Organizing Middle-Size Firms in the United States and France, 1830-2000

Draft of May 01, 2006

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Abstract: Although today the vast majority of multi-owner firms in the United States are corporations, this was not the case in the past. Before the advent of the income tax, tort litigation, and significant federal regulation, entrepreneurs more often than not chose to organize as partnerships—a form that economists consider seriously flawed. Why would they make such a terrible mistake? We begin by noting that corporations created new types of contracting problems for businesses at the same time as they solved problems afflicting partnerships. We model the tradeoffs involved in the choice of corporations versus partnerships and confirm that the model’s assumptions are consistent with U.S. legal rules up through the 1940s. We then show that the model’s implication that partnerships and corporations are complementary organizational forms is strongly supported by data from the U.S. Census of Manufactures. We also verify that the model’s assumptions hold for the broader set of organizational choices available under the French Code de Commerce and use data on multi-owner firms registered in Paris in the 1830s and 1840s to demonstrate the complementary character of the basic forms. Despite much literature emphasizing the fundamentally different environments for business associated with the French and U.S. legal regimes, the basic calculus underpinning the choice of organizational form was the same in both countries.

Note: The authors would like to thank seminar participants at Caltech, Princeton, UBC, UCLA, USC, and Dan Bogart, Hongbin Cai, Harold Demsetz, Peter Gourevich, Hugo Hopenhayn, Gonzalo Islas-Rojas and William Summerhill for detailed comments.
I. Introduction

The vast majority of multi-owner firms in the United States today, including virtually all large-scale enterprises, are organized as corporations. Perhaps it is not surprising, therefore, that most economic theorists take the superiority of the corporate form for granted (see, for example, Williamson 1985; Hart 1995; Bolton and Scharfstein 1998; and Tirole 2001). Rather than compare the advantages and disadvantages of corporations with those of other possible organizational forms, they focus their attention on understanding the agency problems that corporations, especially large ones, routinely face (for a notable exception, see Cai 2003). A quick glance back to the beginning of the twentieth century, however, suggests that the numerical predominance of the corporation is a relatively recent phenomenon. Although then, as now, the largest firms generally were corporations, at the turn of the century the most popular form of multi-owner enterprise was the partnership. Before the advent of the income tax, before the explosion of tort litigation, before the growth of federal regulation, business people who joined together to found an enterprise more often than not chose a form of organization whose drawbacks economists consider to be both serious and obvious. Why would they make such a terrible mistake?

We approach this question by noting that the agency problems that have been the focus of so much of the economics literature afflict corporations in particular, not multi-owner firms in general (e.g Demsetz 1972, Tirole 2001), Romano 1987; Laporta et al. 1998; and Bebchuk and Ferrell 1999). Problems of delegated management and minority oppression arise precisely because the corporate form concentrates power in a small group of officers. Partnerships do not have these problems because each member of the firm has full ownership rights. Of course, partnerships have other problems that follow from this characteristic of joint control. Most
obviously, they suffer from the possibility that disputes will arise among the firm’s various owners and disrupt its operations or, even worse, force what was otherwise a successful enterprise to dissolve. Economists have tended to view these flaws as nearly fatal to the form (see, for example, Blair 2003). Hence there has been little effort in the literature to model organizational choice as a tradeoff between the flaws of partnerships, on the one hand, and those of corporations, on the other.\footnote{Legal scholars have not all been so dismissive of partnerships. For a defense of the form, see Ribstein 2005. Hansmann and Kraakman (2000) take a more intermediate position. In their view, the essential characteristic of a business entity is that it must be able to partition the assets of the firm from those of the people who make it up.}

In this paper we take on this modeling task. In effect, we ask the question: if business people’s decisions were not biased by exogenous factors such as tax or regulatory policy, what would govern their organizational choices? We focus initially on the choice between partnerships and corporations because these were the main options available to business people in the U.S. (and in other countries with Anglo-American legal regimes). Then, however, we examine the more expanded set of organizational choices available to business people in France under the Code de Commerce (and in other countries with similar code-based legal systems). We find that the trade-offs among these various organizational forms differed in degree but not in kind from those available under Anglo-American law. In other words, despite much literature emphasizing the fundamentally different environments for business associated with these alternative legal regimes (see especially La Porta et al. 1997 and 1998), the basic calculus underpinning the choice of organizational form was the same.

The paper is organized as follows. Section II frames the theory by isolating the essential differences between the partnership and corporate forms. Section III develops our model of organizational choice. In Section IV we confront the model with the legal rules and quantitative
evidence for the U.S. in the nineteenth and early twentieth centuries. Then in Section V we do the same for France. For both countries we find that the legal rules support the model’s key assumption that corporations and partnerships address different governance problems. We also find strong quantitative evidence for the model’s main implication that partnerships and corporations were complements rather than substitutes. In both countries very large firms were more likely to be corporations than partnerships, but owners of small- and medium-size firms seem to have weighed the advantages of one form over another, sometimes deciding in favor of partnerships and sometimes corporations. Their choices varied both within and across industries, suggesting that owners based their decisions on their own individual characteristics, as well as on the types of business in which they were engaged.

II. Framing the theory

In 1892 Andrew Carnegie and about a score of other businessmen organized the Carnegie Steel Company, Ltd. Capitalized at $25 million, the company included four major steel plants, several iron furnaces and mills, two coke works, and an assortment of other properties. In other words, it was a very large concern and, by that standard, might have been expected to organize as a corporation. But the associates chose instead a complicated form of partnership that was in some respects similar to today’s limited liability company (Wall 1970, 321-22, 535-37).

This choice of organizational form presents an intriguing puzzle. The company had large, firm-specific investments that could not be liquidated easily. At the same time, none of the partners, except perhaps Carnegie himself, had human capital that was critical to the enterprise’s success. According to the arguments of Williamson, Hart, Demsetz, and other theorists, Carnegie

Partnerships accomplished this purpose, but corporations did so more securely. See also Hansmann, Kraakman, and
Steel should have been organized as a corporation. But it was not, and the choice was not a matter of accident or oversight. The associates had to seek out expert legal assistance to draft the firm’s complicated partnership contract. That they did so in a period when organizing a corporation was a simple, routine matter suggests that they thought there were severe drawbacks to the corporate form.

Although relatively few firms this large organized as partnerships, the Carnegie example is a useful way of highlighting the broader phenomenon with which we are concerned: the continued, widespread use of the partnership form decades after the passage of general incorporation laws. Of course, the corporate form was also adopted by large numbers of firms during this period, but it was not nearly as dominant as it would become during the late twentieth century. Clearly, although some business people thought corporations were a better way of organizing their enterprises than partnerships, others came to just the opposite conclusion. Our problem is to understand the tradeoffs that these choices involved.

Because both partnerships and corporations were broadly popular, it does not make sense to think of the two organizational forms as pure substitutes, with the corporation an overwhelming improvement over the partnership. To be sure, a key advantage of incorporation was that it enabled firms to raise funds on the equities markets. Some firms (railroad companies, for example) required so much capital that this ability was critical to their success. But in the nineteenth century relatively few corporations ever carried out a public offering or listed their stock on an exchange. If access to capital markets was the primary motivation for incorporation, then there should have been at most a few thousand rather than hundreds of thousands of corporations in the United States (Navin and Sears 1955; Baskin and Miranti 1997; Lamoreaux and Rosenthal 2005).
Corporations also benefited from limited liability, but this advantage could raise the cost of borrowing to the firm. Indeed, in order to gain access to credit most corporations depended on their stockholders personally to endorse their debts.² Although the need to secure stockholders’ voluntary assent meant that members of corporations could control the extent of their obligations in a way that was not possible in partnerships, it also made it more difficult for the firm to act expeditiously. In other words, limited liability was not an unalloyed boon but imposed costs that could affect the firm’s access to credit and its flexibility in making decisions.

The tradeoffs associated with the choice to incorporate were even starker where internal governance was concerned. Governance problems arise whenever the manager of a firm does not own it outright. Given that most individuals have limited wealth and credit, many enterprises necessarily have more than one owner. As a result, they face a variety of transaction costs. In an ideal world one might imagine that business people could devise sophisticated agreements that would enable them to eliminate all transaction costs contractually, regardless of which organizational form they chose. Yet even if such contracts existed, it is not obvious that founding entrepreneurs will adopt efficient governance rules. As Bebchuck (2002) has shown asymmetric information may lead founding entrepreneurs deliberately to choose poor governance. As a point of fact, moreover, the literature has identified a slew of real-world problems that firms cannot easily contract away. These include providing managers with the incentives to work hard enough to insure the project’s success (Hart 1995), giving stakeholders...

² For this reason, the credit reports gathered by R. G. Dun & Co. typically assessed the creditworthiness of a corporation’s major stockholders, as well as the firm itself. See, for example, the 2 December 1869 entry for the Gorham Manufacturing Co. in Rhode Island: “Since the Senior Gorham’s death + the consequent deprivation of his endorsement their credit has been weakened.” Rhode Island vol. 9, R. G. Dun & Co., Baker Library, Harvard Graduate School of Business Administration. Shareholders in large corporations might also be called upon to bear responsibility for debts. See Bain (1999, 133) for an account of how Collis Huntington, Leland Stanford, Charles Crocker, and Mark Hopkins all had to endorse personally the obligations of the Central Pacific when the company was building its half of the first transcontinental railroad. See also Hurst 1964, 414, 862, and note 104; Hurst 1970, 28; and Forbes 1986.
the incentive to monitor management’s activities (Demsetz 1972; Zweibel 1995; Bolton and Von Thaden 1998), accommodating members’ desire to withdraw from the firm if conflicts over strategy arise (Lamoreaux and Rosenthal 2006), and limiting the extent to which majority owners or managers can extract private benefits of control (Tirole 2001).

