J. White, Mergers and Acquisitions in the U.S. Economy: An Aggregate and Historical Overview, in *Mergers and Acquisitions* (Alan J. Auerbach ed., 1987).

⁴Institute for Mergers, Acquisitions, and Alliances (IMAA), MA Statistics - Worldwide, Regions, Industries Countries, available at <http://imaa-institute.org/mergers-and-acquisitions-statistics>

Number & Value of M&A North America

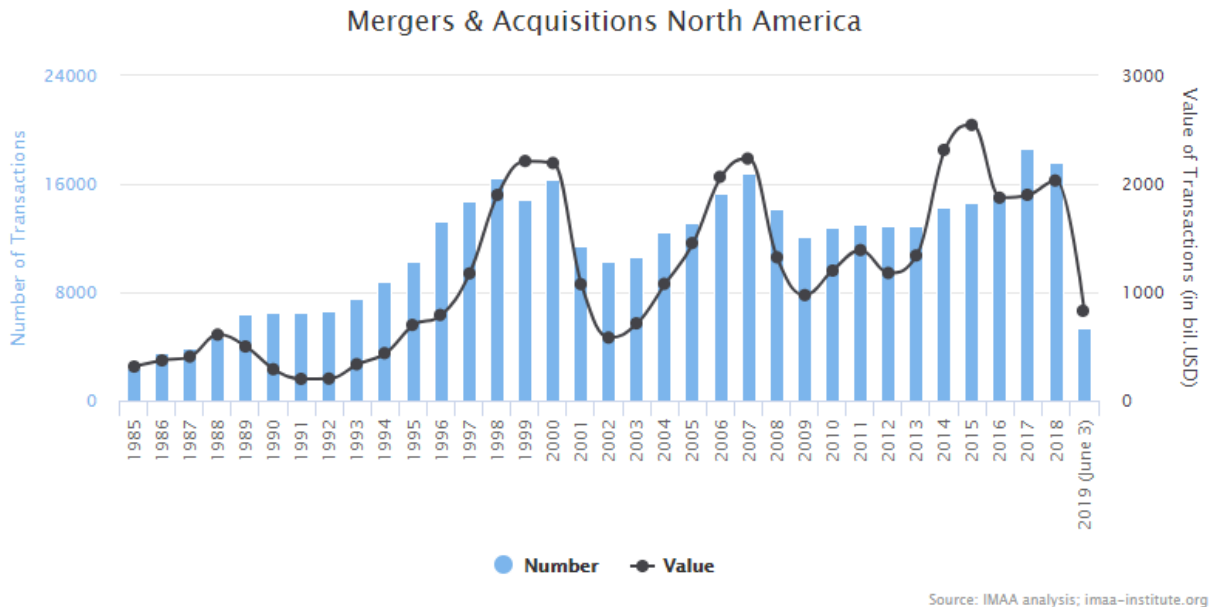


Figure 5.2: IMAA Graph Of Post-1985 Merger Trends

had revenue equivalent to 73.4% of GDP (McGirt, 2006). And as the economy became more and more centralized in the hands of a few large firms, the pool of clients for lawyers who provide services for established companies shrinks (Samuelson and Jaffe, 1990; Heinz, 2009).

The second shift – related to the first – was the growing financialization of the American economy, signified by the rise in profit and prestige of financial services companies – including private equity firms, investment banks, and insurance companies (Krippner, 2005). These companies generate a greater demand for high-end legal services on a per capita basis than companies in other industries, as financial service companies rely on legally binding agreements to a much greater degree than the manufacturers of the industrial age (Bell, 1991; Macaulay, 1963). As these financial firms came to dominate the economy, corporate legal work became more prolific and more lucrative.

A New Market for Law Firms

The initial effect of consolidation and financialization is that firms that were well-positioned in the new market were able to thrive. Firms obtained advantages in this new market by virtue of either having experienced practitioners in the needed practice areas (such as Davis Polk & Wardwell’s experience in mergers and acquisitions as J.P. Morgan’s longtime counsel), being innovators in financial markets (such as Wachtell Lipton Rosen Katz’s develop-

ment of the “poison pill” corporate takeover defense) (Cohen, 1987), or by having strong ties to clients who themselves thrived in the new environment (such as Simpson Thacher & Bartlett’s willingness to represent leveraged buyout firms during a time when such firms were outsiders on Wall Street) (Burrough and Helyar, 2008). These firms saw an immediate increase in work, both from the mergers and acquisitions themselves, and from the increased amount of legal work from newly consolidated firms.⁵

The long-term effect of these changes was increased competition among law firms. When the unrestricted movement of lawyers is combined with a shrinking number of clients – who are in turn offering a larger volume of more lucrative work – conditions are ripe for both fierce competition for clients from rival firms (external threats to law firms) and the potential for their own lawyers to grab clients and leave (internal threats to law firms). Lawyers who could singlehandedly bring clients to firms (or take clients to rival firms) – so-called “rainmakers” – thus had dramatically increased leverage over other lawyers in firms (Fox, 2008; Nelson, 1988).

It is in this environment – well-positioned firms experiencing rapidly increasing workloads, and competition among firms for clients intensifying – that the growth of law firms into the current global mega-firms began.

5.2.3 Types of Law Firm Growth

Much scholarly work has been done on the relationship between organization size and organizational change, including studies of the relationship between size and survival (Baron, West, and Hannan, 1994), between size and conformity to industry leaders (Haveman, 1993b), and between size and formal differentiation (Blau, 1970; Kimberly, 1976). However, organization size is often taken as the starting point for examining the effects of size on organization activity and organization survival, without an analysis of the method of organizational growth. Because of their unique regulatory regime and the importance of the lawyer-client relationship, law firms avail themselves of two methods of organizational expansion: organic and mimetic.

Organic Growth: The Traditional Tournament

Law firms traditionally added to their ranks by having young attorneys join them as associates directly out of law school (Friedman, 2005; Smigel, 1960). This was the method of law firm hiring during the “Golden Age” of law firms, prior to the changes in the law firm environment and the increase in inter-firm competition (Hillman, 2010). As Erwin Smigel

⁵If Client A (represented by Firm A) merges with Client B (represented by Firm B), the surviving corporation needs only one firm to represent it, and the winning firm stands to inherit the work from both Client A and Client B.

saw it, the purpose of selectively hiring and intensively training attorneys over a number of years allowed firms to signal to clients that the firm was committed to providing the client with a high standard of practice even after the current group of partners retires (Smigel, 1964). Hiring of lateral attorneys was rare, and considered a breach of professional norms. Instead, law firms hired young attorneys to handle work that senior attorneys brought to the firm – the paradigmatic exchange between a lawyer with clients but no time and a lawyer with time but no clients (Gilson and Mnookin, 1984).

To grow through this strategy requires a firm to be patient, as many (many) young attorneys never advance past the associate level. Because it is difficult to identify high-value attorneys during the recruitment process (Landers, Rebitzer, and Taylor, 1996), the firm must hire large cohorts and evaluate them during the promotion-to-partner tournament (the “organic” growth strategy), thus requiring firms to make large up-front capital investments in each cohort. While early-career associates do contribute to the firm’s bottom line through their billable hours, the profit margins on their time are lower than those of more experienced attorneys, as they bill out at lower rates and require more supervision from experienced attorneys (Sherer, 1995).

Mimetic Growth: The Lateral Market for Hired Guns

The other method of growth is to acquire established lawyers or firms through merger with a peer firm, acquisition of a smaller firm, or by hiring lateral partners and/or practice groups from rival firms. While once taboo, this became a popular method for firm growth; in one sample of large law firms between 2000 and 2006, 48% of the new partners were lateral hires (Heinz, 2009). This method is often less expensive in the short-term than organic growth, as established attorneys bring clients with them to the firm (or they are prominent enough in the field to attract new clients to the firm). Thus, a firm can recoup an investment in an established attorney much faster than an investment in an entry-level attorney, even though established attorneys cost more. Note that this method brings its own risk – established attorneys often bargain for guaranteed salaries in exchange for switching firms, and if revenue declines the firm will have to cut deeply into the profit shares for the pre-existing partners. The collapse of Dewey & LeBouef was caused in part by lavish pay packages doled out to lateral partners who were unable to bring in a commensurate level of business (Stewart, 2013).

Because this method is rarely in response to increased client demand – lateral attorneys are more likely to be the lawyer with clients but no time than a helping hand for established attorneys at the hiring firm – I posit that this is likely a mimetic response to changes by the firm’s peers. Mimetic isomorphism – the phenomenon whereby organizations look to their peers and adopt their structures and practices in an effort to maintain legitimacy in their field – abounds in the legal profession. Hiring practices, compensation systems, and formal

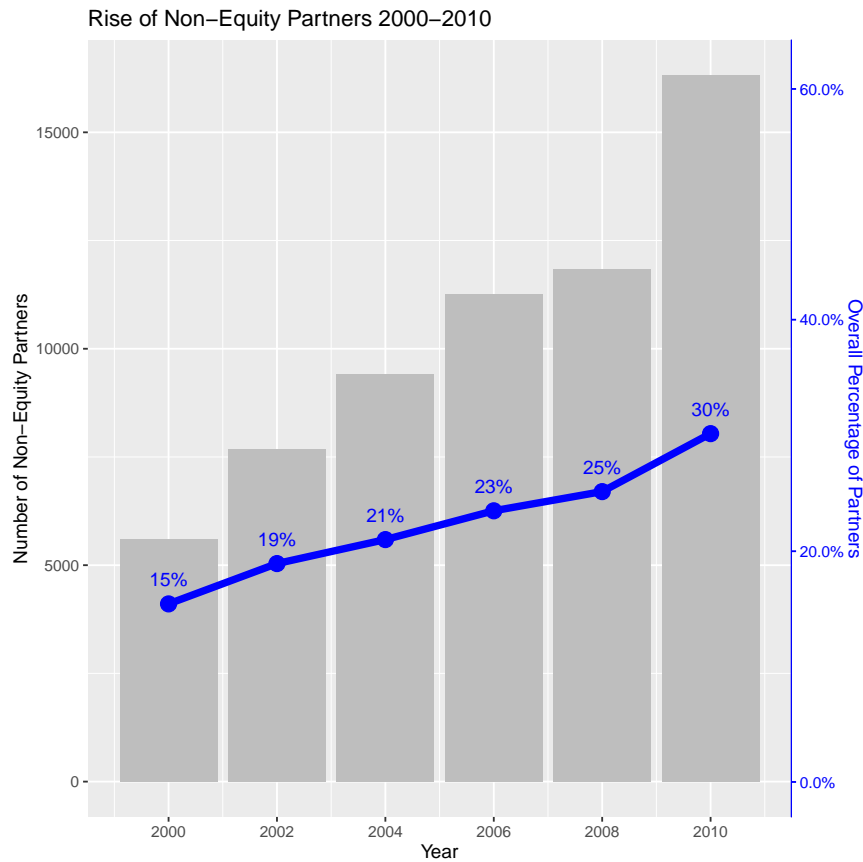


Figure 5.3: Non-Equity Partner Growth 2000-2010

structures are similar across large law firms, and changes in organizational behavior tend to spread quickly across the field (Sussman, 1988).

Contributing to this tendency towards organizational mimesis is the annual publication of statistics about each of the largest law firms by industry periodicals (which I use to collect the data for this chapter). In a field where information about other organizations is readily available, actors can identify and adopt the practices of rival firms virtually overnight. One example of this is the wave of partner de-equitization that occurred in the early 2000s, as firms switched from a single partnership track to a two-tiered system in which promotion to partner did not necessarily come with an ownership stake in the firm (Richmond, 2009b). Figure 5.3 graphs the growth in non-equity partners in the law firms in my dataset from 2000-2010 – a decade in which the overall share of this new category of firm attorney more than doubled among the firms I examine.

In addition to providing information on firm finances and associate-to-partner leverage,

these publications also rank law firms by the number of attorneys associated with the firm. In a competitive environment where prestige and high profits remain elusive for mid-tier firms, the management teams at those firms may pursue size an attainable alternative route to visibility and status.

Moreover, the regulatory framework that strictly controls what restrictions firms can place on their members allows these firms to more easily mimic the growth of the leading organizations in their field. As discussed in the previous chapter, professional rules allow for easy movement between firms for lawyers, and the internal dynamic between lawyers and their firms often generate opportunities to poach lawyers from other law firms and pursue mimetic growth strategies.

5.2.4 Some Hypotheses About Firm Growth

Drawing on environmental, institutional, and network theories about the firm, I test the following hypotheses about organic and mimetic growth strategies among large corporate law firms:

The Initial Expansion in Firm Size is Directly Related to Increases in Firm Profitability

Hypothesis 1 *There is a positive relationship between firm growth and firm profits earlier in the time period, but this dissipates over time.*

The first hypothesis uses the organizational ecology model and suggests that initial firm growth is a product of an organizational environment where certain firms benefited from consolidation of clients and the growth of finance. In other words, because all firms were not equally prepared for the changes, firms did not immediately respond to the changing environment by all growing at the same time. Under this theory, initially successful firms expanded in response to the increasing profitability of their practices, while growth in later periods is not necessarily associated with profits, as less successful firms pursued growth as a mimetic response.

Successful Firms Are Less Likely To Grow Via Merger or Lateral Hiring Than Firms That Are Comparatively Less Profitable

Hypothesis 2 *There is a negative relationship between firm profitability and the likelihood of a firm undertaking a lateral acquisition.*

The second hypothesis advances the idea that growth via lateral acquisitions by less successful firms is a mimetic response to the profit-fueled growth of more successful firms. As noted previously, lateral acquisitions are generally not pursued by firms who need to find lawyers to keep up with increased workload – they are the result of a deliberate strategy by firm leaders to expand the firm for other reasons.

Indeed, none of the Top 20 most profitable firms (as measured by profits per partner) from the initial The American Lawyer rankings in 1985 have grown through acquiring other firms. Another way to phrase this is that initially successful firms were more likely to grow organically, while less successful firms pursued growth through acquisitions.

This would also track with organizational research into mimetic isomorphism more broadly. It is generally only after successful firms adopt a particular management strategy that the strategy diffuses throughout the organizational field, as lower status firms observe the behavior of industry leaders and adopt their practices as symbols of legitimacy.

Firms That Pursue Mimetic Growth Are More Unstable Than Firms That Grow Organically

Hypothesis 3 *Firms That Engage in Lateral Hiring Are More Likely To Collapse In Subsequent Years Than Firms That Grow Organically Through Entry-Level Hiring*

The third and final hypothesis holds that law firms that choose mimetic growth is that organic growth is more likely to positively contribute to a firm's chances of survival, compared with later acquisitions of established lawyers. The risks associated with bringing aboard new lawyers range from concrete fears about firm finances to intangible concerns about firm culture. The former is the risk that offering salary guarantees to new partners can drag down the profits available to existing partners, exacerbating tensions within the firm and pushing existing partners to seek greater fortunes elsewhere (Triedman, 2015). The latter is the risk that a sudden influx of lawyers trained and socialized according to a different organizational ethos can disrupt the culture of the acquiring firm, impairing the sort of coordination necessary for a successful firm and generating interpersonal conflicts that damage firm morale (Sorensen, 2002).

This hypothesis ties in directly to the previous chapters' treatment of the firm as a network of strategic actors. The cohesiveness of the firm's network – the reciprocal exchange between its lawyers – determines both (1) the benefits that each partner gets from being integrated into the firm network, and (2) the extent to which any single partner can create exclusive ties with a client, and thus the extent to which that partner can defect from the firm.

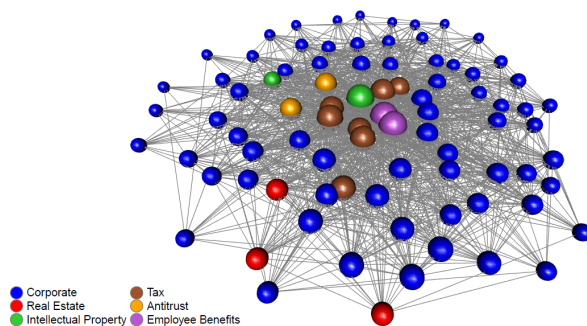


Figure 5.4: The Law Firm Network, Once Again

If a firm’s network ties are particularly important for preventing partner defections, then they play a significant role in keeping the firm alive. Consider the major corporate law firm collapses since 1984, a list of which is attached as Appendix A. The majority of firms on this list (34 out of 42) failed because a series of partner defections triggered a death spiral for the firm. John Morley has ably documented the factors that lead to these kind of collapses, and has theorized that when partners lose confidence in the firm as a continuing entity, they race for the exits in an effort to not get stuck with the liabilities of the firm at the time of dissolution (Morley, 2019). Almost all of the firms that collapsed were profitable at the time of their dissolution – just not profitable enough to stop the exodus of partners who could leave for more money, more control, or more stability at another firm.

Lateral acquisitions have the potential to both disrupt a firm’s internal network and change the incentive structure for the individual actors – thus creating a situation more conducive to partner defection and firm collapse. As such, this hypothesis posits that mimetic growth is a risk factor for firm mortality.

5.3 An Empirical Analysis of Growth and Mortality

5.3.1 The Data

For this dataset, I combined information from several publicly available sources on law firms. The National Law Journal maintains an annual list counting the attorneys in the 250 largest law firms by size (“The NLJ 250”), extending back to 1978. The American Lawyer has kept its own annual list ranking firm profits for the 200 largest law firms by revenue (“The AmLaw 200”) since 1985. I defined as the population of interest law firms that appeared on both lists and thus represented the largest law firms in terms of both size and profitability (the firms colloquially known as “BigLaw”).

I defined a lateral acquisition event to be either the hiring of an entire practice group by a firm or the absorption of another law firm through merger. For information about firm mergers and acquisitions, I searched contemporaneous news reports (including industry periodicals like the local *Crain's Business Daily* publications), state registration databases, and law firm websites. Lawyer acquisitions were also identified using the data itself: when a firm showed abrupt year-over-year growth in the number of partners accompanied by a drop in the firm's associate-to-partner leverage statistic, that was an indication that the firm had laterally acquired a group of experienced lawyers.

In addition to measures of when firms made lateral acquisitions or were themselves acquired, the dataset includes variables for total firm size, growth rate, profits per partner,⁶ associate-to-partner leverage, location, and number of offices. The outcome variable for the survival analysis is firm dissolution. Because some firms were acquired by another firm and absorbed into that firm, analysis with survival as an outcome is done in two ways: first, as though the acquired firm dropped out of the dataset (right-censored), and second, with the acquired firm sharing the outcome of the firm that acquired it.⁷

In total, 253 distinct law firms appear on both of these lists at some point during this 25-year period – though few of these firms appear on the list for all 25 years, as some firms drop off the list either through contraction, acquisition, or dissolution. Discrete outcomes for the firms in the data set are given in Table 5.1. 58.4% of the law firms in this sample acquired one or more other law firms during this period, while 9.9% of the firms listed were themselves acquired by another firm, and 9.4% of the law firms in the sample collapsed entirely (24 total firms).

These three categories do not fully capture all outcomes, however. Some firms were acquired by another firm that itself subsequently collapsed. Ordinary measures of mortality risk generally involve living organisms, and thus do not address the question of whether a merged firm counts as a single failure (only one firm went out of business) or a failure for both firms (two law firms undertook a mimetic growth strategy and both firms ultimately dissolved). In the following analyses, I have chosen to treat these cases as a dual failure for two reasons. First, from the perspective of the lawyers in the acquired firm, the dissolution of the merged firm represents a failure of their original firm, as well. Second, it is not quite accurate to treat these observations as censored, as the acquired firms in the sample did not drop out of the study (the typical case for right-censored longitudinal data), and thus they should not be treated as conditionally missing for the purpose of the analysis. Counting these

⁶“Profitability is defined as net income per partner, which is typically considered to be the best measure of business success in professional service firms, much as return on equity is for conventional enterprises.” (Samuelson and Jaffe 1990)

⁷In other words, if Firm A was acquired by Firm B, and Firm B subsequently collapsed, Firm A would be assigned to “dissolved” because that was the ultimate outcome for the lawyers of Firm A, even if Firm A did not technically dissolve.

collapses, of the 253 law firms in the sample, 28 total firms (11.5%) suffered a catastrophic failure.

<i>Law Firms</i>	No Lateral Acquisitions	At Least One Acquisition	<i>Total</i>
Survived	83 (79.0%)	121 (81.7%)	204 (80.7%)
Acquired	16 (15.3%)	9 (6.1%)	25 (9.9%)
Dissolved	6 (5.7%)	18 (12.2%)	24 (9.4%)
Total	105 (41.6%)	148 (58.4%)	253

Table 5.1: Distribution of Discrete Law Firm Outcomes

As an initial observation, while only 58% of firms in the overall sample expanded through acquisition during this period, a full 75% of the dissolved firms had expanded through acquisition – a significant difference between the groups. This suggests that, at the very least, pursuit of growth through acquisition does not increase firm stability, and that strength in numbers may be illusory for large law firms. Table 5.2 below describes the mortality outcomes for the firms in the dataset, including the ultimate outcomes of firms that were acquired by another firm.

<i>Law Firms</i>	Organic Growth	Mimetic Growth	<i>Total</i>
Survived	83 (93.2%)	142 (86.5%)	225 (88.5%)
Dissolved	6 (6.7%)	22 (13.5%)	28 (11.5%)
Total	89 (35.2%)	164 (64.8%)	253

Table 5.2: Mortality Outcomes (With Merged Firms)

Overall, the mortality risk for firms in this sample was relatively low, both in any given year and overall for the time period in question. This should be unsurprising – the sample contains only those firms that have achieved great success, both in terms of profits that rank at the very top of the profession and in terms of attracting lawyers to join their organizations.

Additionally, large law firms are unlike typical organizations in that their fixed costs are comparatively low. Because the provision of legal services is a knowledge-based industry, equipment purchases (computers, software, coffee, etc.) are minimal, and there are no physical assets to maintain. A law firm has relatively little in the way of overhead, as its primary outlays are rent (a medium-term obligation) and wages for staff and junior attorneys. Staff are generally hired at-will, and thus labor costs can be adjusted based on expected revenues. Moreover, in a partnership structure the members typically share the residual profit amongst themselves on an annual basis, freeing law firms of the need to enter into long-term contracts

with their top earners, additionally lowering the risk of the firm being unable to pay their debts.⁸

Thus, the mortality risk among these firms should be low, both because their membership in the sample is indicative of their competence, and because they are structured such that long-term liabilities are more avoidable than in other industries. However, as we will see in the following sections, even though the overall mortality risk is relatively small, survival chances can vary substantially between firms.

5.3.2 Law Firm Profits and Law Firm Growth

To begin, I examine the relationship between firm profits and firm growth. First, I divided the sample into three time periods: the 1980s (the time of upheaval in the market of corporate clients), the 1990s (the period that featured the fastest rates of firm growth), and the 2000s (a period of continued firm expansion and increased lateral hiring). Using the lagged year-over-year percentage increase in profits as the dependent variable, and the percentage growth in firm size as the outcome variable, I fit a simple linear regression model for each period to identify the association between profits and growth in these time periods. Profit variables in this and other analyses are lagged to account for the longer lead times necessary to hire lawyers. This is true for both entry-level hiring (summer associates are hired two years in advance of their graduation, and an offer of permanent employment is typically extended a year before they can join the firm) and for lateral hires (which can involve a time-consuming process of identifying and negotiating with potential candidates).

The model is specified as:

$$\mathbf{Growth}_{it} = \beta_0 + \beta_1 * \mathbf{Profits}_{i(t-1)} + \epsilon$$

Where i represents each observation of a particular firm in a particular year, and time t is lagged for the profits variable. The inclusion of other covariates in the dataset (partner-to-associate ratio, firm location, firm size at $t - 1$) did not meaningfully change the size or significance of the value of the coefficient β_1 on firm growth. I further fit a random intercept model – $\mathbf{Growth}_{it} = \beta_0 + \beta_1 * \mathbf{Profits}_{ij(t-1)} + \zeta_j + \epsilon_{ij}$ – with each individual firm j given its own cluster-specific intercept to control for potential unobserved variance between firms (Rabe-Hesketh and Skrondal, 2008). However, the size and significance of β_1 did not meaningfully change, and I present only the results of the simplest and most straightforward

⁸That a firm does not need to give its members guaranteed contracts does not mean that they will not do so, however. Indeed, as discussed previously, guaranteed contracts are often used by law firms to entice lawyers to switch firms. Similarly, firms could pay for capital-intensive projects (acquiring property, expanding into new markets, etc.) out of the partnership draws of the partners instead of taking on debt, but this is also no guarantee that they will do so.

model. Figure 5.5 presents scatter plots of profit increases and growth rates for each of the three time periods, with a line of best fit from the linear regression superimposed on the plot in red. The regression coefficients for firm profits are listed in the corner of each graph, and show a distinct pattern in the relationship between profit and growth.

In the 1980s, increases in firm profits do not predict future growth, as the regression coefficient is small and not statistically significant. In the 1990s, by contrast, there is a strong and significant relationship between the year-over-year increase in profits and the rate of firm expansion. During this period, a 10% increase in profits would have been roughly associated with a 2% average increase in firm size the following year.⁹ Finally, in the 2000s, the relationship disappears, and the rate of firm growth becomes untethered from firm profitability even as year-over-year firm growth rates spike. These models support the hypothesis that later firm growth was in part the result of a mimetic strategy rather than a response to firm need.

I next tested whether changes in relative profits were significantly related to firm growth during the full time period, to allow for the possibility that hiring decisions were based on a firm’s status relative to its peers. Thus, instead of using the firm’s prior profits as the baseline, a firm’s profitability was measured relative to the group mean for that year. Using a hierarchical linear model with a random intercept for each year in the sample, I again regressed firm growth on lagged firm profits. Clustering by year allows the model to account for unobserved factors unique to each year that might influence the outcome variable – for example, changes in broader economic conditions (Raudenbush and Bryk, 2002). The second model included lagged firm size as a control variable to account for a potential dependence between growth rate and size (Bentzen, Madsen, and Smith, 2012). The results are displayed in Table 5.3.

<i>Lagged Variables</i>	<i>Firm Growth</i>	
	<i>(1)</i>	<i>(2)</i>
Relative Profits	-0.004 (0.005)	-0.004 (0.005)
Firm Size		-0.000 (0.000)
Observations	3,174	3,174

⁹Note that this relationship was often posited to follow a reverse causal path. For example, in 1990 Samuelson and Jaffe noted that “the number of associates at a firm was the best predictor of firm profits, with more associates corresponding to higher profits per partner.” (Samuelson and Jaffe, 1990) In reality, the profitability of a law firm was a predictor of size, and not the other way around.

$$\frac{\text{Firm Growth}}{*p<0.05**p<0.01***p<0.001}$$

Table 5.3: Hierarchical Model of Growth and Profits

Neither model returned a significant relationship between relative firm profits and firm growth, indicating that after accounting for time-specific effects, firm growth is not a direct function of a firm’s relative success, lending support to the theory that mimetic isomorphism accounts for part of law firm growth during this period.

To test the second hypothesis – whether less profitable firms might be more likely to choose mimetic growth – I fit a structural equation model using a variable representing whether the firm in question had made a lateral acquisition that year as a mediating variable, while keeping firm growth as the outcome variable and relative profits as the independent variable. The structural equation model was thus simultaneously testing the relationship between profits and lateral hiring, and profits and growth, while accounting for the mediating effect of lateral hiring on growth.

Mediation models are useful in describing the way in which one variable X has an effect on another variable Y through its influence on some intermediate variable M (Selig and Preacher, 2009). They can thus be used to disaggregate direct and indirect effects in models where there are multiple causal pathways (Skrondal and Rabe-Hesketh, 2004; Selig and Preacher, 2009). The model underlying most applications of mediation analysis is expressed in the following equations:

$$\begin{aligned} M &= \beta_{0m} + \beta_{1m}X + \epsilon_m \\ Y &= \beta_{0y} + \beta_{1y}X + \beta_{2y}M + \epsilon_y \end{aligned} \tag{5.1}$$

Where M is predicted by X , and Y is predicted by X and M . Mediation is represented in the model as the indirect effect of X on Y (Vansteelandt, 2012). Here, the structural equation model is estimating the association between profits and growth, with lateral hiring as the mediator. Thus:

$$\begin{aligned} \text{Acquisition}_{i(t-1)} &= \beta_{0m} + \beta_{1m} * \text{Profits}_{i(t-2)} + \epsilon_m \\ \text{Growth}_i &= \beta_{0y} + \beta_{1y} * \text{Profits}_{i(t-2)} + \beta_{2y} * \text{Acquisition}_{i(t-1)} + \epsilon_y \end{aligned} \tag{5.2}$$

The parameters of interest are the direct coefficients on Profits (β_{1y}) and Acquisition (β_{2y}) and the indirect coefficient (β_{1m}) measuring the effect of Profits on Acquisition. The results are shown in Table 5.4, and visualized in Figure 5.6.