The general assumption in the literature is that the corporation is more efficient in reducing these kinds of transaction costs than the partnership, save for unusual industries or exceptional firms. Alchian and Demsetz (1972) emphasize the inefficiencies that follow from the partners’ joint control—the weakened incentive to exert effort and the relative ineffectiveness of monitoring. In Hart’s model of partnerships (1995), there is no joint control—each partner exercises authority over a different set of assets—but joint ownership implies shared returns, which in turn reduce the incentives of either partner to make discretionary investments in the assets they control. When these authors turn to corporations, however, they sweep all the multi-owner problems away. Alchian and Demsetz assume the corporation’s hierarchy is an efficient mechanism to induce effort. In Hart’s model of the corporation the manager makes investment decisions as if he owned the whole firm.

These assumptions about corporations are clearly wrong. Although a corporation does have delegated management, it remains a multi-owner firm. Hence the incentives facing the manager of a corporation cannot be the same as those of a sole proprietor. Indeed, this last observation lies at the core of the burgeoning literature on corporate governance, which highlights the conflicts that arise within corporations between shareholders and managers, on the one hand, and among different factions of shareholders, on the other (Tirole 2001; Demsetz and Lehn 1985; Pagano and Roell 1998). For some scholars, the solution to conflict between shareholders and managers is large block holders (Demsetz 1972; Zwiebel 1995). According to
this view monitoring is both non-contractible and costly, so only the investor with the largest
stake in the firm will do any monitoring and that investor must own a big chunk of the firm to be
willing to monitor at all. Other scholars, however, have argued that dominant block holders play
a more ambiguous role. Large shareholders will want to use their control rights for private gain,
and unless they own nearly all the firm, they will include increase their earnings at the expense
of other shareholders (Zingales 1995; Yarrow 1985). The problem is a serious one because
charters often give control either to a particular group of stockholders (through dual class shares
or special voting schemes) or to professional managers (through poison pills or staggered
boards). As a result, control is often exercised by individuals who own just a small fraction of the
firm and yet have the capacity to extract private benefits. As the scandals of the late 1990s
revealed, the extent of their extraction can be significant indeed.

These problems of corporate governance are rooted in the form’s legal history, for the
business corporation was originally adopted to solve a key problem of the partnership form: the
likelihood that otherwise profitable enterprises would suffer untimely dissolution.\(^3\) Legally,
partnerships had no existence or identity that was independent of the specific individuals who
formed them. If any partner died or decided to withdraw from the business, the firm had to
dissolve. Although a variety of legal devices could be employed to limit the damage a partner’s
withdrawal could cause (Ribstein 2005), these arrangements were cumbersome and often of
uncertain enforceability (Lamoreaux and Rosenthal 2006).\(^4\) Moreover, the problem was

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\(^3\) For a recent strong restatement of this argument about the origins of corporations, see Blair 2003.
\(^4\) Dissolution did not necessarily mean liquidation, of course. It was possible for the remaining partners to buy out a
withdrawing member and continue the business on their own. Once a course was set for dissolution, however, there
was always the risk that liquidation would be necessary if the partners could not agree on a buyout price or if there
were not enough ready assets to make a payoff possible. If, as a consequence, firm-specific assets had to be sold, the
cost to the partners was potentially very high.
particularly onerous for firms with many owners because the likelihood of a death or crippling dispute among the associates increased with the number of partners.

Corporations were able to solve the problem of untimely dissolution because they were legal persons that existed without regard to the identity of their shareholders. Shareholders might withdraw from the enterprise by selling their stakes, but they could not force the firm to refund their investments, and they had no power to act on behalf of the enterprise. Corporations were run by officers and a board of directors duly elected by the firm’s membership. Although in principle these officers and directors served at the pleasure of shareholders, during their terms in office they had considerable leeway to act as they saw fit. Moreover, because replacing management always required a substantial ownership stake—half the shares or more—disgruntled shareholders typically found them difficult to depose.

Management’s ability to extract private benefits was thus enshrined in the very essence of the corporation. To make matters worse, any individual (or group of individuals willing to act in concert) that acquired half or more of the firm had the power to require management to do its bidding. Hence the problem of disciplining management could easily become the more difficult problem of disciplining controlling shareholders. Whereas disgruntled minority stakeholders could force a partnership to dissolve, they had no similar power in a corporation. As a result, whoever was in control could make decisions with little regard to the interests of other members of the firm and even expropriate some of the minority’s earnings.

III. The basic model

In this section we examine these essential differences between partnerships and corporations using a simple static model. We reduce the number of parties to two: an
entrepreneur/manager and an investor. The entrepreneur contributes a business plan, a specific amount of wealth, and work effort. She is not rich enough to carry out the project on her own. The investor can provide the needed extra capital the entrepreneur needs if it worth his while. More formally, we assume that the entrepreneur has an idea that requires 1 unit of capital to realize. If funded, the project succeeds with probability p. If the project succeeds it earns Π; if it fails, it earns L. (L can be thought of as the liquidation value of the project.). The entrepreneur also has an opportunity cost for her effort w. Therefore, the return to the project will be \( R = p\Pi + [1-p]L - w \). We assume that Π is large enough that for some p the project is socially valuable (\( R > 1 + r \); where r is the rate of interest). The entrepreneur is risk neutral and has a wealth level \( W_e < 1 \). To finance the project she turns to an investor, who is also risk neutral and has limited wealth. Indeed, if organizational form is going to matter, the associates must face wealth constraints. Otherwise, one or the other of them can operate the firm as a sole proprietorship.

The model has three periods.

In period one the entrepreneur (who we assume "owns" the idea for the project) decides on the organizational form (corporation or partnership), the stake to offer the investor, and her own wage. We define a partnership to be a firm under the joint control of the partners. Hence the capacity of a partner to act is not related to his or her equity stake. We define a corporation to be a firm that is controlled by the majority shareholder. That is, whoever owns the larger equity stake can act as a dictator.

In period two the investor decides whether or not to accept the entrepreneur’s offer and whether or not to monitor the entrepreneur’s effort in period three. If the investor does not participate, the project is not undertaken and the game ends.

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5 This assumption (that the investor can commit to a monitoring decision in period two) is made for simplicity—to insure that the model has a pure strategy equilibrium. It would be more realistic to assume that the investor cannot
If the project is undertaken, then in period three the entrepreneur chooses her effort level if the investor does not monitor. If the firm is organized as a corporation, whoever is the controlling shareholder decides whether to extract private benefits. Then profits (or losses) are realized and distributed among the owners.

We assume that neither the investor nor the entrepreneur can commit to future actions at the beginning of play. When contracting on organizational form and equity distribution, the entrepreneur cannot commit to provide the efficient level of effort. Similarly, the investor cannot commit to monitor the entrepreneur to prevent her from shirking. If the firm is organized as a partnership, the associates cannot commit to staying in the business. If the firm is organized as a corporation, the controlling stockholder cannot commit not to extract private benefits. However, the decisions that the entrepreneur makes about organizational form and the distribution of equity in period one will determine which of these various problems are likely to afflict the firm.

The model is a game in which the players’ strategies map state variables and past decisions into current decisions. In each period only one player moves. Each player’s decisions are all observable to the other player, so we can restrict ourselves to pure strategies. Solving the model always involves comparing the returns to partnerships with those to corporations. The proofs of the propositions are of limited technical interest and have thus been relegated to the appendix.

Our analysis of the model proceeds in three steps. We begin by considering the choice of organizational form when the firm faces only one transaction cost. We replicate the standard finding of the literature that, if there is only one type of transaction cost, one organizational form will dominate. We also show, however, that whether partnerships or corporations prevail commit and that monitoring and effort are chosen simultaneously. It is easy to show that our model would then have
depends on the nature of the transaction cost. We then move on to consider organizational choice 
when there are several transaction costs and equity stakes are given. In this part of the paper, we 
in effect analyze the model’s last two periods first in order to characterize the fundamental 
advantages and disadvantages of the two organizational forms. In the final step, we consider the 
joint choice of equity stakes and organizational form when the investor and the entrepreneur 
together have just enough capital to start the business \((W_c + W_i = 1)\). This step allows us to show 
that both organizational forms continue to have advantages and disadvantages when transaction 
costs matter and capital markets are imperfect. Finally, we consider what happens to these 
choices as capital constraints are relaxed.

III.A. When only one transaction cost is present

III.A.1. Shirking.

The less the entrepreneur owns of the project, the less effort she exerts—that is, the more 
she shirks. We model shirking using a reduced form relationship where effort affects \(p\), the 
probability of success.\(^6\) We assume that the entrepreneur’s effort increases with her ownership 
share \(S\) and that \(p(S)\) is concave. If the only motivation to effort is the entrepreneur’s stake then 
the return to the firm will be \(R_0 = p(S)\Pi + [1-p(S)]L\). It follows that the efficient level of effort, 
is \(p(1) = p^*\). Denote the socially efficient return, \(p^*\Pi + [1-p^*]L\) by \(R^*\). We assume \(R^* > (1+r)\) and 
\(R_0(0) = 0\), hence in the absence of some capacity to induce effort firms will only form if the 
entrepreneur owns enough of the firm.