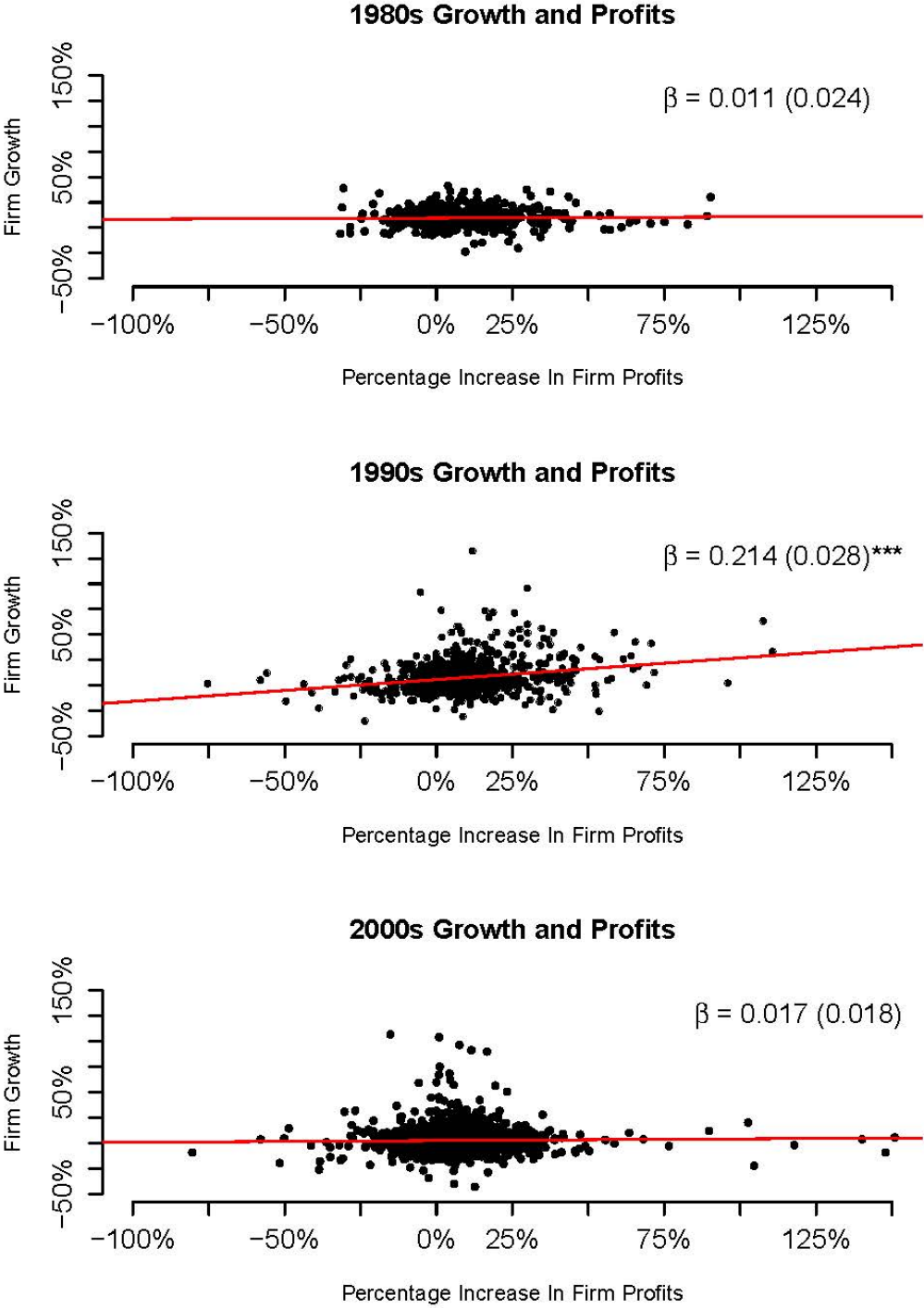


Figure 5.5: Relationship between Firm Growth and Firm Profits by Decade

<i>Lagged Variables</i>	Dependent Variables	
	<i>Firm Growth</i> (1)	<i>Lateral Acquisition</i> (2)
Relative Profits (at t-2)	0.010* (0.004)	-0.055** (0.011)
Lateral Acquisition (at t-1)	0.182** (0.007)	

*p<0.05**p<0.01***p<0.001

Table 5.4: Structural Equation Model of Firm Growth

In this model there is a significant negative relationship between relative firm profits and the choice to build the firm through lateral hiring, suggesting that less successful firms are more likely to engage in lateral hiring. Accounting for that relationship, we now also find a significant and positive (though relatively small) relationship between relative firm profits and firm growth, indicating that firms with increasing profits tend to slowly expand their firms without resorting to mergers or acquisitions.

Figure 5.4 is a path diagram of the structural equation model, and it shows the direct and indirect relationships between profits and growth, with interpretable coefficients to the paths in the model. The coefficients on the edges between the nodes in the diagram give the approximate percentage increase associated with that node. So, roughly speaking, for every \$100,000 that a firm's profits per partner is above the group average, a firm can expect to expand its size by about 1%, while simultaneously decreasing its chances of engaging in a future lateral acquisition by about 5%. Meanwhile, a firm that engages in a lateral acquisition directly increases the size of the firm by about 18%. The net effect of an increase in relative firm profits is thus to directly increase predicted firm growth, but indirectly decrease predicted firm growth by lowering the probability of a lateral acquisition.

These results explains why we do not observe a significant relationship between relative profits and firm growth, as less successful firms adopt a mimetic strategy to functionally match the organic growth of more successful firms. These findings together support Hypothesis 2, suggesting that a lateral hiring strategy does not occur in response to increased demand, but instead is pursued by less profitable firms as a mimetic response to the growth of its peers.

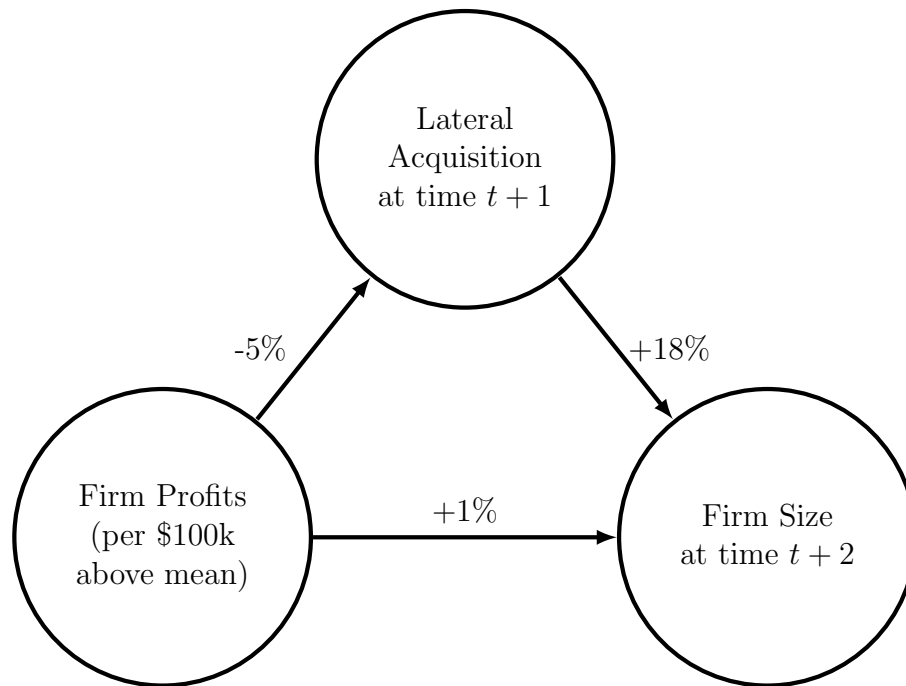


Figure 5.6: A Path Diagram of Profits, Lateral Hiring, and Growth

5.3.3 Law Firm Growth and Law Firm Survival

Finally, in order to test the third hypothesis – that mimetic growth through lateral hiring increases the risk of firm dissolution – I use three models to estimate how the odds of dissolution change for firms using a lateral growth strategy. First, I fit survival curves using the non-parametric Kaplan-Meier estimator, estimating different curves for organic growth firms and mimetic growth strategy firms in question engaged in lateral acquisition, and testing to see if the difference in curves is significant. Next, I use a finer-grained Cox Proportional Hazards model to estimate the increase in risk to a firm during the three-year period after a lateral acquisition, controlling for both static and time-varying covariates. Lastly, I ran a generalized linear model for each firm regressing their dissolution status at the end of the time period on their use of a lateral acquisition strategy. The results of these models show a strong relationship between mimetic growth and an increased risk of firm mortality.

Kaplan-Meier Estimate for Firm Growth Strategies

As a first cut at estimating the impact of firm growth on survival, I generate survival curves using a Kaplan-Meier estimator for each type of growth strategy. Kaplan-Meier is a non-parametric method for estimating the probability of a subject surviving each unit of time

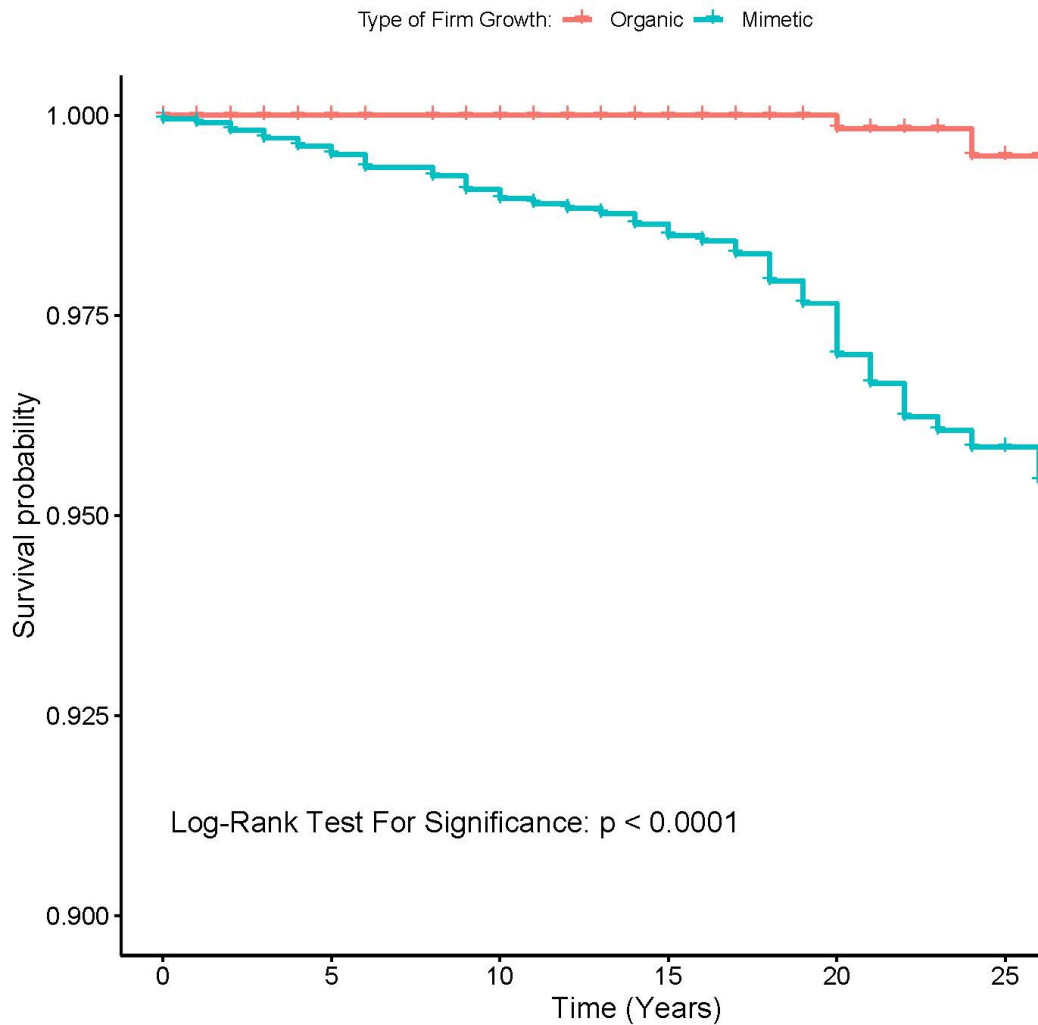


Figure 5.7: Survival Curve For Firms Based On Growth Strategy

in the dataset, conditional on surviving the previous unit (Efron, 1988). For this sample, the survival curves in Figure 6 represent the cumulative probability of survival over time for any given firm, differentiated by which method of growth that firm employed. P-values are calculated using the logrank test, which is used to test the hypothesis that there is no difference in survival between the subgroups at any point in time (Bland and Altman, 2004). Here, the survival curve for mimetic growth firms deviates significantly from the survival curve for organic growth firms (though, again, note that the overall survival probability remains high for both types, for the reasons noted in Part 5.4, *supra*).

	<i>Dependent Variable</i> <i>Firm Dissolution</i>
Acquisition Within Prior 3 Years	3.023 (0.720)***
Profits (Lagged)	-0.000 (0.000)
Growth Rate	-0.014 (0.016)
Overall Size	-0.008 (0.003)***
Associate-to-Partner Leverage	1.723 (0.643)***
Offices	0.154 (0.055)***
Observations	572
Wald Test	28.260*** (df = 6)

*p<0.1; **p<0.05; ***p<0.01

Table 5.5: Cox Proportional Hazards Model (Log Odds Ratio)

Cox Proportional Hazard Time-Varying Model

After establishing that there is a significant difference in mortality risk between the two kinds of firm growth strategies, the next step is to account for the possibility that other factors could explain the difference in risk. For example, if firms that are already failing tend to seek out mergers with other firms (and we have already established that less profitable firms are more likely to engage in lateral hiring), then a mimetic growth strategy might be a sign that a firm is in trouble, rather than the cause of that trouble.

In order to address this possibility, a Cox Proportional Hazard model allows us to estimate the change in the hazard rate for a given subject after an event has occurred, while controlling for the pre-existing characteristics of that subject. Here, the subject is any given firm, and the event is the period after a firm engages in a lateral acquisition (a period that I set for the three years following an acquisition). This model relies on what appears to me to be the reasonable assumption that the effects of lateral hiring dissipate over time. (Results for a five-year risk window (assuming a longer effect on the firm of a lateral acquisition) were not meaningfully different than the three-year window.) A Cox Proportional Hazard model allows for both static and time-varying covariates that might confound estimates of the effect of the event on the odds of mortality (Fisher and Lin, 1999).