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\(^6\) The entrepreneur cares about income and but dislikes effort. In the absence of monitoring, her effort choice it 
depends the tradeoff between effort and the return to her equity stake. \(U(Y, -E) = U(S[p(E)\Pi + [1-p(E)]L], -E)\). Her 
optimal effort, given her equity stake \(S\), requires \(S[\partial U/\partial Y][\partial P/\partial E][\Pi - L] - \partial U/\partial E = 0\). Optimal effort is clearly 
increasing in \(S\). If \(S\) is 0, effort is nil and we assume the project fails for sure.
In our model the mechanism to induce effort involves monitoring. Consider the case where the entrepreneur owns none of the firm. She must be compensated for the value of her effort, let the wage she must be paid to exert efficient effort be $w^*$. Here the investor would want to promise the entrepreneur $w^*$ if she exerts efficient effort ($p = p^*$). In this model, monitoring involves gathering verifiable information about effort. If the investor does not monitor the entrepreneur always makes a claim of $p^*$ and gets paid $w^*$. If the investor monitors, he can block the payment of $w^*$ if $p < p^*$. We assume that the entrepreneur also has access to the same verifiable information about effort so that a request for $w^*$ cannot be blocked if $p = p^*$.

More generally, the firm then operates under one of two contracts. (1) The investor does not promise to monitor and no wage is paid. (2) The investor promises to monitor and the firm promises $w^*$ to the entrepreneur if she exerts optimal effort. At the time of profit distribution in period 3, the entrepreneur will make a claim of high effort. If the investor has not monitored, he cannot block the payment of $w^*$. On the other hand if he does monitor he collects enough information to be able to block the payment of $w^*$.

But when will the investor monitor. If he could be obligated by contract then things would be relatively simple, but in general monitoring that is hard to contract on. Hence the investor must own enough of the firm to make it worth his while to monitor because he bears a cost of monitoring $c_m$ that does not depend on his or the entrepreneur’s ownership stake. Because in the types of small and medium size firms that we have in mind the investor is knowledgeable about the business, monitoring is cheap. So it has only a small effect on profits. The return to the firm when there is monitoring, $R_m = p^*\Pi +[1-p^*]L - c_m > 1+r$.

**Definition:** Let $S_m$ be the value of $S$ such that $R^* - w^* - c_m / [1-S] = R_0(S)$. 

Proposition 1: If shirking is the only problem, profits are higher in a partnership than in a corporation for $S$ between $\frac{1}{2}$ and $S_m$. For all other equity stakes, profits are the same in both organizational forms.

Monitoring occurs when two conditions are met: the investor finds it profitable and he has adequate control. For $S<\frac{1}{2}$, the investor wants to monitor and has control (in a corporation because he is the majority shareholder and in a partnership because he is joint owner). For $S$ between $\frac{1}{2}$ and $S_m$, monitoring is profitable for the investor and joint ownership allows him to do so in a partnership. (In a corporation, however, he is the minority shareholder and so does not have the control needed to monitor.) For $S>S_m$, the investor does not want to monitor and both forms lead to the same outcome. Figure 1 displays the comparative returns to partnerships and corporations as a function of the entrepreneur’s equity stake. More importantly, if monitoring were the only issue, there should have been no demand for corporate charters.

III.A.2. Untimely dissolution

This superiority of the partnership form disappears, however, when we consider the problem of untimely dissolution. As noted in section II, the problem afflicts partnerships but not corporations (or more precisely it affects partnerships far more severely than corporations).\footnote{In our model untimely dissolution serves as a proxy for all losses in earnings associated with joint control.} We model untimely dissolution in the following simple way: During the life of a partnership, a dispute among the partners may arise that, if the firm is successful, will force its dissolution, and if the firm is not successful, will add to its liquidation costs. We assume that the firm’s expected return is reduced by a given fraction $d$. Again, this is a reduced form assumption; $d$ could be large either because disputes are very costly or because they occur very frequently. Unlike in section III.A.1, effort is contractible, however, so $p=p^*$ and there will be no monitoring.
Proposition 2: If untimely dissolution is the only problem, only corporations are organized.

A partnership earns \( R_p = [p^* \Pi + (1-p^*)L][1-d] \) or \([1-d]R^*\). A corporation earns \( R_c = [p^* \Pi + (1-p^*)L] \).

Clearly \( R_p < R_c \).

Here corporations dominate partnership because unified control avoids dissolutions. As long as there is a dictator (as there always is in our corporations), and the firm is profitable, it will not dissolve.

III.A.3. Minority Oppression

As we noted in Section II, corporations endow dominant stakeholders with such control that they can to shift the flow of the firm’s revenue stream in their favor—that is, they can extract private benefits. In our simple model with two stakeholders, whoever has the majority of shares controls the firm. We assume he or she can legally appropriate a fraction \( \omega \) of the returns from successful projects and of the assets from failed ones. Either way, we assume that the appropriation, if it occurs, is socially inefficient. A fraction \( \beta \) of the firm’s return is wasted, leaving \((1-\beta-\omega)\) to be distributed among shareholders. Effort is contractible \((p=p^*)\) and there is no untimely dissolution \((d=0)\).

In a partnership, there is no possibility of appropriation because of joint control. Hence \( R_p = [p^* \Pi + (1-p^*)L] \). In a corporation returns depend on whether there is appropriation or not. Whether the controlling stockholder steals depends on the distribution of equity.

Definition: Let \( S_{ca} \) be the equity stake such that the entrepreneur wants to extract private benefits only if her stake is less than \( S_{ca} \). It is easy to show that \( S_{ca} = \max\{\omega/(\beta+\omega), 1/2\} \). By symmetry, if the investor owns less than \( S_{ca} \) he will want to extract private benefits.
It follows that if $1-S_{ca}<S<S_{ca}$ then $R_c = [p^*\Pi+[1-p^*]L] (1-\beta)$. In these cases the return to the controlling stockholder who owns $S$ of the firm is $SR^*[1-\beta-\omega]+R\omega$, and that to the minority shareholder is $(1-S) R^*[1-\beta-\omega]$.

**Proposition 3**: If minority oppression is the only problem, the corporations and partnerships have the same return if one or the other party owns at least $S_{ca}$. If neither party owns $S_{ca}$ then partnerships are strictly preferred.

Here control rights matter because stripping requires the joint assent of all in control. Hence distributing control rights more broadly reduces the transaction cost problem—exactly the reverse of the case with untimely dissolution.

**III. A.4. Single transaction costs theories reconsidered.**

In each case, shirking, untimely dissolution, or minority oppression, we find that one organizational form is at least weakly superior to the other over the entire range of equity stakes. If all firms shared the same transaction costs ($d, \beta, \omega, c_m, P(S)$) then only one organizational form might well prevail throughout the economy. It is no surprise that most theories of organizational choice have been single theories of transaction costs—they were all designed to explain the predominance of the corporation in the post World War II era. Yet considering different transaction costs does lead us to be more cautious because what form (partnership or corporation) is best depends on what transaction cost prevails. In fact if some industries or firms have high dissolution cost (like Iron and Steel, or Chemicals) while others suffer from highly inefficient appropriation then they will want to chose different organizational forms.

Taking these transaction costs one at a time is somewhat artificial. Further as section III.B, shows it leaves in the dark the problem of the interaction between equity stakes and the choice of organizational form.
III.B. Shirking, costly dissolution, and private benefits of control together.

Returns now can take on one several values depending on organizational form and equity stakes. A partnership without monitoring will earn \( R_{p0} = \{p(S)\Pi + [1-p(S)]L\}(1-d) \). A partnership with monitoring will earn \( R_{pm} = \{p^*\Pi + [1- p^*]L\}(1-d)-c_m \). Again a unique \( S_{pm} \) exist such that monitoring occurs only if \( S<S_{pm} \).

A corporation without monitoring or private extraction will earn \( R_{c00} = p(S)\Pi + [1-p(S)]L \), one with monitoring will earn \( R_{cm0} = p^*\Pi + [1- p^*]L-c_m \). A corporation without monitoring but with private appropriation will earn \( R_{c0a} = \{p(S)\Pi + [1-p(S)]\}L(1-\beta) \), one with monitoring will earn \( R_{cma} = \{p^*\Pi + [1- p^*]L\}(1-\beta)-c_m \). Again there will be monitoring occurs in a corporation only if \( S<1/2 \) and there will be appropriation if \( 1-S_{ca}<S<S_{ca} \).

When all three transaction costs are present, the relevant break points in equity where what is the superior organization changes depends on the relative importance of \( d \) and \( \beta \) and the relative value of monitoring versus monitoring costs. When \( d \) is less than \( \beta \) corporations are strictly better when equity stakes are extreme (because then is no extraction and no dissolution). Partnerships are strictly better everywhere else because there is more monitoring and the cost of dissolution is less than the cost of extraction. If \( d \) is greater than \( \beta \), then corporations are better than partnerships as long as the distribution of equity stakes does not interfere with monitoring. That implies that corporation are better whenever \( S<\frac{1}{2} \) and if \( S_S_{ca} \). But partnerships may be useful for the remaining equity stakes if the net value of monitoring is higher than the difference between appropriation and dissolution losses.

**Definition:** Let \( S' \) be such that \( R_{c0a}(S')=R_{pm}(S') \). \( S' \) is the equity stake where the aggregate returns of a corporation without monitoring and of a partnership with monitoring are equal.
Claim: If $d>\beta$, $S'$ exists and is unique iff $R_{\text{coa}}(\frac{1}{2})<[1-d]R^*-c_m$.