In this particular model, the covariates include the three-year trend in firm profits prior to the merger (to control for the possibility that less profitable firms are more likely to seek out lateral moves), relative firm profits (to control for the possibility that firms declining in status are more likely to seek out lateral moves), lagged firm size (to control for the possibility that smaller and weaker firms are more likely to seek out lateral moves), attorney-to-partner leverage (to control for the possibility that top-heavy firms are more likely to seek out lateral moves), and number of offices (to control for the possibility that geographically-stretched firms are more likely to seek out lateral moves).

The results are given in Table 5.5. The coefficients in the table can be interpreted as the change in the log odds of dissolution given a one unit change in the covariates. The results show that, even after controlling for potential confounders such as prior firm profitability and prior size, the likelihood of firm dissolution increased during the period of time after a lateral acquisition. (Note that because the starting probability of dissolution is relatively low, the coefficient – which suggests that chances of dissolution increase dramatically during the period after a lateral acquisition – does not necessarily translate into a large absolute change in the overall probability of dissolution.) This suggests that the choice to engage in mimetic growth still significantly increases the risk of firm failure, even given that the kind of firms that choose mimetic growth strategies start out in a less advantageous position to begin with.

Regression of Firm Dissolution on Lateral Hiring Strategy

The final model is a straightforward regression model, which evaluates the overall risk of firm dissolution during the time period in question as a function of the firm employing a lateral hiring strategy, controlling for the observed characteristics of the firm over the entire time period (including a firm's average profits, size, and leverage). As with the previous models, the coefficient on lateral hiring strategy is positive and significant, which indicates a strong association between mimetic growth and an increased likelihood of firm dissolution.

Interestingly, the coefficient on average leverage is also large and significant, suggesting that excess associate-to-partner leverage may also be a warning sign of a firm in trouble. Each of these results provides evidence to support Hypothesis 3, and together they support the ultimate conclusion that law firms that grew organically were more likely to maintain or build on their initial level of success than firms that chose mimetic growth as a strategy.

	<i>Dependent Variable</i>	
	<i>Only Original Firms</i> (1)	<i>Including Acquired Firms</i> (2)
Lateral Hiring Strategy	2.585 (0.786)***	2.328 (0.710)***
Average Profits Per Partner	-0.000 (0.000)***	-0.000 (0.000)***
Average Leverage	3.021 (0.566)***	2.806 (0.517)***
Average Size	-0.004 (0.002)**	-0.004 (0.002)**
Observations	253	253
Log Likelihood	-54.950	-63.590

*p<0.1; **p<0.05; ***p<0.01

Table 5.6: GLM Estimation of Firm Failure Based On Lateral Hiring Strategy

5.4 Discussion

The results of this empirical analysis support and reinforce the idea of the firm as a network of strategic actors, and the internal dynamics unique to law firms helps explain why mimetic growth undermines firm stability. The data confirmed each of the hypotheses: (1) early expansion in firm size was driven by increases in firm profits, unlike later expansion; (2) the relatively less profitable firms were more likely than their market-leading peers to choose a mimetic method of growth and hire through lateral acquisition; and (3) the firms that pursued mimetic growth were more likely to collapse than those that pursued organic growth.

For the firm that chooses organic growth, hiring a class of attorneys and having them advance through the firm together builds social ties between future partners – ties which allow for better organizational communication and shared internal goals (Sorensen, 2002). In addition, organic growth necessarily involves hiring a large number of incoming associates with the expectation that not all will advance to partner. Existing partners will be more comfortable sharing business (and thus ties to clients) with these cohorts of younger attorneys as compared to lateral hires (who are more established, and thus represent clearer threats to grab and leave). Finally, one of the more overlooked consequence of the “promotion-to-

partner” tournament is the potential for placement of associates (the tournament losers) as in-house counsel at current firm clients (Galanter and Henderson, 2008). This is a commonly accepted practice, as clients get an attorney already familiar with their business, and firms get to establish another tie with the client (Chayes and Chayes, 1984). Recent research has shown that the human and relational capital accrued during the promotion-to-partner tournament is valued in many different practice settings, creating a positive feedback loop where attorneys seek out positions in firms where they can build this capital and firms benefit from the placement of these non-partner attorneys in alternative practice settings (Dinovitzer and Garth, 2020).

This dense network of ties works to bind the firm together, as the overlapping ties create an interdependency among partners and practice groups in a firm. Each tie is important in maintaining the client relationship, and each tie also acts as a leash preventing the other tied actors from leaving with the client. In this way, multiple ties reinforce each other and generate new ties. Lawyers with client ties gain from sharing a client with other lawyers at the firm, both by leveraging the human capital of other attorneys to build a stronger relationship with the client, and also is a way of preventing the other lawyers from dominating the relationship with the client and gaining leverage against them.

By contrast, the firm that chooses mimetic growth is unlikely to generate multiple ties between attorneys and clients. A lateral attorney is likely to be hired because she has ties with clients that the existing firm attorneys do not have – if the existing firm attorneys had ties to the lateral attorney’s clients, they would have exploited them already. In the mimetic growth firm, the relationship between the connected lawyer and the client is the connected lawyer’s only currency within the firm. Each tie is a source of leverage against the other actors – and the only source of value to rival firms – and thus cannot be shared without diminishing its value. In addition, because lateral attorneys do not have preexisting ties with firm attorneys – and because they need to avoid damaging their relationship with their clients by referring them to a low-quality attorney – they will be less likely to participate in the internal network that builds multiple ties between firm and clients. The result of building a firm out of lateral hires is a more balkanized firm, and one that is less likely to pool resources and more likely to fracture.

There are many lessons to be learned from the history of law firm growth and its consequences for law firm stability. The most immediately relevant lesson for practitioners is that the lateral hiring of established lawyers may not pay off for either the firm or the lawyers. While not every attempt to grow through lateral acquisition will end in catastrophic failure – the continued success of acquisition-happy firms like Kirkland & Ellis is one of several lateral hiring success stories (Randazzo, 2019) – the results indicate that there is a real risk to lateral acquisition as a strategy.

Another lesson that this analysis makes clear is that there is no shortcut to create the

conditions for law firm success. This is particularly true for firms that do not have a strong base of institutional capital and are pursuing growth only to keep up with peer firms. While organic growth is more costly upfront, and there is no guarantee that the hires will be a good long-term fit, that strategy is more likely to strengthen and expand the firm's network ties and increase firm stability. Mimetic growth through lateral hiring, on the other hand, can end up reinforcing the belief among members of the firm that hoarding client opportunities and maximizing one's individual leverage is the appropriate strategy for success. This weakening of firm cohesion – the fraying of the ties that bind – may not be visible, but even the largest law firms can be surprisingly fragile.

Chapter 6

Conclusion

The practice of law – and the business of law – has seen massive changes over the past thirty years. Firms have grown from relatively small client-centric partnerships into multi-jurisdictional, multi-disciplinary, thousand-lawyer behemoths. Meanwhile, legal organizations have developed two distinctive features: an up-or-out promotion system and a sharing of residual profit among partners – both of which can have significant consequences for lawyer’s career progression and for organizational change and stability. These features, in turn, generate internal tensions involving power, reputation, and profit that lawyers in these organizations must navigate while building their legal careers.

Meanwhile, lucrative clients remain the primary resource upon which these firms depend, and changes in the clients’ external environment affect the legal organizations that serve them. In particular, a lawyer’s ability to recruit or control clients becomes a key to achieving status within the firm. While the mastery of abstract knowledge might make one a professional, attracting and maintaining clients will make one a successful professional. This dynamic has led to increased lawyer mobility, swelling firm profits, and a growing chasm between the haves and have nots in the legal profession, challenging the norms of professional culture that emphasized collegiality, service, and ethical commitments that purport to supersede profit-seeking behavior.

Economic models of the firm posit that firms are formally structured as knowledge hierarchies and act as loci of human capital development – a view that implicitly endorses the idea that the practice of law is largely a technical enterprise. Sociolegal scholars, by contrast, have framed the law firm as a site for relational exchange, reputation development, and informal hierarchy. Using both network analysis and a field-level institutional approach, this dissertation synthesizes these conflicting accounts into an overarching theory of the law firm as a highly contingent result of interplay between organizational structure, external environment, and internal contestations for power and wealth.

My aim in this dissertation has been to understand the ways that firms change over time

and in response to changing environmental conditions. Now, more than ever, new client demands, technological change, and instability in the field all threaten legal practice at these organizations. A central theme of this project has been to examine and understand the internal organizational dynamics at these firms, and analyze the impact of organizational structure on both attorney careers and the long-term viability of these firms.

My research supports the conclusion that attorneys in professional organizations both shape their network within these firms, and are in turn shaped by the networks of the firm. Attorneys who successfully exploit their network to maximize their social capital yet still maintain strong client ties reap the benefits of the firm's resources (expertise, organizational reputation) while simultaneously boosting their status by controlling critical client relationships. At the same time, organizations that focus on bringing in "rainmakers" through lateral hiring and neglect the delicate internal exchange network of the firm have a higher mortality risk than firms that concentrate on building an organization from the ground up. In this way, a firm's survival is dependent on its organizational structure, which shapes both its culture and its internal network.

By shifting the focus of the research on professions to include both organizational-level goals (such as legitimacy, replication, and survival) and individual-level incentives (leverage, power within the firm, and control over working relationships) along with professional norms and rules, this project adds to the understanding of how a professional project develops. Furthermore, while much of the work on professionals in non-professional organizations posits a baseline of professional purity from which the professional strays in service to the company (Nelson and Nielsen, 2000), this research shows that professionals in professional organizations face similar organizational pressures and market forces, which suggests that the phenomenon of lawyers straying from professional ideals in non-professional settings is just as much a problem for lawyers in professional settings.

Finally, this analysis confirms that bringing the sociology of organizations into the study of the legal profession can deepen our understanding of the nature of legal practice. Organizational theory expands our view of law firms to include the broader environment in which they operate, the clients on which they depend, the rules and norms that structure their interactions with their competitors, and the drive for status and legitimacy that shapes organizational behavior. While the tie between a lawyer and a client constitutes the core of the practice of law, the study of the legal profession requires scholars to go far beyond that foundational relationship.

In the end, law firms are neither a collection of autonomous professionals nor an organization like any other. Studies of firms show that the professional project carries with it norms of behavior and rules of practice that constrain and shape organizational behavior, while organizational structures mediate and reshape professional goals and values. Organizational theorists, management scholars, legal academics, and sociologists of the professions

each have valuable theoretical and empirical lenses with which to understand the law firm, and ought to be brought together in future work.

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Appendix A

Dissolved NLJ 350 Law Firms 1984-2017

Name	Office	Date	Reason for Dissolution	Expanded via Acquisition
Finley Kumble	New York	1987	Partner defection	Yes
Isham Lincoln & Beale	Chicago	1988	Partner defection	Yes
Wyman, Bautzer, Kuchel & Silbert	Los Angeles	1990	Partner defection	No
Gaston Snow	Boston	1991	Partner defection	Yes
Wood Lucksinger & Epstein	Houston	1991	Partner defection	No
Webster Sheffield	New York	1991	Partner defection	No
Frank, Bernstein, Conaway & Goldman	Baltimore	1992	Real estate bubble	Yes
Shea & Gould	New York	1994	Partner defection	Yes
Lord Day & Lord, Barrett Smith	New York	1994	Partner defection	Yes
Bower & Gardner	New York	1994	Partner defection	No
Pettit & Martin	San Francisco	1995	Mass shooting	No
Mudge Rose	New York	1995	Partner defection	No
Popham, Halk, Schnobrich & Kaufman	Minneapolis	1996	Partner defection	Yes
Keck Mahin & Cate	Chicago	1997	Partner defection	No
Hannoch Weisman	New Jersey	1997	Partner defection	Yes
Donovan Leisure	New York	1998	Partner defection	No
Butler and Binion	Houston	1999	Partner defection	No
Bogle Gates	Seattle	1999	Partner defection	No

Name	Office	Date	Reason for Dissolution	Expanded via Acquisition
Graham & James	San Francisco	2000	Disputed merger	Yes
Holleb and Coff	Chicago	2000	Partner defection	No
Smith Helms Mulliss & Moore	Charlotte	2002	Partner defection	Yes
Peterson & Ross	Chicago	2003	Partner defection	Yes
Pennie & Edmonds	New York	2003	Partner defection	No
Brobeck Phleger	San Francisco	2003	Dot-com bubble	No
Arter & Hadden	Cleveland	2003	Partner defection	Yes
Alzheimer & Gray	Chicago	2003	Disputed merger	Yes
Swidler Berlin	Washington	2004	Partner defection	Yes
Testa, Hurwitz	Boston	2005	Dot-com bubble	No
Coudert Brothers	New York	2006	Partner defection	Yes
Jenkins & Gilchrist	Dallas	2007	Civil tax liabilities	Yes
Heller Ehrman White & McAuliffe	San Francisco	2008	Partner defection	Yes
Thelen	San Francisco	2008	Partner defection	Yes
Thacher Proffitt & Wood	New York	2008	Real estate bubble	No
Wolf Block	Philadelphia	2009	Partner defection	Yes
Adorno and Yoss	Miami	2011	Embezzlement	Yes
Ruden McClosky	Ft. Lauderdale	2011	Real estate bubble	No
Howrey	Washington	2011	Partner defection	Yes
Dewey & LeBouef	New York	2011	Partner defection	Yes
Bingham McCutchen	Boston	2014	Partner defection	Yes
Dickstein, Shapiro & Morin	Washington	2015	Partner defection	Yes
Kenyon and Kenyon	New York	2016	Partner defection	No
Sedgwick	San Francisco	2017	Disputed merger	No

Appendix B

Goodness of Fit Tests for Firm Network Analysis

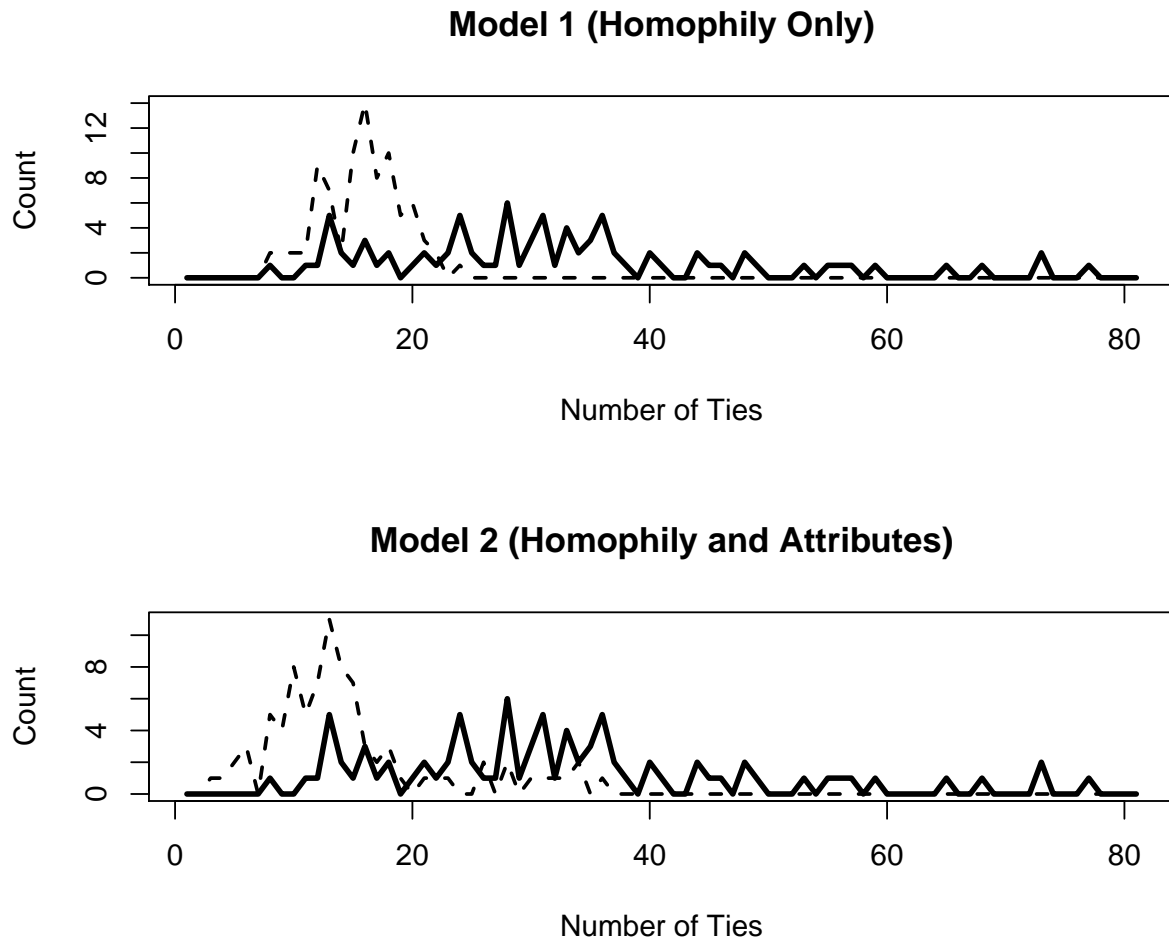


Figure B.1: Pre-Crisis Network Goodness of Fit: Simulated vs. Observed Networks

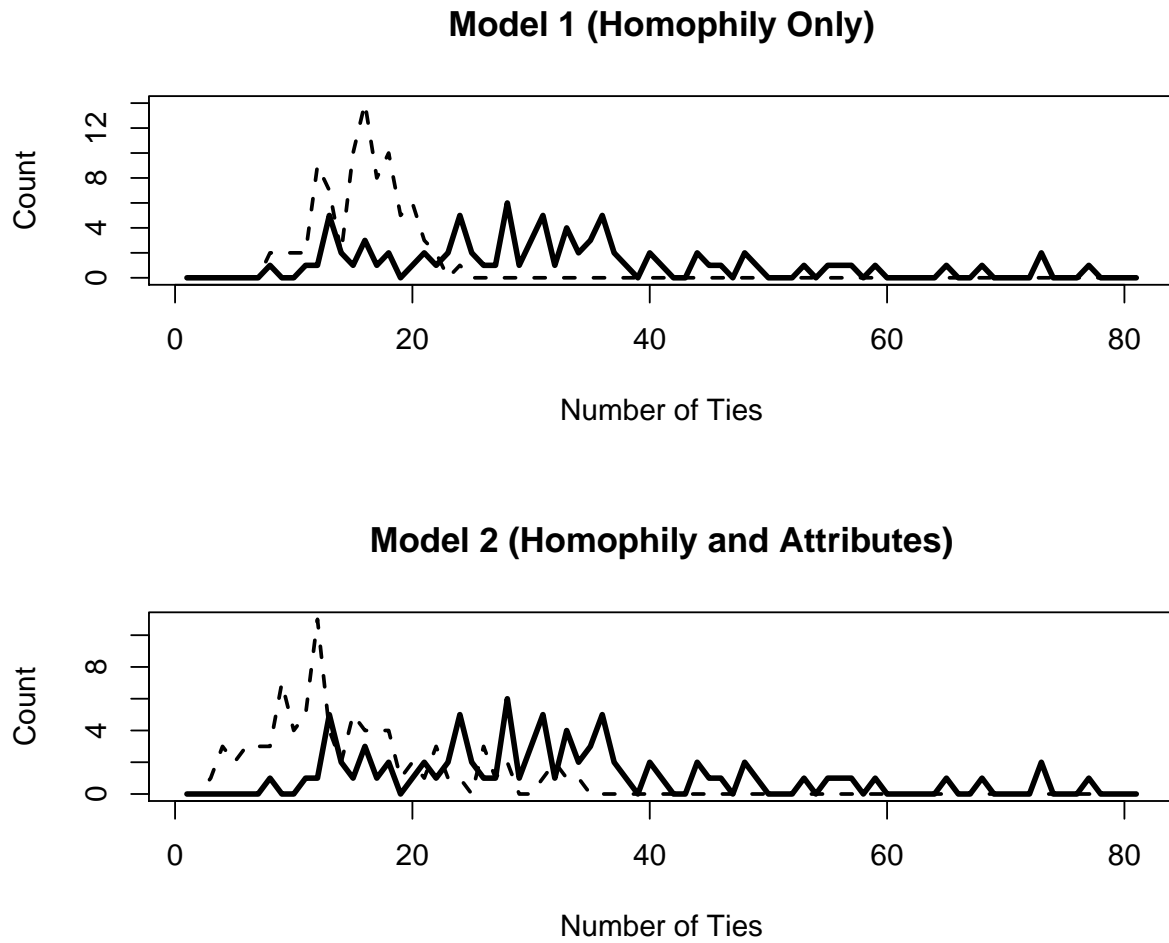


Figure B.2: Post-Crisis Network Goodness of Fit: Simulated vs. Observed Networks

Appendix C

R Code

C.1 Creating the Dataset

```

library(ggplot2)
library(stargazer)
library(tikzDevice)
library(cowplot)
library(rgl)

setwd("~/Network")

## Importing and Cleaning the data

# rawdata<-read.csv("articles1.csv", header=TRUE, sep=';')
# rawdata$Date <- as.Date(rawdata$Date, format="%m.%d.%y")
# rawdata<-subset(rawdata, Date>="2005-01-01")
# rawdata<-subset(rawdata, Client!="")

## Limit Network To Firm Partners

# corp <-read.csv("corppartners.csv", header=TRUE)
# levels(corp$Client.Type)[levels(corp$Client.Type)==""] <- "General"
# cplist <- as.vector(corp[,1])
# op <- which( !(colnames(rawdata[,-(1:3)]) %in% cplist))
# op <- (op+3)
# partdata <- rawdata[, -op]

## Remove Isolated Events

# partdata <- cbind(partdata, rowSums(sapply(partdata[,-(1:3)], as.numeric)))
# partdata <- subset(partdata, partdata[,ncol(partdata)]>1)
# partdata <- partdata[, -ncol(partdata)]
# partdata <- subset(partdata, Date<="2015-01-01")

## Clean-Up Data

# write.csv(partdata, "rawdata.csv")
# cleandata<-read.csv("rawdata.clean.csv", header=TRUE)
# snip<-cleandata[, -(1:3)]
# snip<-snip[ , order(names(snip))]
# cleandata<-cbind(cleandata[, (1:3)], snip)

```

```

# write.csv(cleandata, "cleandata.clean.csv")
# data<-read.csv("rawdata.clean.csv", header=TRUE)

corp <-read.csv("corppartners.csv", header=TRUE)
levels(corp$Client.Type)[levels(corp$Client.Type)==""] <- "General"
data<-read.csv("data.clean.csv", header=TRUE)
data$Date <- as.Date(data$Date, format="%m/%d/%Y")

## Subset By Time Period

predata<-subset(data, Date>="2006-01-01")
predata<-subset(predata, Date<="2008-07-01")
postdata<-subset(data, Date>="2008-07-01")
postdata<-subset(postdata, Date<="2011-01-01")

## Entire Network

mat <- as.matrix(sapply(data[,-(1:3)], as.numeric))
mat <- mat[,-ncol(mat)]
bignet = t(mat) %*% mat
net <- bignet
net[bignet>1] <-1

## Pre-Crisis Network

premat <- as.matrix(sapply(predata[,-(1:3)], as.numeric))
premat <- premat[,-ncol(premat)]
bigprenet = t(premat) %*% premat
prenet <- bigprenet
prenet[prenet>1] <-1

## Post-Crisis Network

postmat <- as.matrix(sapply(postdata[,-(1:3)], as.numeric))
postmat <- postmat[,-ncol(postmat)]
bigpostnet = t(postmat) %*% postmat
postnet <- bigpostnet
postnet[postnet>1] <-1

## Calm Network

calmmat <- as.matrix(sapply(calldata[,-(1:3)], as.numeric))
calmmat <- calmmat[,-ncol(calmmat)]
bigcalmnet = t(calmmat) %*% calmmat
calmnet <- bigcalmnet
calmnet[calmnet>1] <-1

### Dataset Descriptions

# Stats

predeals<-nrow(predata)
postdeals<-nrow(postdata)
preper <-mean(predata$Total)
postper<- mean(postdata$Total)
dnumber <- rbind.data.frame(as.numeric(c(predeals, postdeals)))
dnumber <- rbind(dnumber, as.numeric(c(preper, postper)))
colnames(dnumber) <- c("Pre-Crisis", "Post-Crisis")
row.names(dnumber) <- c("Number_of_Deals", "Average_Partners_Per_Deal")

```

```

capture.output(stargazer(print(dnumber, digits = 2),
  summary=FALSE), file="tables.prepostdeals.txt")

g1 <- ggplot(data=predata, aes(predata$Total)) +
  geom_histogram(aes(y=..count../sum(..count..)),
    breaks=seq(0, 10, by = 1),
    col="red",
    fill="blue") +
  labs(title="Pre-Crisis Partners Per Matter") +
  labs(x="Total Partners", y="Proportion of Matters") +
  ylim(c(0,0.6)) +
  scale_x_continuous(breaks=seq(1.5,8.5, by = 1),
    labels=c(2:9)) +
  theme(plot.title = element_text(hjust = 0.5))

g2 <- ggplot(data=postdata, aes(postdata$Total)) +
  geom_histogram(aes(y=..count../sum(..count..)),
    breaks=seq(0, 10, by = 1),
    col="red",
    fill="blue") +
  labs(title="Post-Crisis Partners Per Matter") +
  labs(x="Total Partners", y="Proportion of Matters") +
  ylim(c(0,0.6)) +
  scale_x_continuous(breaks=seq(1.5,8.5, by = 1),
    labels=c(2:9)) +
  theme(plot.title = element_text(hjust = 0.5))

g3 <- ggplot(data=calldata, aes(calldata$Total)) +
  geom_histogram(aes(y=..count../sum(..count..)),
    breaks=seq(0, 10, by = 1),
    col="red",
    fill="blue") +
  labs(title="Partners Per Matter After 2011") +
  labs(x="Total Partners", y="Proportion of Matters") +
  ylim(c(0,0.6)) +
  scale_x_continuous(breaks=seq(1.5,8.5, by = 1),
    labels=c(2:9)) +
  theme(plot.title = element_text(hjust = 0.5))

pdf("~/partners.pdf")
plot_grid(g1, g2, labels = NULL)
dev.off()

pdf("~/post2011.pdf")
plot_grid(g2, g3, labels = NULL)
dev.off()