Proposition 4: The choice of organizational form depends on the relative magnitude of the different transaction costs and on equity stakes. More precisely we must distinguish between three cases.

A. The case where dissolution costs are less than appropriation costs ($d<\beta$):
If $S<1-S_{ca}$, corporations are the most efficient organizational form. There is no untimely dissolution, and there is no appropriation (because the investor who is in control owns so much of the firm that he does not want to damage the aggregate return). The investor also monitors, and effort is efficient.

If $1-S_{ca}<S<S_{ca}$, partnerships prevail. The losses due to appropriation in a corporation are larger than the losses due to untimely dissolution in a partnership. The investor can monitor in a partnership wherever he can monitor in a corporation. Moreover, partnerships have the additional advantage that there is monitoring up to $S_{pm}>\frac{1}{2}$.

If $S>S_{ca}$, corporations are the most efficient organization. There is no untimely dissolution, and there is no appropriation (because now the entrepreneur owns enough of the firm not to want to steal). There is no monitoring, and effort reflects the entrepreneur’s stake.

B. The case where dissolution costs are greater than appropriation costs ($d\geq \beta$) and the value of monitoring is low:
Then return to a corporation that does not monitor with split stakes is greater than the return to a partnership that monitors ($R_{\text{coa}}(\frac{1}{2}) \geq [1-d]R^*$), corporations will prevail throughout the possible distribution of equity stakes. This is a case where the losses due to appropriation in a corporation
are smaller than the losses due to untimely dissolution in a partnership and monitoring is not very valuable.

C. The case where dissolution costs are greater than appropriation costs \((d \geq \beta)\) and the value of monitoring is high \((R_{c0a}(\frac{1}{2}) < [1-d]R^*)\):

If \(S \leq 1-S_{ca}\) or \(S \geq S_{ca}\), corporations are the most efficient organization. Because there is no appropriation this result does not depend on the relative magnitude of \(d\) and \(\beta\).

If \(1-S_{ca} < S \leq \frac{1}{2}\), corporations still prevail. The losses due to appropriation in a corporation are smaller than the losses due to untimely dissolution in a partnership. The investor monitors.

If \(S\) is between \(\frac{1}{2}\) and \(S''\), partnerships will prevail because monitoring is sufficiently valuable to offset the costs of dissolution.

If \(S'' \leq S < S_{ca}\), corporations prevail. Because the entrepreneur now owns a large stake, the value of monitoring is low enough that it does not offset the higher cost of dissolution relative to appropriation.

Figure 2 illustrates the first and third case.

**Discussion:** When monitoring is valuable \((R_{c0a}(\frac{1}{2}) < [1-d]R^*)\) or dissolution is not too costly relative to appropriation costs \((d<\beta)\), partnerships are more desirable than corporations; otherwise the reverse is the case. More importantly, the way each of the three transaction costs weighs on the firm is intimately related to both the choice of organizational form and the distribution of equity stakes.

As a result, the two organizational forms are complements. That is to the extent that transaction costs \((d, \beta, \omega, c_m, P(S))\) are not given for every firm but vary across the economy, both organizational forms will prevail in equilibrium. Furthermore firms that face identical transaction costs but have different distributions of equity will chose different organizational
form. To be sure a firm can only be a corporation or a partnership and thus the two forms can be seen as substitutes. At the level of an economy, however, they are clearly complements if governance rather than torts or taxes drives organizational choice.

It is important to stress that to arrive at these results we have not constructed the model in a way unfavorable to corporations. To the contrary, by making monitoring costs and the probability of untimely dissolution problems, but not the likelihood of appropriation, unrelated to equity stakes, we have given corporations a hidden advantage.

Although we have focused the analysis on finding the organizational form that maximizes firm value, when equity stakes are exogenous the returns to the entrepreneur may be maximized by choosing a suboptimal form. Consider cases where the entrepreneur’s equity stake is near a half. If she owns slightly more than half the firm she may prefer a corporation even though dissolution is much less costly than appropriation (d<\beta) because she will get the private benefits of control only if the firm is organized as a corporation. Similarly, if her equity stake is slightly below ½, she may prefer a partnership with high dissolution costs to a corporation where the investor appropriates the private benefits of control. In other words, control that is divorced from ownership may not be much of an improvement over joint control because control rights allow individuals to appropriate the private benefits of control (on this point see also Lamoreaux and Rosenthal 2006). We now check the generality of our findings by relaxing the assumption that equity stakes are exogenous.

III.C. Endogenous equity stakes.

The analysis in the section on exogenous equity stakes allows us to characterize the subgame perfect equilibria to the last two periods. We now move back to the first period—when the
entrepreneur acquires the capital she needs to realize her idea. We start by making two further assumptions. (1) the joint wealth of the entrepreneur and the investor is exactly equal to the capital needs of the entrepreneur’s project \((W_e + W_i = 1)\). (2) The entrepreneur makes a take it or leave offer to the investor that includes both type of firm and a distribution of equity.

One can show that equilibria always exist, though they may involve the firm not forming. One can also show that they are generically unique.\(^8\) Fully characterizing the equilibria is tedious because they depend on the absolute value of parameters such as \(\Pi\) and \(L\) and also on the relative values of others like \(d\) and \(\beta\). Instead, we offer five propositions that highlight the most interesting results.

The first three propositions detail the most important new insights that we gain from allowing equity stakes to be endogenous. They show that transaction costs matter more for less profitable firms than for more profitable ones, and that they can significantly reduce entry when wealth constraints bind. The last two demonstrate that the most important results of the discussion of exogenous equity stakes still hold for the endogenous case.

**Proposition 5:** Firms with very high or very low returns have the fewest governance problems.

When profits are high enough, the entrepreneur can secure the investors’ capital by offering a sufficiently tiny stake that the firm still operates as a sole proprietorship. Hence if profits are high enough any distribution of wealth leads to a low transaction cost outcome because the entrepreneur effectively acts as if she were the sole owner, regardless of how much capital she provides. When profits are very low, the only firms that form are those where one of the two parties is effectively the sole owner because he or she contributes nearly all the capital.

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\(^8\) Multiple equilibria arise when \(d = \beta\). For \(d \neq \beta\) they arise for at most three discrete values of \(W_e\). In these cases the entrepreneur may be indifferent between partnership and corporation or between two different equity stakes within an organizational form. We break all ties in favor of corporations.
Firms with more even distributions of investment cannot form because the participation constraints cannot be satisfied.

**Proposition 6:** Some equity stakes are never offered in equilibrium, in particular those that are slightly larger than \((1-S_{ca})\), \(\frac{1}{2}\), and \(S_{pm}\) as well as those that are slightly smaller than \(S_{ca}\).

If equity stakes only determined income flows, then the entrepreneur would simply minimize the investor’s stake. However, equity stakes also affect monitoring incentives in any firm, and the affect appropriation and control rights in corporations. As a result the entrepreneur does not always want to minimize the investor’s stake, because doing so may change control rights and the investor’s incentives in ways that adversely affects the aggregate return of the firm. For example suppose the investor will monitor in a partnership as long as he owns at least a quarter of the firm. Let \(W_{i}^{'}\) be the largest investment he is willing to make such that he accepts a quarter of the equity given that he monitors. Now consider what the entrepreneur should do if the investor’s investment falls slightly below \(W_{i}^{'}\). If the entrepreneur offers him a stake less than 25, the investor will not monitor. Returns will fall discretely and because the investor was indifferent between keeping \(W_{i}^{'}\) or getting a quarter of the firm’s return, he will no longer want to participate. If the entrepreneur continues to offer the investor 25%, monitoring will continue to occur and both party will want to be part of the firm. However, once \(W_{i}\) falls sufficiently below \(W_{i}^{'}\) the entrepreneur will prefer offering the investor an equity stake that, given that no monitoring occurs, makes him indifferent. That stake is strictly less than 25 percent. Technically the function that maps equity stakes into the entrepreneur’s returns has discrete jumps at \((1-S_{ca})\), \(\frac{1}{2}\), \(S_{pm}\), and \(S_{ca}\) introducing flat spots in the equilibrium relationship between investor wealth and investor equity stakes. At the right edge of a flat spot there will be a discontinuous increase in the entrepreneur’s equity stake, leaving a gap in the observed distribution of equity stakes.
Proposition 7: As d and β increase, firms where investment stakes are relatively equal are less likely to form.

At the extremes, firms bear few transaction costs. For firms where the entrepreneur must sell more than $S_{ca}$ but the investor cannot afford $S_{ca}$, aggregate returns will be reduced by either a dissolution cost or an appropriation cost. Firms will earn strictly less than the max of $\{[1-d]R^*, [1-\beta] R^*\}$. If $R^*$ is close enough to $1+r$, the aggregate participation constraint will bind, and it is more likely to do so as d or β increases.

The problem for equity stakes where it is optimal for firms to be partnerships is in some sense worse than for equity stakes where it is optimal for firms to be corporations. Because the decision to appropriate is endogenous, an increase in β makes things worse for all corporations where the optimal equity stake is less than $S_{ca}$ but it also reduces the likelihood of that the dominant stakeholder will appropriate. This difference is to some extent an artifact of the model. If we modeled the likelihood of dissolution as endogenous, then increasing the cost of dissolution would also have led to a lower likelihood of dissolution. In any case as long as d and β are not to closely correlated, participation constraints are likely to bind for some firms in one form (say the corporation) but not in another (say the partnership). As a result low profits firms are likely to be both corporations and partnerships.