```

C.2 Creating The Network and Network Statistics

```
##### Igraph Visualizations and Network Statistics

library(igraph)

setwd("~/")

source("~/STBNetData.R")

#### Create Igraph Objects

### The Co-Working Networks Are:

# net = full network
# prenet = pre-crisis network
# postnet = post-crisis network

### Create Network Objects

p = graph.adjacency(net, diag = FALSE, mode = "undirected")
pre = graph.adjacency(prenet, diag = FALSE, mode = "undirected")
post = graph.adjacency(postnet, diag = FALSE, mode = "undirected")

attr<-corp

##### Visualize Networks And Get Network Statistics

source("~/STBPartnerNet.R")
source("~/STBPreNet.R")
source("~/STBPostNet.R")

pdf("~/Graphics/Degree_Dist.pdf")
plot_grid(f2, f3, nrow = 2, labels = NULL)
dev.off()

##### Table Of Network Statistics

dens <- c(pre.dens, "N/A", post.dens, "N/A")
diam <- c(pre.diam, pre.ran.diam, post.diam, post.ran.diam)
trans <- c(pre.trans, pre.ran.trans, post.trans, post.ran.trans)
collabels <- c("Pre-Crisis_Network", "Simulated_Pre-Crisis",
              "Post-Crisis_Network", "Simulated_Post-Crisis")
rowlabels <- c("Network_Density", "Shortest_Path",
              "Network_Clustering_Coefficient")

df <- rbind.data.frame(as.numeric(dens))
df <- rbind(df, as.numeric(diam))
df <- rbind(df, as.numeric(trans))
colnames(df) <- collabels
row.names(df) <- rowlabels

print(df, digits = 3)

capture.output(stargazer(print(df, digits = 2), summary=FALSE),
              file="tables.prepost.txt")
```

```

#### Individual Network Statistics

## Betweenness, Closeness, Degree

p.betweenness<-betweenness(p, v=V(p), directed=FALSE,
  normalized=TRUE)
pre.betweenness<-betweenness(pre, v=V(pre), directed=FALSE,
  normalized=TRUE)
post.betweenness<-betweenness(post, v=V(post), directed=FALSE,
  normalized=TRUE)

p.closeness <- closeness(p, normalized=TRUE)
pre.closeness <- closeness(pre, normalized=TRUE)
post.closeness <- closeness(post, normalized=TRUE)

p.degree <- degree(p)
pre.degree <- degree(pre)
post.degree <- degree(post)

specialty <- V(p)$Spec
exec <- as.numeric(V(p)$Exec)
awards <- as.numeric(V(p)$Awa)
options(digits=10)

p.x = data.frame(specialty,p.degree,p.closeness,p.betweenness)
pre.x = data.frame(specialty,pre.degree,pre.closeness,pre.betweenness)
post.x = data.frame(specialty,post.degree,post.closeness,post.betweenness)
time.x = data.frame(exec, awards, pre.betweenness, pre.degree)

aggregate(p.degree ~ specialty, data=p.x, FUN=mean)
aggregate(p.betweenness ~ specialty, data=p.x, FUN=mean)
aggregate(p.closeness ~ specialty, data=p.x, FUN=mean)

#capture.output(stargazer(aggregate(p.degree ~ specialty,
  data=p.x, FUN=mean), summary=FALSE), file="tables.specialty.txt")
#capture.output(stargazer(aggregate(p.betweenness ~ specialty,
  data=p.x, FUN=mean), summary=FALSE), file="tables.specialty.txt",
  append=TRUE)

a11<-aggregate(p.degree ~ specialty, data=p.x, FUN=mean)
a12<-aggregate(p.betweenness ~ specialty, data=p.x, FUN=mean)
a13<-aggregate(p.closeness ~ specialty, data=p.x, FUN=mean)
a14<-cbind(a11,a12,a13)
a15<-a14[,-c(3,5)]
options(digits=3)
capture.output(stargazer(a15, rownames=FALSE, summary=FALSE),
  file="tables.specialty.txt")

ag1<-aggregate(pre.degree ~ exec, data=pre.x, FUN=mean)
ag2<-aggregate(pre.betweenness ~ exec, data=pre.x, FUN=mean)
ag3<-aggregate(pre.closeness ~ exec, data=pre.x, FUN=mean)
agg1<-cbind(ag1,ag2[2],ag3[2])
agg1$exec[agg2$exec == 1] <- "Yes"
agg1$exec[agg2$exec == 0] <- "No"

ag4<-aggregate(pre.degree ~ awards, data=pre.x, FUN=mean)
ag5<-aggregate(pre.betweenness ~ awards, data=pre.x, FUN=mean)
ag6<-aggregate(pre.closeness ~ awards, data=pre.x, FUN=mean)
agg2<-cbind(ag4,ag5[2],ag6[2])
agg2$awards[agg2$awards == 1] <- "Yes"

```



```

agg2$awards[agg2$awards == 0] <- "No"

capture.output(stargazer(agg1, rownames=FALSE, summary=FALSE),
  file="tables.position.txt")
capture.output(stargazer(agg2, rownames=FALSE, summary=FALSE),
  file="tables.position.txt", append=TRUE)

### Predictions Based On Network Position

s1<-lm(p.betweenness ~ specialty, p.x)
summary(s1)
b1<-lm(awards ~ pre.betweenness, time.x)
summary(b1)
b2<-lm(exec ~ pre.betweenness, time.x)
summary(b2)
d1<-lm(awards ~ pre.degree, time.x)
summary(d1)
d2<-lm(exec ~ pre.degree, time.x)
summary(d2)

capture.output(stargazer(b1,b2,d1,d2), file="tables.positionregression.txt")

#### Assign Attributes

attr<-corp
V(p)$Spec=as.character(attr$Specialty[match(V(p)$name, attr$Id)])
V(p)$Off=as.character(attr$Office[match(V(p)$name, attr$Id)])
V(p)$Eth=as.character(attr$Ethnicity[match(V(p)$name, attr$Id)])
V(p)$Gen=as.character(attr$Gender[match(V(p)$name, attr$Id)])
V(p)$Cli=as.character(attr$Client.Type[match(V(p)$name, attr$Id)])
V(p)$Exec=as.character(attr$Exec[match(V(p)$name, attr$Id)])
V(p)$Awa=as.character(attr$Awards[match(V(p)$name, attr$Id)])
V(p)$Threat=as.character(attr$Threat[match(V(p)$name, attr$Id)])

netcolor<-c("blue", "red", "limegreen", "sienna", "orange", "mediumorchid")

#### Visualize The Full Network

size <- as.vector(degree(p)/10 + 5)
color <- "black"
color2 <- ifelse(V(p)$Spec=="Corporate", netcolor[1],
  ifelse(V(p)$Spec=="Real_Estate", netcolor[2],
    ifelse(V(p)$Spec=="IP", netcolor[3],
      ifelse(V(p)$Spec=="Tax", netcolor[4],
        ifelse(V(p)$Spec=="Antitrust",
          netcolor[5],
            netcolor[6]
          ))))
  ))))

V(p)$label = NA
V(p)$size = size
V(p)$frame.color = color
V(p)$color = color2
V(p)$shape = "circle"
E(p)$width = .1

pdf("~/Graphics/FullNetwork.pdf")
plot(p, layout=layout.fruchterman.reingold, margin=-.1, frame = FALSE,

```

```

    main="Firm_Network_2006-2014")
legend(x=-1.5, y=-1.1, c("Corporate", "Real_Estate", "Intellectual_Property",
    "Tax", "Antitrust", "Employee_Benefits"), pch=21,
    col="#777777", pt.bg= netcolor, pt.cex=2.4, cex=1, bty="n", ncol=2)
dev.off()

#### Visualize The Full Network (RGL Plot)

rp <- p

rsize <- as.vector(degree(rp)/5 + 5)
rcolor <- "black"
rcolor2 <- ifelse(V(rp)$Spec=="Corporate", netcolor[1],
    ifelse(V(rp)$Spec=="Real_Estate", netcolor[2],
        ifelse(V(rp)$Spec=="IP", netcolor[3],
            ifelse(V(rp)$Spec=="Tax", netcolor[4],
                ifelse(V(rp)$Spec=="Antitrust",
                    netcolor[5],
                        netcolor[6]
                    )))
            )))

V(rp)$label = NA
V(rp)$size = rsize
V(rp)$frame.color = rcolor
V(rp)$color = rcolor2
V(rp)$shape = "sphere"
E(rp)$width = .05

rgl.open()
rgl.bg(color=c("white", "black"))
rglplot(rp, layout=layout.kamada.kawai, margin=-1, frame = FALSE)
rgl.snapshot("~/Graphics/RGLNetwork.png", fmt="png")
rgl.close()

#### Visualize the Executive Partners

ep <- p

epsize <- as.vector(degree(ep)/10 + 5)
epcolor <- "black"
epcolor2 <- ifelse(V(ep)$Spec=="Corporate", netcolor[1],
    ifelse(V(ep)$Spec=="Real_Estate", netcolor[2],
        ifelse(V(ep)$Spec=="IP", netcolor[3],
            ifelse(V(ep)$Spec=="Tax", netcolor[4],
                ifelse(V(ep)$Spec=="Antitrust",
                    netcolor[5],
                        netcolor[6]
                    )))
            )))
epcolor3 <- ifelse(V(ep)$Exec==0, adjustcolor(epcolor2, alpha.f = .00),
    adjustcolor(epcolor2, alpha.f = 1))

V(ep)$label = NA
V(ep)$size = epsize
V(ep)$frame.color = epcolor
V(ep)$color = epcolor3
V(ep)$shape = "circle"
E(ep)$width = .1

plot(ep, layout=layout.fruchterman.reingold, margin=-.1, frame = FALSE,
    main="Firm_Network_2006-2014: Executive_Partners")

```

```

legend(x=-1.5, y=-1.1, c("Corporate", "Real_Estate", "Intellectual_Property",
  "Tax", "Antitrust", "Employee_Benefits"), pch=21,
  col="#777777", pt.bg= netcolor, pt.cex=2.4, cex=1, bty="n", ncol=2)

pdf("~/Graphics/ExecNetwork.pdf")
plot(ep, layout=layout.fruchterman.reingold, margin=-.1, frame = FALSE,
  main="Firm_Network_2006-2014_Executive_Partners")
legend(x=-1.5, y=-1.1, c("Corporate", "Real_Estate", "Intellectual_Property",
  "Tax", "Antitrust", "Employee_Benefits"), pch=21,
  col="#777777", pt.bg= netcolor, pt.cex=2.4, cex=1, bty="n", ncol=2)
dev.off()

### Side By Side

pdf("~/Graphics/ExecComp.pdf")

par(mfrow=c(2,1), mar=c(2, 2, 1, 1))
set.seed(25)
plot(p, layout=layout.fruchterman.reingold, margin=-.1, frame = FALSE,
  main="Firm_Network_2006-2014_All_Partners")
legend(x=-2.5, y=1, c("Corporate", "Real_Estate", "Intellectual_Property",
  "Tax", "Antitrust", "Employee_Benefits"), pch=21,
  col="#777777", pt.bg= netcolor, pt.cex=2.4, cex=1, bty="n", ncol=1)
set.seed(25)
plot(ep, layout=layout.fruchterman.reingold, margin=-.1, frame = FALSE,
  main="Firm_Network_2006-2014_Executive_Partners")
legend(x=-2.5, y=1, c("Corporate", "Real_Estate", "Intellectual_Property",
  "Tax", "Antitrust", "Employee_Benefits"), pch=21,
  col="#777777", pt.bg= netcolor, pt.cex=2.4, cex=1, bty="n", ncol=1)

dev.off()
par(mfrow=c(1,1))

#### Visualize The Degree Distribution

p.degrees <- degree(p)
p.degree.histogram <- as.data.frame(table(p.degrees))
p.degree.histogram[,1] <- as.numeric(p.degree.histogram[,1])

pdf("~/Graphics/FullHist.pdf")
f1 <- ggplot(p.degree.histogram, aes(x = p.degrees, y = Freq)) +
  geom_point() +
  scale_x_continuous("Degree\n(actors_with_this_amount_of_connections)",
    breaks = c(1, 3, 10, 30, 100, 300))
  ) +
  scale_y_continuous("Frequency",
    breaks = c(1, 3, 5, 10))
  ) +
  ggtitle("Degree_Distribution_Of_Partner_Ties_in_Firm_Network_2006-2014") +
  theme_bw()
print(f1)
dev.off()

#### Network Statistics

# Density
p.dens <- edge_density(p, loops = FALSE)

# Shortest path
p.diam <- diameter(p, directed = FALSE)

```

```

# Average Clustering Coefficient
p.trans <- transitivity(p, type="average")

# Random Graph Stats

rando.p <- erdos.renyi.game(vcount(p), ecount(p), type="gnm",
                           directed = FALSE, loops = FALSE)
p.ran.diam <- diameter(rando.p, directed=FALSE)
p.ran.trans <- transitivity(rando.p, type="average")

#### Visualize The Network With High Leverage Partner

pt <- p

ptsize <- as.vector(degree(pt)/10 + 5)
ptcolor <- "black"
ptcolor2 <- ifelse(V(pt)$Threat==1, "Black", "White")

# V(p)$label = ifelse(V(p)$Threat==1, "Highly Leveraged Attorney", NA)
# V(p)$label.degree
# V(p)$label.cex = .7
V(pt)$label = NA
V(pt)$size = ptsize
V(pt)$frame.color = ptcolor
V(pt)$color = ptcolor2
V(pt)$shape = "circle"
E(pt)$width = .1

rgl.open()
rgl.bg(color=c("white","black"))
rglplot(pt, layout=layout.kamada.kawai, margin=-.5)
rgl.snapshot("~/Graphics/RGLWalkingPartner.png", fmt="png")

pdf("~/Graphics/WalkingPartner.pdf")
set.seed(25)
plot(pt, layout=layout.fruchterman.reingold, margin=-.1, frame = FALSE,
     main="Network_Location_Of_Threat_To_Leave")
legend(x=-0.5, y=-1.1, c("Threat_To_Leave"), pch=21,
      col="#777777", pt.bg="black", pt.cex=2.4, cex=1, bty="n", ncol=1)
dev.off()

#### Visualize The Network

attr<-corp
V(pre)$Spec=as.character(attr$Specialty[match(V(pre)$name,attr$Id)])
V(pre)$Off=as.character(attr$Office[match(V(pre)$name,attr$Id)])
V(pre)$Eth=as.character(attr$Ethnicity[match(V(pre)$name,attr$Id)])
V(pre)$Gen=as.character(attr$Gender[match(V(pre)$name,attr$Id)])
V(pre)$Cli=as.character(attr$Client.Type[match(V(pre)$name,attr$Id)])
V(pre)$Exec=as.character(attr$Exec[match(V(pre)$name,attr$Id)])
V(pre)$Awa=as.character(attr$Awards[match(V(pre)$name,attr$Id)])
V(pre)$Threat=as.character(attr$Threat[match(V(pre)$name,attr$Id)])

netcolor<-c("blue","red","limegreen","sienna","orange","mediumorchid")

presize <- as.vector(degree(pre)/10 + 5)

```

```

precolor <- "black"
precolor2 <- ifelse(V(pre)$Spec=="Corporate", netcolor[1],
  ifelse(V(pre)$Spec=="Real_Estate", netcolor[2],
    ifelse(V(pre)$Spec=="IP", netcolor[3],
      ifelse(V(pre)$Spec=="Tax", netcolor[4],
        ifelse(V(pre)$Spec=="Antitrust",
          netcolor[5],
            netcolor[6]
          )))
    )))

V(pre)$label = NA
V(pre)$size = presize
V(pre)$frame.color = precolor
V(pre)$color = precolor2
V(pre)$shape = "sphere"
E(pre)$width = .1
plot(pre, layout=layout.fruchterman.reingold, margin=-.1, frame = FALSE,
  main="Firm_Network_Pre-Crisis")
legend(x=-1.5, y=-1.1, c("Corporate", "Real_Estate", "Intellectual_Property",
  "Tax", "Antitrust", "Employee_Benefits"), pch=21,
  col="#777777", pt.bg= netcolor, pt.cex=2.4, cex=1, bty="n", ncol=2)

pdf("~/Graphics/PreNetwork.pdf")
set.seed(38)
plot(pre, layout=layout.fruchterman.reingold, margin=-.1, frame = FALSE,
  main="Firm_Network_Pre-Crisis")
legend(x=-1.5, y=-1.1, c("Corporate", "Real_Estate", "Intellectual_Property",
  "Tax", "Antitrust", "Employee_Benefits"), pch=21,
  col="#777777", pt.bg= netcolor, pt.cex=2.4, cex=1, bty="n", ncol=2)
dev.off()

#### Visualize The Degree Distribution

pre.degrees <- degree(pre)
pre.degree.histogram <- as.data.frame(table(pre.degrees))
pre.degree.histogram[,1] <- as.numeric(pre.degree.histogram[,1])

f2<-ggplot(pre.degree.histogram, aes(x = pre.degrees, y = Freq)) +
  geom_point() +
  scale_x_continuous("Degree\n(actors_with_this_amount_of_connections)",
    breaks = c(1, 3, 10, 30, 100, 300)
  ) +
  scale_y_continuous("Frequency",
    breaks = c(1, 3, 5, 10)
  ) +
  ggtitle("Degree_Distribution_Of_Partner_Ties_in_Firm_Network_Pre-Crisis") +
  theme_bw()

#### Network Statistics

# Density
pre.dens <- edge_density(pre, loops = FALSE)
# Shortest path
pre.diam <- diameter(pre, directed = FALSE)
# Average Clustering Coefficient
pre.trans <- transitivity(pre, type="average")

## Random Graph Stats