Proposition 8: If $R^*$ and d are small enough, for two intervals of entrepreneur wealth $\{1, W_{e1}\}; \{W_{e2}, 0\}$ the firm is organized as a corporation. For wealth between $W_{e1}$ and $W_{e2}$ the firm does not form. As Π increases, the range where the firm does not form shrinks and ultimately disappears and there will be a middle range of entrepreneur wealth such that the firm is organized as a partnership. As Π increases further the lower range of wealth levels where the firm is organized as a corporation will disappear, then the range at which is organized as a
partnership will also disappear. If $\Pi$ is large enough the firm operates as a corporation under the entrepreneur’s control whatever the initial wealth endowment.

When the entrepreneur is very rich, she operates the firm as a quasi sole proprietorship, with relatively few transaction costs. Organizing as a corporation is optimal in this case because there is no appropriation or dissolution, and the entrepreneur is sufficiently diligent that monitoring is unnecessary. But if the entrepreneur is somewhat less wealthy, she must give up a sufficient stake in the firm that problems arise. She may be tempted to appropriate, and she will shirk. A partnership is a good response to these problems. If she has to give up most of the firm, however, she will return to the corporate form. The investor, who will be in control, will own so much of the firm that he will monitor and not appropriate.

In our model except for the most profitable ones, firms suffer from either shirking or monitoring costs and either dissolution or appropriation costs. Having access to multiple organizational forms allows the associates to reduce the burden of such costs. Yet they have limited options to mitigate these costs because they can only chose between two organizational forms and a distribution of equity stakes. This does lead them to the second best rather than the first best.

**Proposition 9**: The first best outcome ($R=R^*$) cannot only be reached if wealth constraints are fully relaxed. When the first best cannot be reached, the firm will be either a partnership or a corporation depending on the relative intensity of transaction cost and the wealth of the associates. Holding one associate’s wealth constant, aggregate returns are weakly increasing in the wealth of the other.

As Proposition 9 suggests, our results hold when wealth constraints are relaxed. As the associates’ wealth increases, the entrepreneur gains greater flexibility in organizing the firm.
She uses that increased flexibility to avoid equity distributions that have the worst transaction costs. Nevertheless unless wealth constraints are radically relaxed, there will remain a purpose for both types of organizations. More generally, multi-owner firms arise because individuals have limited wealth or are only willing to allocate part of their wealth to a project and financial markets do not lead them to have access to all the debt they want. This was true in the early nineteenth century and it is true today.

Making equity stakes endogenous does not dramatically alter the results of the previous section. On the contrary, when the entrepreneur is the residual claimant, she finds that corporations are valuable when investment stakes are relatively extreme and firms have either rather high or rather low profits, but partnerships are better for firms with relatively more even investment stakes and with intermediate levels of profits.

IV. The Model, the Law and U.S Enterprises, 1850-1950

For the model to capture the essential features of the U.S. legal rules during the late nineteenth and early twentieth centuries, the following assumptions must hold: (1) business people have access to only two alternative organizational forms, partnerships and corporations; (2) disputes among members of a firm can lead to untimely dissolution in partnerships, but not in corporations; (3) majority shareholders are dictators and can adversely affect the interests of minority owners in corporations, but not in partnerships; and (4) side contracts that mitigate the problems of disputes in partnerships and minority oppression in corporations are unimportant or unenforceable.

The first assumption fits the U.S. case well. Although the partnership form crossed the Atlantic with the first settlers, incorporation initially required government permission in the form
of a special legislative act. During the early nineteenth century several of the most industrial states took the lead in making corporate charters increasingly easy to obtain and, around mid-century, most states routinized the process by passing general incorporation laws (Evans 1948; Hurst 1970; Maier 1993; Blair 2003). Although most states passed legislation during the 1820s and 1830s permitting businesses to adopt a third organizational form, the limited partnership, the statutes were so restrictive and the courts so conservative in interpreting them that few firms exploited the option (Lamoreaux and Rosenthal 2005; see also Lewis 1917; Warren 1929; Howard 1934).⁹

The second assumption, that partnerships suffered from untimely dissolution but corporations did not, also finds support in U.S. law. Under the common law partnerships were not legal persons. They had no identity independent of the specific individuals who formed them and, in effect, existed only at the will of the members. Associates could leave firms whenever their partners proved untrustworthy or pursued business strategies that seemed ill advised. Corporations, by contrast, were legal persons and were in no way dependent on the existence or ongoing participation of the people who founded them. They could only be dissolved by a majority vote of their stockholders (Lamoreaux and Rosenthal 2006).

The third assumption captures differences between corporations and partnerships in terms of owners’ capacity to intervene in their firms’ affairs. Any and all members of a partnership could act in its name, whereas only officers elected by stockholders could encumber a corporation or allocate its resources (Freund 1896). In the U.S., both statute and practice quickly converged to a standard one-vote-per-share, majority-rule governance structure for corporations that made shareholders who possessed enough stock to decide elections effectively dictators

⁹ A small number of states also passed enabling legislation during the 1870s and 1880s for a precursor of the limited liability company called the partnership association, but this form was also little used (Warren 1929; Stransky 1956;
(Dunlavy 2004). Although this governance structure prevented disagreements among stockholders from hobbling the firm or subjecting it to untimely dissolution, it also potentially subjected minority shareholders to exploitation. There were a variety of ways in which controlling shareholders could use their power to tilt the firm’s revenue stream in their direction. Among the most common techniques were electing themselves to corporate offices and voting themselves high salaries and negotiating lucrative contracts with other firms in which they had an interest. In the absence of egregious fraud, the courts were reluctant to intervene and put a stop to such practices.\textsuperscript{10}

One might assume that, in a common law country like the U.S., the flaws of both the partnership and corporate forms would be relatively easy to remedy by means of side contracts. Business people did try, but the contracts they drafted often proved difficult to enforce. Hence the fourth assumption is a reasonable approximation as well. Take, for example, the problem of untimely dissolution in partnerships. Although partners could contract in advance not to dissolve the firm before the expiration of a specified period of time, the courts were extremely reluctant to enforce such agreements when disputes arose among the partners. Indeed, some courts worried that restrictions on dissolution might themselves be pernicious and went so far as to declare that the right to dissolve a partnership at will could not be contracted away.\textsuperscript{11} At the same time, agreements that reduced the likelihood of disputes were also often unenforceable. For example, although partners could and often did sign agreements that restricted the ability of one or more of their number to contract debts on behalf of the firm, these arrangements were not legally binding


\textsuperscript{11} \textit{Solomon v. Kirkwood}, 55 Mich. 256 (1884), citing \textit{Skinner v. Dayton}, 19 Johns. 513 (N.Y. 1822). Partners that sought unilaterally to dissolve a partnership before its term was up might be subject to damages, but disputes among the partners were always grounds for dissolution. See Lamoreaux and Rosenthal 2006.
with respect to third parties who had not been given formal notice of their terms. Although a partner might seek an injunction in equity against a member of the firm who violated such an agreement, this remedy could do little more than force the dissolution of the firm (Story 1859; Warren 1929).

Contracting around the fundamental features of the corporate form was equally difficult. Members of corporations might attempt to use shareholders’ agreements to protect themselves against the tyranny of the majority, but these contracts often turned out to be unenforceable. For example, there was a high probability that agreements that required shareholders’ unanimity (or even a super-majority vote) for corporate decisions would be overturned by the courts (Hornstein, 1950 and 1953; Cary, 1953; O’Neil, 1953, 1958, and 1965; Gower, 1956). Even worse, shareholders who entered into such agreements risked being held partners and thus unlimitedly liable for their firms’ debts. 12 Although the courts would not permit stockholders to opt out of the standard corporate governance rules, they did allow them to contract among themselves to exercise their votes in particular ways. For example, the courts were usually willing to enforce agreements among stockholders to vote for particular persons as directors or to place their stock in voting trusts whose officers in turn would choose the directors of the firm. The problem, however, was that such agreements could actually worsen the situation of minority shareholders by making it easier for a controlling group to solidify its power. 13

That the four basic assumptions of our model reasonably capture the organizational choices that U.S. business people faced in the late nineteenth and early twentieth centuries is not

12 See, for example, Vandyke v. Brown 4 Halstead 657 (1852); Jackson v. Hooper, 76 N.J. Eq. 592 (1910); and Benintendi v. Kenton Hotel, 294 N.Y. 118 (1945).
13 See, for example, Brown v. Pacific Mail Steamship Co., 5 Blatchf. 525 (1867); and Faulds v. Yates, 57 Ill. 416 (1870). Even when such contracts were employed by the minority to protect their interests, there were limits to what they could achieve. Most importantly, they could not be used to bind the directors to pursue a particular set of policies or elect specific people as officers. See, for examples, Guernsey v. Cook, 120 Mass. 501 (1876); Cone v. Russell, N.J. Eq. 208 (1891); and Manson v. Curtis, 223 N.Y. 313 (1918).
surprising because we built the model with the U.S. legal rules in mind. We now turn to the 1900 U.S. Census of Manufactures, the first to provide data on organizational form, to explore the fit of our model to the empirical evidence. In particular, we use Census data to test the main implication of our model—that partnerships and corporations are complementary forms of organization—against the view championed by Alchian and Demsetz and Hartz that corporations are superior substitutes for partnerships. If the latter scholars are correct, we should expect the distribution of organizational forms to be driven largely by technological factors that affect the magnitude of the non-contractible problems that incorporation resolves. Most obviously, we should find capital intensive industries and those characterized by economies of scale to be dominated by corporations. More generally, we should find industries with large numbers of corporations to have very few partnerships and vice versa.