```

```

rando.pre <- erdos.renyi.game(vcount(pre), ecount(pre), type="gnm",
                             directed = FALSE, loops = FALSE)
pre.ran.diam <- diameter(rando.pre, directed=FALSE)
pre.ran.trans <- transitivity(rando.pre, type="average")

#### Visualize The Network

attr<-corp
V(post)$Spec=as.character(attr$Specialty[match(V(post)$name,attr$Id)])
V(post)$Off=as.character(attr$Office[match(V(post)$name,attr$Id)])
V(post)$Eth=as.character(attr$Ethnicity[match(V(post)$name,attr$Id)])
V(post)$Gen=as.character(attr$Gender[match(V(post)$name,attr$Id)])
V(post)$Cli=as.character(attr$Client.Type[match(V(post)$name,attr$Id)])
V(post)$Exec=as.character(attr$Exec[match(V(post)$name,attr$Id)])
V(post)$Awa=as.character(attr$Awards[match(V(post)$name,attr$Id)])

netcolor<-c("blue","red","limegreen","sienna","orange","mediumorchid")

postsize <- as.vector(degree(post)/10 + 5)
postcolor <- "black"
postcolor2 <- ifelse(V(post)$Spec=="Corporate", netcolor[1],
                    ifelse(V(post)$Spec=="Real_Estate", netcolor[2],
                            ifelse(V(post)$Spec=="IP", netcolor[3],
                                    ifelse(V(post)$Spec=="Tax", netcolor[4],
                                            ifelse(V(post)$Spec=="Antitrust",
                                                    netcolor[5],
                                                    netcolor[6]
                                                    )))))
                    ))))

V(post)$label = NA
V(post)$size = postsize
V(post)$frame.color = postcolor
V(post)$color = postcolor2
V(post)$shape = "sphere"
E(post)$width = .1
plot(post, layout=layout.fruchterman.reingold, margin=-.1, frame = TRUE,
      main="Firm□Network□Post-Crisis")

pdf("~/Graphics/PostNetwork.pdf")
set.seed(38)
plot(post, layout=layout.fruchterman.reingold, margin=-.1, frame = FALSE,
      main="Firm□Network□Post-Crisis")
legend(x=-1.5, y=-1.1, c("Corporate", "Real□Estate","Intellectual□Property",
                        "Tax","Antitrust","Employee□Benefits"), pch=21,
      col="#777777", pt.bg= netcolor, pt.cex=2.4, cex=1, bty="n", ncol=2)
dev.off()

### Side By Side

pdf("~/Graphics/PrePostNetwork.pdf")

par(mfrow=c(2,1), mar=c(2, 2, 1, 1))
set.seed(28)
plot(pre, layout=layout.fruchterman.reingold, margin=-.1, frame = FALSE,
      main="Firm□Network□2006-2008")
legend(x=-2.5, y=1, c("Corporate", "Real□Estate","Intellectual□Property",
                    "Tax","Antitrust","Employee□Benefits"), pch=21,

```

```

        col="#777777", pt.bg= netcolor, pt.cex=2.4, cex=1, bty="n", ncol=1)
set.seed(28)
plot(post, layout=layout.fruchterman.reingold, margin=-.1, frame = FALSE,
      main="Firm_Network_2009-2011")
legend(x=-2.5, y=1, c("Corporate", "Real_Estate","Intellectual_Property",
  "Tax","Antitrust","Employee_Benefits"), pch=21,
       col="#777777", pt.bg= netcolor, pt.cex=2.4, cex=1, bty="n", ncol=1)

dev.off()

#### Visualize The Degree Distribution

post.degrees <- degree(post)
post.degree.histogram <- as.data.frame(table(post.degrees))
post.degree.histogram[,1] <- as.numeric(post.degree.histogram[,1])

f3<-ggplot(post.degree.histogram, aes(x = post.degrees, y = Freq)) +
  geom_point() +
  scale_x_continuous("Degree\n(actors_with_this_amount_of_connections)",
                    breaks = c(1, 3, 10, 30, 100, 300))
) +
  scale_y_continuous("Frequency",
                    breaks = c(1, 3, 5, 10))
) +
  ggtitle("Degree_Distribution_Of_Partner_Ties_in_Firm_Network_Post-Crisis") +
  theme_bw()

#### Network Statistics

# Density
post.dens <- edge_density(post, loops = FALSE)
# Shortest path
post.diam <- diameter(post, directed = FALSE)
# Average Clustering Coefficient
post.trans <- transitivity(post, type="average")

## Random Graph Stats

rando.post <- erdos.renyi.game(vcount(post), ecount(post), type="gnm",
                             directed = FALSE, loops = FALSE)
post.ran.diam <- diameter(rando.post, directed=FALSE)
post.ran.trans <- transitivity(rando.post, type="average")

```

C.3 Separable Temporal Exponential Random Graph Models

```
##### SNA/Statnet/Network Statistical Evaluations

library(sna)
library(network)
library(statnet)
library(ergm)
library(tergm)
library(stargazer)
library(tikzDevice)
library(ggplot2)
library(xtable)

setwd("~/")

source("~/STBNetData.R")

source("~/Tests/TriadCensus.R")
source("~/Tests/DyadStuff.R")

#### Create Network Objects

### The Co-Working Networks Are:

# net = full network
# prenet = pre-crisis network
# postnet = post-crisis network
# calmnet = network after markets have returned to normal

## Binary Attributes

atts<-corp
atts$Spec<-ifelse(atts$Specialty=="Corporate", 0, 1)
atts$White<-ifelse(atts$Ethnicity=="White", 1, 0)
atts$Male<-ifelse(atts$Gender=="Male", 1, 0)
atts$General<-ifelse(atts$Client.Type=="General", 1, 0)
atts$NY<-ifelse(atts$Office=="New York", 1, 0)

### Create The Networks

n<-network(net, directed=FALSE)

n%v%"special" <- as.character(atts$Specialty)
n%v%"office" <- as.character(atts$Office)
n%v%"eth" <- as.character(atts$Ethnicity)
n%v%"gender" <- as.character(atts$Gender)
n%v%"client" <- as.character(atts$Client.Type)
n%v%"spec" <- atts$Spec
n%v%"white" <- atts$White
n%v%"male" <- atts$Male
n%v%"genclient" <- atts$General
n%v%"NY" <- atts$NY
n%v%"exec" <- atts$Exec
n%v%"awards" <- atts$Awards
```



```

npre<-network(prenet , directed=FALSE)

npre%v%"special" <- as.character(atts$Specialty)
npre%v%"office" <- as.character(atts$Office)
npre%v%"eth" <- as.character(atts$Ethnicity)
npre%v%"gender" <- as.character(atts$Gender)
npre%v%"client" <- as.character(atts$Client.Type)
npre%v%"spec" <- atts$Spec
npre%v%"white" <- atts$White
npre%v%"male" <- atts$Male
npre%v%"genclient" <- atts$General
npre%v%"NY" <- atts$NY
npre%v%"exec" <- atts$Exec
npre%v%"awards" <- atts$Awards

npost<-network(postnet , directed=FALSE)

npost%v%"special" <- as.character(atts$Specialty)
npost%v%"office" <- as.character(atts$Office)
npost%v%"eth" <- as.character(atts$Ethnicity)
npost%v%"gender" <- as.character(atts$Gender)
npost%v%"client" <- as.character(atts$Client.Type)
npost%v%"spec" <- atts$Spec
npost%v%"white" <- atts$White
npost%v%"male" <- atts$Male
npost%v%"genclient" <- atts$General
npost%v%"NY" <- atts$NY
npost%v%"exec" <- atts$Exec
npost%v%"awards" <- atts$Awards

ncalm<-network(calmnet , directed=FALSE)

ncalm%v%"special" <- as.character(atts$Specialty)
ncalm%v%"office" <- as.character(atts$Office)
ncalm%v%"eth" <- as.character(atts$Ethnicity)
ncalm%v%"gender" <- as.character(atts$Gender)
ncalm%v%"client" <- as.character(atts$Client.Type)
ncalm%v%"spec" <- atts$Spec
ncalm%v%"white" <- atts$White
ncalm%v%"male" <- atts$Male
ncalm%v%"genclient" <- atts$General
ncalm%v%"NY" <- atts$NY
ncalm%v%"exec" <- atts$Exec
ncalm%v%"awards" <- atts$Awards

### The Network Objects Are:

# n = full network
# npre = pre-crisis network
# npost = post-crisis network
# ncalm = network after markets have returned to normal

# source("~/STBPreStat.R")
# source("~/STBPostStat.R")
# source("~/STBPartnerStat.R")
# source("~/STBTimeNet.R")

library(texreg)

```

```

firm <- list()
firm[[1]] <- npre
firm[[2]] <- npost
firm[[3]] <- ncalm

firm.fit <- stergm(firm,
  formation= ~edges+gwesp(1)+gwdegree(1),
  dissolution = ~edges+gwesp(1)+gwdegree(1),
  estimate = "CMLE",
  times=1:2,
  control=control.stergm(CMLE.MCMC.burnin=100000,
    CMLE.MCMC.interval=100))

summary(firm.fit)

firm.fit1 <- stergm(firm,
  formation= ~edges+gwesp(1)+gwdegree(1)
  +nodematch("gender")
  +nodematch("eth")
  +nodematch("special")
  +nodematch("client")
  +nodematch("office"),
  dissolution = ~edges+gwesp(1)+gwdegree(1)
  +nodematch("gender")
  +nodematch("eth")
  +nodematch("special")
  +nodematch("client")
  +nodematch("office"),
  estimate = "CMLE",
  times=1:2,
  control=control.stergm(CMLE.MCMC.burnin=100000,
    CMLE.MCMC.interval=100))

summary(firm.fit1)

firm.fit2 <- stergm(firm,
  formation= ~edges+gwesp(1)+gwdegree(1)
  +nodematch("gender")
  +nodematch("eth")
  +nodematch("special")
  +nodematch("client")
  +nodematch("office")
  +nodecov("spec")
  +nodecov("genclient")
  +nodecov("NY")
  +nodecov("awards")
  +nodecov("exec"),
  dissolution = ~edges+gwesp(1)+gwdegree(1)
  +nodematch("gender")
  +nodematch("eth")
  +nodematch("special")
  +nodematch("client")
  +nodematch("office")
  +nodecov("spec")
  +nodecov("genclient")
  +nodecov("NY")
  +nodecov("awards")
  +nodecov("exec"),
  estimate = "CMLE",
  times=1:2,

```

```
control=control.stergm(CMLE.MCMC.burnin=100000,
CMLE.MCMC.interval=100))

# summary(firm.fit2)
# firm.fit2.gof<- gof(firm.fit2)
# summary(firm.fit2.gof)
# plot(firm.fit2.gof)

capture.output(texreg(list(firm.fit,firm.fit1,firm.fit2), beside = TRUE,
include.formation = TRUE, include.dissolution = TRUE,
include.nvertices = TRUE, include.aic = FALSE,
include.bic = FALSE, include.loglik = FALSE),
file="tables.stergm.txt")

capture.output(summary(firm.fit), file="summary.stergm.txt")
capture.output(summary(firm.fit2), file="summary.stergm.txt", append=TRUE)
```

C.4 Exponential Random Graph Models of Pre- and Post-Crisis Networks

```

### Statistical Evaluation of the Pre-Crisis Network

### Centrality Measures

## Testing Expected vs. Observed Distributions of Centralization Measures

pdf("~/Graphics/pre_cent.pdf")
par(mfrow=c(2,1))
ctsize <- cug.test(npre,centralization,mode="digraph",cmode="size",
  FUN.arg=list(degree,cmode="freeman"))
ctsize
plot(ctsize)
ctedges <- cug.test(npre,centralization,mode="digraph",cmode="edges",
  FUN.arg=list(degree,cmode="freeman"))
ctedges
plot(ctedges)
dev.off()

## Triad Census

TriadCensus(n,"~/Tests/transitivity.txt")
TriadCensus(n,"~/Tests/intransitivity.txt")
TriadCensus(n,"~/Tests/closure.txt")
TriadCensus(n,"~/Tests/openness.txt")
TriadCensus(n,"~/Tests/dissimilarity.txt")
TriadCensus(n,"~/Tests/brokerage.txt")

## First Model Uses Only Homophily Variables

modell.pre <- ergm(npre ~ edges
  +nodematch("gender")
  +nodematch("eth"),
  control=control.ergm(MCMC.burnin=100000,
    MCMC.samplesize=10000,
    MCMC.interval=100, MCMLL.maxit=40),
  verbose=TRUE)
summary(modell.pre)

sim1.pre<-simulate(modell.pre,
  control=control.simulate.ergm(MCMC.burnin=100000),
  verbose = TRUE, seed = 7)

## Second Model Uses Homophily and Actor Attribute Variables

model2.pre <- ergm(npre ~ edges
  +nodematch("gender")
  +nodematch("eth")
  +nodecov("spec")
  +nodecov("genclient")
  +nodecov("NY")
  +nodecov("awards")
  +nodecov("exec"),
  control=control.ergm(MCMC.burnin=100000,

```

```

        MCMC.samplesize=10000,
        MCMC.interval=100, MCMLE.maxit=40),
        verbose=TRUE)

summary(model2.pre)

sim2.pre<-simulate(model2.pre,
  control=control.simulate.ergm(MCMC.burnin=100000),
  verbose = TRUE, seed = 7)

capture.output(stargazer(model1.pre,model2.pre), file="tables.pre.txt")

## Third Model Uses Network Statistics and Variables

model3.pre <- ergm(npre ~ edges+gwesp(3)+gwdegree(3)
  +nodematch("gender")
  +nodematch("eth")
  +nodecov("spec")
  +nodecov("genclient")
  +nodecov("NY")
  +nodecov("awards")
  +nodecov("exec"),
  control=control.ergm(MCMC.burnin=100000,
    MCMC.samplesize=50000,
    MCMC.interval=1000, MCMLE.maxit=10),
  verbose=TRUE)

summary(model3.pre)

capture.output(stargazer(model1.pre,model2.pre,model3.pre),
  file="tables.pre.txt")

sim3.pre<-simulate(model4.pre,
  control=control.simulate.ergm(MCMC.burnin=100000),
  verbose = TRUE, seed = 9)

## Triad Predictions

capture.output(c(n=summary(n~triangle),
  sim1.pre=summary(sim1.pre~triangle),
  sim2.pre=summary(sim2.pre~triangle),
  sim3.pre=summary(sim3.pre~triangle),
  file="summary.pre.txt",
  append=TRUE))

## Plot goodness of fit

pdf("~/Graphics/pre_gof.pdf")
par(mfrow=c(2,1), oma=c(4, 0, 2, 0), xpd=NA)
par(pch=22, col="black")
plot(summary(sim1.pre~degree(0:80)), type="l", lty=2, lwd=2,
  xlab="Number_of_Ties", ylab="Count")
lines(summary(n~degree(0:80)), lty=1, lwd=3)
title(main="Model_1_(Homophily_Only)")
plot(summary(sim2.pre~degree(0:80)), type="l", lty=2, lwd=2,
  xlab="Number_of_Ties", ylab="Count")
lines(summary(n~degree(0:80)), lty=1, lwd=3)
title(main="Model_2_(Homophily_and_Attributes)")
mtext("Pre-Crisis_Network_Goodness_of_Fit:_Simulated_vs._Observed_Networks",
  outer = TRUE, cex = 1.5)
dev.off()

```

```

### Statistical Evaluation of the Post-Crisis Network

### Centrality Measures

## Testing Expected vs. Observed Distributions of Centralization Measures

pdf("~/Graphics/post_cent.pdf")
par(mfrow=c(2,1))
ctsize <- cug.test(npost,centralization,mode="digraph",cmode="size",
  FUN.arg=list(degree,cmode="freeman"))
ctsize
plot(ctsize)
ctedges <- cug.test(npost,centralization,mode="digraph",cmode="edges",
  FUN.arg=list(degree,cmode="freeman"))
ctedges
plot(ctedges)
dev.off()

## Triad Census

TriadCensus(n,"~/Tests/transitivity.txt")
TriadCensus(n,"~/Tests/intransitivity.txt")
TriadCensus(n,"~/Tests/closure.txt")
TriadCensus(n,"~/Tests/openness.txt")
TriadCensus(n,"~/Tests/dissimilarity.txt")
TriadCensus(n,"~/Tests/brokerage.txt")

## First Model Uses Only Homophily Variables

modell1.post <- ergm(npost ~ edges
  +nodematch("gender")
  +nodematch("eth"),
  control=control.ergm(MCMC.burnin=100000,
    MCMC.samplesize=10000,
    MCMC.interval=100, MCMLE.maxit=40),
  verbose=TRUE)
summary(modell1.post)

sim1.post<-simulate(modell1.post,
  control=control.simulate.ergm(MCMC.burnin=100000),
  verbose = TRUE, seed = 7)

## Second Model Uses Homophily and Actor Attribute Variables

modell2.post <- ergm(npost ~ edges
  +nodematch("gender")
  +nodematch("eth")
  +nodecov("spec")
  +nodecov("genclient")
  +nodecov("NY")
  +nodecov("awards")
  +nodecov("exec"),
  control=control.ergm(MCMC.burnin=100000,
    MCMC.samplesize=10000,
    MCMC.interval=100, MCMLE.maxit=40),
  verbose=TRUE)

```

```
summary(model2.post)

sim2.post<-simulate(model2.post,
  control=control.simulate.ergm(MCMC.burnin=100000),
  verbose = TRUE, seed = 7)

capture.output(stargazer(model1.post,model2.post), file="tables.post.txt")

pdf("~/Graphics/post_gof.pdf")
par(mfrow=c(2,1), oma=c(4, 0, 2, 0), xpd=NA)
par(pch=22, col="black")
plot(summary(sim1.post~degree(0:80)), type="l", lty=2, lwd=2,
  xlab="Number_of_Ties", ylab="Count")
lines(summary(n~degree(0:80)), lty=1, lwd=3)
title(main="Model_1_(Homophily_Only)")
plot(summary(sim2.post~degree(0:80)), type="l", lty=2, lwd=2,
  xlab="Number_of_Ties", ylab="Count")
lines(summary(n~degree(0:80)), lty=1, lwd=3)
title(main="Model_2_(Homophily_and_Attributes)")
mtext("Post-Crisis_Network_Goodness_of_Fit:_Simulated_vs_Observed_Networks",
  outer = TRUE, cex = 1.5)
dev.off()
```

C.5 Survival Analysis

```

library(dplyr)
library(ggplot2)
library(pastecs)
library(survival)
library(survminer)

setwd("~/LawFirms")

### Survival Analysis

lf2 <- lf

lf2$Merge<-ifelse(lf2$INDICATOR_Acquired_Dissolved,1,lf2$INDICATOR_Acquisition)
lf2$Death<-ifelse(lf2$INDICATOR_Acquired_Dissolved,1,lf2$EVENT_Dissolution)
lf2$Time<-(lf2$Year-1984)
lf2$PPP_2<-lf2$`Abs_PPP-2`
lf2$Size_1<-lf2$`Total_Lawyers-1`
lf2$Branch1<-ifelse(is.na(lf2$Branches),0,lf2$Branches)
lf2 <- slide(lf2, Var = "EVENT_Merger", TimeVar="Year", GroupVar = "Firm_ID",
  slideBy = -1) # Time-lag Total Lawyers variable
lf2 <- slide(lf2, Var = "EVENT_Merger", TimeVar="Year", GroupVar = "Firm_ID",
  slideBy = -2) # Time-lag Total Lawyers variable
lf2 <- slide(lf2, Var = "EVENT_Merger", TimeVar="Year", GroupVar = "Firm_ID",
  slideBy = -3) # Time-lag Total Lawyers variable
lf2 <- slide(lf2, Var = "EVENT_Merger", TimeVar="Year", GroupVar = "Firm_ID",
  slideBy = -4) # Time-lag Total Lawyers variable
lf2 <- slide(lf2, Var = "Leverage", TimeVar="Year", GroupVar = "Firm_ID",
  slideBy = -1) # Time-lag Total Lawyers variable
lf2$MSUM <- lf2$`EVENT_Merger-1`+ lf2$`EVENT_Merger-2`
  + lf2$`EVENT_Merger-3` +lf2$`EVENT_Merger-4`
lf2$Merger3Yr <- ifelse(lf2$MSUM>0,1,0)

surv_object <- Surv(time = lf2$Time, event = lf2$Death)
fit1 <- survfit(surv_object ~ Merge, data = lf2)
summary(fit1)

print(fit1, scale=1, digits = max(options())$digits - 4,3),
  print.rmean=getOption("survfit.print.rmean"),
  rmean = getOption('survfit.rmean'))

pdf("KM.pdf")
ggsurvplot(fit1, data = lf2, pval = TRUE, ylim = c(.9, 1),
  pval.coord = c(0.9,0.9),
  legend.title = "Type_of_Firm_Growth",
  legend.labs = c("Organic", "Mimetic"))
dev.off()

fit.coxph <- coxph(Surv(Time, Death) ~ Merger3Yr + PPP_2
  + PPP_3YrGrowthPercent + Size_1 + Merger3Yr*PPP_2,
  data = lf2)
summary(fit.coxph)
ggsurvplot(fit.coxph, data = lf2)

```



```

capture.output(stargazer(fit.coxph, title="Cox_Proportional_Hazard_Model",
                        type="html", digits=3), file="COXPH.html")

lf2$PPPLlevel <- cut(lf2$PPPGGroupMean,
                    c(250000,500000,750000))

fit.coxph2 <- coxph(Surv(Time, Death) ~ Merger3Yr + PPP_2
                  + PPP_3YrGrowthPercent + Size_1,
                  data = lf2)
summary(fit.coxph2, digits = 8)
ggadjustedcurves(fit.coxph2, data = lf2, method = "average")

ggsurvplot(fit.coxph, data = lf2, conf.int = TRUE, palette = "Dark2",
           censor = FALSE, surv.median.line = "hv")

ggforest(fit.coxph, data = lf2, main = "Cox_Proportional_Hazard")

### Rise of Non-Equity Partners

xy<- aggregate(NE_Partners ~ Year, data = lf, sum)
xy<-xy[-c(1,2,3,4,5,6,8,10,12,14,16,18,19),]

xz<-aggregate(Partners ~ Year, data = lf, sum)
xz<-xz[-c(1:16,18,20,22,24,26,28:30),]

xy$Partners<-xz[,2]
xy$Proportion<-xy$NE_Partners/xy$Partners
xy$Percentage<-paste(round(xy$Proportion, digits = 2)*100, "%", sep="")

ylim.prim <- c(0, 20000)
ylim.sec <- c(0, .75)
b <- diff(ylim.prim)/diff(ylim.sec)
a <- b*(ylim.prim[1] - ylim.sec[1])

pdf("NEPart.pdf")
ggplot(xy, aes(Year, NE_Partners)) +
  geom_col(fill = "grey") +
  geom_line(aes(y = a + Proportion*b), color = "blue", size=2) +
  scale_y_continuous("Number_of_Non-Equity_Partners",
                    sec.axis = sec_axis(~ (. - a)/b,
                    name = "Overall_Percentage_of_Partners",
                    labels = scales::percent)) +
  scale_x_continuous("Year", breaks = c(2000,2002,2004,2006,2008,2010)) +
  geom_point(aes(y = a + Proportion*b), color = "blue", size=4) +
  geom_text(aes(y = a + Proportion*b), label=xy$Percentage, color = "blue",
           size=4, vjust = -1.3) +
  theme(axis.line.y.right = element_line(color = "blue"),
        axis.ticks.y.right = element_line(color = "blue"),
        axis.text.y.right = element_text(color = "blue"),
        axis.title.y.right = element_text(color = "blue"))
) +
  ggtitle("Rise_of_Non-Equity_Partners_2000-2010")
dev.off()

```

C.6 Structural Equation Modeling

```

library(mediation)
library(lavaan)
library(dplyr)
library(DataCombine)
library(semTable)
library(semPlot)

setwd("~/LawFirms")
rm(list = ls())

### Create Data

# Variables of Interest: Profits Per Partner, Firm Merger, Firm Growth

df <- read.csv("LawFirms.csv")

df<-subset(df, Year < 1991)

# Create a variable for profits per partner relative to the yearly mean PPP
df$Rel_PPP<-df$PPP/df$PPPmean

# Time-lag Relative PPP variable
df<- slide(df, Var = "Rel_PPP", TimeVar="Year",
           GroupVar = "Firm_ID", slideBy = -1)

# Time-lag Size variable
df<- slide(df, Var = "Total_Lawyers", TimeVar="Year",
           GroupVar = "Firm_ID", slideBy = -1)

Growth <- df$Total_Lawyers/df$`Total_Lawyers-1`

SEMdata <- data.frame(PPP = df$Rel_PPP-1,
                    Merger = df$EVENT_Merger,
                    Growth = Growth)

### Simple Regression

simple1 <- lm(Growth~PPP, data=SEMdata)
summary(simple1)

simple2 <- lm(Merger~PPP, data=SEMdata)
summary(simple2)

### SEM Mediation Model

model1 <- '
Growth_~_PPP_+_Merger
Merger_~_PPP
'

fit1 <- sem(model1, data = SEMdata)
summary(fit1)

### Calculate Indirect and Direct Effects

```

```

model1.a <- '
Growth~b1*PPP#####Direct(b1)

Merger~g1*PPP#####Treatment-Mediator(g1)

Growth~b2*Merger###Mediator-Outcome(b2)

indirect:=b2*g1####IndirectEffect

direct:=b1#####DirectEffect
,

fit1.a <- sem(model1.a, data = SEMdata)
summary(fit1.a)

capture.output(stargazer(simple1), file="summary.simple.txt")
semTable(fit1.a, file = "summary.sem")

pdf("SEMgraph.pdf")
par(mfrow=c(1,1))
semPaths(fit1.a, what = "est", style="lisrel",
         layout="circle2", rotation =3,
         nodeLabels = c("FirmSize", "Lateral\nAcquisition",
         "FirmProfits"),
         edgeLabels = c("+","-","+"), edge.label.cex = 5,
         node.width = 4, esize = 6, asize = 6,
         border.width = 4, edge.label.bg = TRUE, residuals = FALSE,
         shapeMan = "circle", shapeLat = "triangle",
         width = 5, height = 3)
title("RelationshipBetweenProfitsandGrowth\nMediatedByLateralHiring")
# , filetype = "pdf", filename = "SEM",
dev.off()

### Mediation Model with Interaction

SEMdata$PM <- SEMdata$Merger*SEMdata$PPP

model2 <- '
Growth~b0*1+b1*PPP+ b2*Merger+ b3*PM##MainModel
Merger~g0*1+g1*PPP#####MediationModel

indirect:=b2*g1+ b3*g1#####TotalNaturalIndirectEffect

direct:=b1+ b3*g0#####PureNaturalDirectEffect
,

fit2 <- sem(model2, data = SEMdata)
summary(fit2)

#### Template Lavaan Model

myModel <- '#regressions
#####y1+y2~f1+f2+x1+x2
#####f1~f2+f3
f2~f3+x1+x2

#latentvariabledefinitions
f1=~y1+y2+y3
f2=~y4+y5+y6

```

```
f3_u =~_u y7_u+_u y8_u+_u y9_u+_u y10_u  
  
#_u variances_and_covariances  
y1_u =~_u y1_u  
y1_u =~_u y2_u  
f1_u =~_u f2_u  
  
#_u intercepts  
y1_u =~_u 1_u  
f1_u =~_u 1_u  
,
```