The manuscript Census returns have been lost, so we analyze the distribution of corporations and partnerships at the most disaggregated level possible: 322 individual industries broken down by state and territorial units. There are about 4,700 industry-state observations with at least one multi-owner firm. Table 1 reports the results of various OLS regressions of capital and labor per establishment on the share of partnerships among multi-owner firms including fixed effects for both state and industry. It also reports the same analysis as Tobit regressions since share of partnerships is censored both at 0 and at 1. The results are qualitatively similar.

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14 The results for value added per establishment or capital per worker all suggest that industries that were capital intensive or operated at a large scale had more corporations. We also performed (again with similar results) the same analysis using state-industry aggregates (for example, total capital in iron and steel in Iowa). Because establishment size is partly given by technology (which is deployed at the establishment level) and partly the result of the size of demand (which operates at a more aggregate level) one could argue in favor of either specification.  
15 The Tobit regressions failed to converge with fixed effects for state and industry, so we relied upon region and sector (as defined by the census) fixed effects. The results are similar but the sector fixed effects obviously absorb less of the variance than industry fixed effects.
The regressions provide some support for the view that partnerships and corporations were substitutes. In the OLS specification, industry fixed effects alone explain a large amount (47 percent) of the total variation in the share of multi-owner firms that were partnerships. State fixed effects are statistically significant, but they explain only a small part (less than 7 percent) of the variance. Capital per establishment and employment per establishment together explain some 36 percent of the variance. It is important to note that the scale variables and the industry fixed effects have an important common component. Taken all together these sets of variables can explain some 60 percent of the total variation in the share of multi-owner firms that were partnership.

Nevertheless, the news is not all good for the substitutes view. Across all industry-state branches, the mean share of multi-owner firms that were partnerships is 60 percent. Taking the specification most favorable to this hypothesis, if we examine the effect of scale on organizational form by looking only at those branches where capital per establishment was at least one standard deviation above the mean, the share of partnerships falls to 48 percent. At two standard deviations from the mean, it falls to 20 percent. Although these are large reductions in the share of partnerships, partnerships remain present even when industries became quite large in scale.

If the substitutes view is correct, one might also expect corporations to be relatively more prevalent in the more advanced parts of the economy. We define the manufacturing belt to include the band of states in southern New England, the northern Middle Atlantic, and the East North Central regions that are conventionally viewed as the main manufacturing centers of this period. When we include an interaction term between a dummy for the manufacturing belt and capital per establishment, the estimated coefficient is positive, suggesting that in the U.S.
manufacturing heartland partnerships were actually slightly more popular than elsewhere. More precisely, firms in industry cells with larger average establishment sizes were more likely to be partnerships within the manufacturing belt than elsewhere.

The persistence of partnerships in state-industry branches with large establishments, particularly in the manufacturing belt, is problematic for the substitutes hypothesis, but the key evidence against this view comes from more aggregate data (Table 2). Consider the 322 industries enumerated by the Census, and define an industry to be dominated by one form if 90 percent of its multi-owner firms are either partnerships or corporations. Such industries accounted for 22 percent of the capital in manufacturing, 19.5 percent of employment and 24 percent of value added. By contrast, industries where both forms were well represented (with corporations and partnerships each being at least 25 percent of multi-owner firms) accounted for nearly half of all capital, labor, and output. Interestingly enough, fully 57 percent of all manufacturing corporations were located in industries where both forms were abundant. At the industry level, the view that the two organizational forms were complements is difficult to escape. Moreover, repeating this exercise with state-industry cells yields very similar results.

Over the course of the twentieth century the number of corporations would rise relative to partnerships, so that by the end of the century there were more than 2.5 corporations for every partnership in the economy as a whole and more than 8 corporations for every partnership in the manufacturing sector (Carter et al. 2006). Much of this change owed to tax policy. Corporations paid a flat tax rate on their income that ranged from a post-World War II peak of 52 percent to a low of 46 percent on the eve the Tax Reform Act of 1986. Partnership income was subject to the

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16 Giving a very liberal interpretation to “dominant” and taking an industry to be dominated by a form if 80 percent of all multi-owner firms are of one or the other type, expands the figures to 47 percent of capital, 57.5 percent of employment and 48 percent of value added, with most of the increase coming from including more industries with a high proportion of partnerships.
personal income tax, and rates for the top brackets were higher than the corporate level (often substantially) before the 1980s. In addition, whereas the flat corporate tax rate was not affected by inflation, the progressive personal income tax subjected individual tax payers to bracket creep, forcing marginal rates relatively higher. These and other differences raised the burden of personal relative to corporate taxes, encouraging firms to organize as corporations (Brownlee 1996).  

The uneven magnitude of the shift toward corporations across the economy suggests, however, that there were also underlying economic reasons for the relative decline of partnerships. Looking only at the manufacturing sector, corporations accounted for 14 percent of all establishments in 1900, 53 percent of employment, and 65 percent of output. By the eve of the Great Depression, when the 1929 Census of Manufactures was taken, the share of corporations had risen to 48 percent of establishments, 89 percent of employment, and 92 percent of output. Much of the change can be accounted for by the rising scale of enterprise. The average size of corporations scarcely changed from 75 workers per establishment in 1905 to 78 in 1930. Similarly, the average size of non-corporate establishments remained essentially the same at 9 workers per establishment in 1905 and 8 in 1929. What changed was the average size of establishments in the sector as a whole, increasing from 19 workers in 1905 to 42 in 1930.  

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17 Some idea of the magnitude of the incentive can be seen from the following comparison: In 1950 the amount of revenue raised by the corporate and personal income taxes was about the same; by 1980 the personal income tax yielded four times the revenue of the corporate tax. Legislation during Ronald Reagan’s presidency reversed this situation, first by reducing the top personal tax rate to 50 percent in 1981, and then, with the Tax Reform Act of 1986, by reducing it to 28 percent (the 1986 Act also dropped the corporate rate from 46 to 34 percent). The impact of these changes on business people’s organizational choices was to a large extent counteracted, however, by legislation liberalizing the rules under which small corporations could claim Subchapter S status, which essentially allowed them to be taxed as partnerships. Especially after the 1986 Act, growing numbers of firms filed as s-corporations, but there was comparatively little shifting from the corporate to the partnership form. Brownlee 1996; Petska and Wilson 1994; and Petska 1996.

18 Census of Manufacturing: 1900 Vol. VII, Ch. V, Table 7 p. 503; 1910 Vol. VIII, Ch. IX, Table 1, pp136-153; 1920 Vol. VII Table 25 p 108; 1930 Vol. 1, Ch. V, Table 2, p. 95.
The rising scale of enterprise increasingly tipped the balance toward corporations, but it did not eliminate the trade-off that made partnerships an attractive choice for many SMEs, especially outside the manufacturing sector where the size of establishments was not growing as rapidly.

V. The Model, the Law, and French Enterprises, 1833-1923

Two of the four assumptions that our model makes about the legal rules clearly do not fit the French case. The Code de Commerce granted French business people more than two organizational choices. They could form partnerships (*nom collectif*), limited partnerships (*commandite simple*), limited partnerships with tradable shares (*commandite par actions*), and (after 1867) corporations (*anonymes*). Moreover, business people had considerable ability to modify the basic forms to suit their contracting needs. Under the Code, firms had to file summaries (and after 1867 the full text) of their articles of association with the local tribunal of commerce. Because interested parties could obtain copies from the clerk of the court, contracts that conformed to the registration requirements of the Code were fully enforceable (Lamoreaux and Rosenthal 2005). Nonetheless, French businesses faced organizational tradeoffs that were very similar to those in the U.S., albeit not quite as stark in form. The contractual flexibility imbedded in the Code enabled business people to mitigate the problems associated with untimely dissolution and private benefits of control but not to eliminate them altogether.

In France, for example, members of partnerships could write enforceable contracts that limited who could act on behalf of the firm, whose signatures were required to borrow, and even whether the firm could incur debts. Presumably, settling these matters in advance reduced the

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19 After 1832 firms were also required to publish these summaries in the tribunal’s journal. Entrepreneurs in Paris conformed to the new legislation within weeks, but elsewhere publication was spotty. In the twentieth century, the information held by local tribunals was centralized in the “Registre du commerce.”
likelihood of disputes compared to a situation in which all of the partners exercised full ownership rights, but it did not eliminate it. Partnerships in France, as in the U.S., were still effectively terminable at will—even those with specified terms (Riviere 1882; Lyon-Caen and Renault 1924, 349). When disputes arose commercial tribunals attempted arbitration. If the arbiters failed to reconcile the associates, they or the tribunal ordered the partnership dissolved (Ripert 1967, 67; Lyon Caen and Renault (1924, 349-52, 1211). Recontracting at the expiration of a term, moreover, was just likely to lead to disputes, and thus to the untimely dissolution of successful enterprises, as in the U.S.

Commandites simples brought together one or more general partners, who managed the firm and were unlimitedly liable for its debts, and one or more silent partners, whose liabilities were limited to their investments and who played no role in management. They were set up for specific terms, and because the silent partners could neither intervene in the affairs of a profitable firm nor terminate their participation before the expiration of the term, the problem of untimely dissolution was less than in an ordinary partnership (Merle 1998; De Juglard and Ippolito 1999; Protection des minoritaires 2001, 140). However, precisely because silent partners could not participate in the firm’s management, they were susceptible to exploitation by the general partners. Moreover, like minority shareholders in corporations, they had a very limited ability to monitor. As a result, except in cases where the entrepreneur’s equity stake was a sufficient motivator, limited partnerships were likely to bear more substantial shirking costs than ordinary partnerships.

When commandites simple are compared to partnerships, therefore, the central trade-offs in our model between untimely dissolution and private benefits of control are preserved. They are also preserved when commandites simple are compared to commandites par actions. The
latter had all of the trappings of commandites simples with three key additions: the shares of the silent partners were tradable; shareholders could elect audit committees whose responsibility it was to scrutinize the books; and they could require that the managing partners secure the support of a majority of the shareholders at annual meetings of the firm for their past management and for any major decision. Although the managing partners bore unlimited liability, it was possible to replace them without dissolving the firm. Hence a silent partner who owned more than half the equity could exercise a great deal of control (Lyon-Cahen and Renault 1924).

Commandites simple were more likely to suffer from untimely dissolution than commandites par actions because the withdrawal of a general partner automatically signaled the end of the former whereas in the latter shareholders could appoint another managing partner. In contrast, silent partners in commandites faced a lower risk of expropriation than minority shareholders in commandites par actions—in part because their monitoring options were far more extensive (Riviere 1882, 150). An individual holding a small stake in a commandite par actions would have little chance to be appointed to the audit committee. Further many shareholders could be entirely disenfranchised (for instance, as occurred in the cases where the firm required owning at least 10 share to participate in the general meetings). In a commandite simple, however, every silent partners could have regular access to the books—even if they do not participate in management. That, along with the need for periodic recontracting, probably reduced the proportion of the firm’s returns that the general partners could appropriate (Merle 1998; Protection des minoritaires 2001, 57).

After a decade of debate, France enacted a general incorporation law in 1867. Under the law corporations and commandites par actions had the same contractual flexibility, but only managers of corporations enjoyed limited liability. Because incorporation required both hefty
registration fees and a costly notarized contract, it was relatively more expensive to take out a
corporate charter in France than in the U.S. At the same time, however, French corporations
had advantages over U.S. corporations because it was much easier for their organizers to write
enforceable side contracts. For example, they could adopt voting schemes other than the one-
vote-per-share, majority-rule standard. Setting supra-majority thresholds for important decisions
could reduce the likelihood that minority shareholders would be expropriated, but it could also
increase the probability of deadlock. Perhaps for this reason, it seems to have been relatively
uncommon for corporations to protect minority shareholders by altering voting rules in their
favor. To the contrary, most deviations from the standard governance rules seem to have had the
opposite purpose—to solidify the control of the majority. The most common technique used to
reassure minority shareholders was instead the stipulation of a minimum level of dividend
payments. During the mid-nineteenth century these provisions appeared with some frequency
and mandated that the investor receive a return anywhere from 4 to 6 percent of his nominal
investment. Although these provisions could not prevent majority shareholders from tilting the
firm’s revenue stream in their direction, they did put limits on the extent of expropriation that
could occur.

Despite their greater contractual freedom, French businesses faced essentially the same
organizational tradeoffs as firms in the United States. As in the case of the U.S., therefore, one
should observe the persistence of alternative organizational forms long after general laws made
the corporate form readily available. As Figure 4 shows for Paris, the main impact of the 1867
general incorporation law was slowly but surely to eliminate the inferior substitute for the
corporation, the commandite par actions.\textsuperscript{20} The limited impact of general incorporation on the distribution of organizational form can also be found in the published totals for France.\textsuperscript{21} Share commandites had accounted for 6 percent of new firm registrations in France from 1840 to 1867, but they fell to 2.5 percent over the next quarter century and then to 1.3 percent between 1894 and 1914. There was no similar decline in the forms for which the corporation was not such a close substitute: commandites simple and ordinary partnerships. Taken together these two types of organization still accounted for 85 percent or more of all firm registrations in France as late as the eve of World War I, nearly a half century after the advent of general incorporation.

Moreover, there is abundant evidence that the major forms of business organization served complementary purposes. Although the French industrial censuses did not report ownership information, multi-owner firms were required to provide local commercial courts with summaries of their governing statutes. Using the registrations filed with the Paris tribunal of commerce, we have constructed a database that provides information on the organizational choices made by individual firms in all sectors of the economy for the period 1833 to 1854. Because the registration requirements aimed to highlight the firm’s legal obligations, the records contain no information about output or numbers of employees. Moreover, the information they provide about capital is both imperfect and sporadic. Not only do the data refer to authorized rather than paid in capital, but most of the ordinary partnerships formed during these years reported no information about their capital, and many of the commandites simples reported only the amounts contributed by their silent partners. These deficiencies limit the kind of statistical analysis we can deploy. Nevertheless the data have some significant advantages. They cover all

\textsuperscript{20} Published data give us consistent series for new multi-owner firms in France as a whole from 1840 to 1981. We put together the longer series by focusing on Paris and culling registrations from the pages of the \textit{Gazette des tribunaux} for 1833 to 1850.

\textsuperscript{21} Annual issues of the \textit{Compte général de l’administration de la justice civile et commerciale}.
multi-owner firms that registered in Paris, not simply manufacturing enterprises, and we can link
the registrations over time. The reader should bear in mind, however, that the French data
represent flows of new registrations. Given that partnerships had relatively short life spans
(because most changes in their articles of association required firms to dissolve and re-register),
these forms tend to be over represented in the data relative to their proportions in the population
as a whole.

The key implication of our model is different organizational forms should co-exist in
most economic sectors. The distribution of organizational form by sector of economic activity is
reported in Table 4. As in the U.S. a half century later, one can find industries where one
organizational form dominated. The most obvious example is retail and wholesale trade, where
multi-owner firms were disproportionately organized as partnerships. Because the capital of
these firms mostly consisted of relatively liquid inventory, the cost of untimely dissolution was
likely to be low. Furthermore, partners tended to work in the same physical space, and so
monitoring was both valuable and relatively costless. At the other extreme, we find that all but
two of the 57 firms formed to invest in California during the gold rush were share commandites.

As in the U.S., moreover, technology played an important role in determining how firms
would be organized. Take the case of firms in the transportation sector. Railroads all initially
organized as commandites par actions, but their contracts stipulated that this arrangement was
only a temporary expedient until a corporate charter could be obtained. From 1833 to 1854 only
one railroad—a spur to the line from Paris to Brussels—actually operated as a share
commandite; all the others because corporations. Because railroads invested most of their
resources in firm specific assets (only their rolling stock was relatively liquid), incorporation was
an important way of preventing costly dissolution. River transport companies also generally organized as commandites par actions (84 percent of them took this form), but their charters did not include plans to convert to corporations. Although their investments in capital equipment were substantial (they were adopting new steamboat technology at this time), riverboats could be sold fairly easily. Hence firms in this subsector did not face as severe costs from untimely dissolution as did railroads. For similar reasons, 75 percent of street car and cab companies organized as share commandites. By contrast, more than half of all overland transport firms took the form of partnerships, even though at times the number of partners amounted to a dozen or more and the partners were often also members of other firms. Improvement in roads and the consequent growth of traffic had created new business opportunities for carriage companies that could coordinate their schedules over long distances. Not only was a clear gain to association, but it was easy to verify whether the other partners kept to connections and schedules. The cost of dissolution was trivial, moreover, because each party simply reclaimed its own rolling stock.

Nevertheless, the evidence for complementarity swamps these neat examples. Partnerships accounted for less than 25 percent of new registrations in only 12 of 122 economic subsectors, and in only 20 did they account for more than 80 percent. Moreover, the sub-sectors in which partnerships accounted more than four out of five new registrations represented only 12 percent of total registrations. The most common pattern was for firms in each industry to take a variety of organizational forms. New registrations in banking, for example, were nearly evenly divided between each of the three main types of organization: 93 of the firms chose to organize as commandites par actions; 85 as commandites simples; and 101 as partnerships. Although clock and instrument makers preferred partnerships, forming 71 such firms, they also organized

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22 Beyond the governance issue, it is also possible that the scale of operations was such that no one was willing to serve to be an unlimitedly liable partner. Moreover, the Paris bourse closed its doors to the stock and bonds of
7 commandites par actions and 11 commandites simples. Textile manufacturers formed 50
commandites par actions, 126 commandites simples, and 442 partnerships.

Here a skeptic might object that the within industry variation we observe is likely to be just an artifact of a poor or overly coarse classification scheme. The U.S. census divided the manufacturing sector into 322 industries. That breakdown by no means eliminated technological heterogeneity within industry categories, yet we have used only 122 classifications for the entire French economy. One might worry, therefore, that the evidence of complementarity would disappear if our industry categories were fine enough to capture differences in what firms actually were doing. The French data allow us to dismiss this objection, however. If technology (or any other industry characteristic) dictated organizational form, businesses should retain whatever form they initially took—so long as their scale of operation did not change too much. On the other hand, our model suggests that characteristics of the individual owners will also matter in determining organizational form. Hence one should observe firms shifting ownership structure over time as the identity of the owners or the owners’ personal characteristics changed.

That is precisely what the French data show. Take the Marret jewelry firm as an example. It first appears in our data as a partnership formed in 1826 with three partners. In 1829 the senior partner, Claude Bernier, withdrew from active management, and the firm was reorganized as a commandite simple called Marret Frères that ran until 1834. The younger of the two Marret brothers then withdrew, leading to the organization of a new commandite simple with Bernier still the silent partner, contributing two thirds of the firm’s 300,000 franc capital. In 1836, the commandite was dissolved and the elder Marret operated the business as a sole proprietorship for a decade until he teamed up with two new partners late in 1846. The firm then had a capital of 600,000 francs, half of which was Marret’s. The 1846 articles of association
anticipated that Marret would withdraw from the firm in 1856 while Jarry and Gaime, the other
two associates, would continue the firm for another year and a half. Through all these changes in
ownership and organizational form the firm operated at 16, rue Vivienne, producing and retailing
jewelry with the same technology. Although the data on capital suggests that the firm may well
have grown substantially over the period, at the end the firm was a partnership with three
members, just as it had been at the beginning.

More generally, within our database we have identified 1,172 reorganizations of a
business (instances where one legal entity was dissolved and replaced by another legal entity but
the business continued to operate). Some 389 of these reorganizations (31 percent) were
associated with a change in organizational form (see Table 4). For example, 97 partnerships
became commandites simple and 62 became commandites par actions, and 94 commandites par
actions became partnerships and 38 commandites simples. If we consider the firm to be the
economic entity that underlies the ownership structure, then the evidence convincingly shows
that organizational forms are complements not only at the national or industrial levels but also
right down to the level of the firm.

Returning to Figure 4, it is clear that the pattern of organizational choice in France at the
end of the nineteenth century was similar in its broad outlines to that in the United States.
Differences in legal regime do not seem to have played a very important role. In both countries,
partnerships remained popular in many branches of economic activity long after the corporation
had become widely available. In both countries, there were systematic differences across
industries in the use of partnerships relative to other organizational forms—differences that may
have been related, as our model would suggest, to factors such as the relative cost of untimely
dissolution versus minority oppression. Moreover, in both countries there was substantial
organizational heterogeneity within industries, suggesting that individual characteristics of the business people involved—for example, the wealth constraints highlighted by our model—also played an important role in the choice of organizational form.

VI. Conclusion

The rise of the corporation is not the story of the emergence of an inherently superior organizational form but rather of a device that solved some of contracting problems associated with partnerships but also introduced new ones. In making this case, we do not wish to diminish the contribution of the corporation to the history of economic growth. Indeed, it is difficult to imagine railroads, insurance companies, and many other large important firms operating as partnerships. Rather our aim has been to place the contribution of the corporation in proper perspective. Although corporations did eliminate the problem of untimely dissolution in partnerships, they did so at the cost of facilitating significant minority oppression. For large firms seeking to raise capital on the equity markets, the benefits of incorporation greatly outweighed the costs. But for firms where the number of associates was small and investment capital could be obtained more informally, the advantages were not so clear, and the overwhelming majority chose to bear the costs of partnerships rather than to incorporate.

Over the course of the twentieth century, this situation would change. As the scale of enterprise rose, relatively more firms chose to organize as corporations, especially in the U.S. where tax and other policy changes accelerated the trend. In France, however, the enactment in 1925 of legislation permitting a special form of private limited liability company (the société à responsabilité limitée or SARL) lead to the demise of the partnership as well as a significant decline in the proportion of firms taking up the corporate form. Similar legislation passed earlier
in Germany (1892) and Britain (1907) had much the same effect. In light of the current literature touting the advantage of common-law over code-based legal regimes, it is interesting to note that here continental Europe played the role of leader rather than laggard. U.S. businesses did not obtain a viable version of the SARL until very late in the twentieth century (Lamoreaux and Rosenthal 2005).

As we have emphasized in this paper, excessive reliance on very recent data can lead economic theorists astray. But, we hasten to acknowledge, history without theory is just as likely to run amok. Although the two different types of intellectual endeavor can certainly make odd bedfellows, they have important complementary roles to play in the study of economic institutions, and the potential seems to be particularly rich at the intersection of law and business. We hope this paper has demonstrated the value of a long-run historical perspective for understanding the economics of business people's organizational choices. But we also hope that current theoretical debates about corporate governance will help revitalize historical research that all too often been predisposed towards tales of exceptionalism, be they American, British, French, or something else.
References


Table 1: Explaining the share of partnerships on the basis of size and capital per worker

<table>
<thead>
<tr>
<th></th>
<th>OLS Regressions</th>
<th></th>
<th>Tobit Regressions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>Constant</td>
<td>1.65*</td>
<td>0.84*</td>
<td>1.61*</td>
</tr>
<tr>
<td>Ln Capital/ Establishment</td>
<td>-0.11*</td>
<td>-0.100*</td>
<td>-0.055*</td>
</tr>
<tr>
<td>LN Employment/ Establishment</td>
<td>-0.10*</td>
<td>-0.013*</td>
<td>-0.029*</td>
</tr>
<tr>
<td>Ln Capital/ Establishment X Manufacturing belt dummy</td>
<td>0.008*</td>
<td>0.008*</td>
<td></td>
</tr>
<tr>
<td>State F.E.</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Industry F.E.</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Region F.E.</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Sector FE</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>N</td>
<td>4924</td>
<td>4736</td>
<td>4736</td>
</tr>
<tr>
<td>R²</td>
<td>0.35</td>
<td>0.24</td>
<td>0.36</td>
</tr>
<tr>
<td>adjR²</td>
<td>0.35</td>
<td>0.24</td>
<td>0.36</td>
</tr>
<tr>
<td>Pseudo R²</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

An observation is an industry in a given state. The dependent variable is the share of partnerships in multi-owner firms. The independent variables aggregate all of the firms in the industry in a given state, including sole proprietorships. Ln Capital/Establishment is in 1900 Dollars reported capital divided by number of establishments. Ln Employment/Establishment is reported average workers and management divided by number of establishments. Manufacturing belt is a dummy variable that takes on the value 1 if the industry is in CO, IL, IN, MA, NY, NJ, OH, PA. Columns 1-5 report OLS results, 6 and 7 report Tobit regression for two sided censoring. The regressions do not converge when state fixed effects are included. Source: Census of Manufacturing: 1900 Vol. VII, Ch. V, Table 4 pp 66-465 and Table 9 pp 511-580.
Table 2: Distribution of multi-owner establishments in the U.S. Census

<table>
<thead>
<tr>
<th>Fraction of Multi-owner Establishments that are partnerships</th>
<th>Multi-owner Establishments</th>
<th>All Establishments</th>
<th>Capital</th>
<th>Workers</th>
<th>Value Added</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>0.028%</td>
<td>0.011%</td>
<td>0.114%</td>
<td>0.083%</td>
<td>0.076%</td>
</tr>
<tr>
<td>0.01 to 10</td>
<td>0.017</td>
<td>0.005</td>
<td>0.110</td>
<td>0.037</td>
<td>0.067</td>
</tr>
<tr>
<td>10.1 to 20</td>
<td>0.023</td>
<td>0.008</td>
<td>0.098</td>
<td>0.059</td>
<td>0.089</td>
</tr>
<tr>
<td>20.1 to 30</td>
<td>0.032</td>
<td>0.012</td>
<td>0.082</td>
<td>0.043</td>
<td>0.069</td>
</tr>
<tr>
<td>30.1 to 40</td>
<td>0.058</td>
<td>0.028</td>
<td>0.100</td>
<td>0.077</td>
<td>0.090</td>
</tr>
<tr>
<td>40.1 to 50</td>
<td>0.066</td>
<td>0.037</td>
<td>0.084</td>
<td>0.070</td>
<td>0.089</td>
</tr>
<tr>
<td>50.1 to 60</td>
<td>0.069</td>
<td>0.040</td>
<td>0.088</td>
<td>0.064</td>
<td>0.075</td>
</tr>
<tr>
<td>60.1 to 70</td>
<td>0.086</td>
<td>0.056</td>
<td>0.084</td>
<td>0.120</td>
<td>0.077</td>
</tr>
<tr>
<td>70.1 to 80</td>
<td>0.124</td>
<td>0.101</td>
<td>0.079</td>
<td>0.184</td>
<td>0.099</td>
</tr>
<tr>
<td>80.1 to 90</td>
<td>0.227</td>
<td>0.253</td>
<td>0.090</td>
<td>0.121</td>
<td>0.129</td>
</tr>
<tr>
<td>90.1 to 99.9</td>
<td>0.263</td>
<td>0.387</td>
<td>0.064</td>
<td>0.122</td>
<td>0.121</td>
</tr>
<tr>
<td>100</td>
<td>0.034</td>
<td>0.061</td>
<td>0.008</td>
<td>0.019</td>
<td>0.017</td>
</tr>
</tbody>
</table>

Total

130861 505945 9304 6110 5295

Note the data for the table comes from merging the two published tables below. Establishments are numbers reported. Capital is in millions of dollars and workers in 1000s.

Source: Census of Manufacturing: 1900 Vol. VII, Ch. V, Table 4 pp 66-465 and Table 9 pp 511-580.
Table 3: Multi-owner firms’ organizational choice in Paris 1833-1850 (Registrations of new firms only)

<table>
<thead>
<tr>
<th>Organization Type</th>
<th>N</th>
<th>Artisans</th>
<th>Trade</th>
<th>Construction and real estate</th>
<th>Manufacturing</th>
<th>Mining and agriculture</th>
<th>Services</th>
<th>Transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partnership</td>
<td>7458</td>
<td>353</td>
<td>3108</td>
<td>214</td>
<td>2715</td>
<td>67</td>
<td>765</td>
<td>164</td>
</tr>
<tr>
<td>Silent partnership</td>
<td>2065</td>
<td>67</td>
<td>774</td>
<td>42</td>
<td>737</td>
<td>23</td>
<td>349</td>
<td>43</td>
</tr>
<tr>
<td>Silent partnership with tradable shares</td>
<td>2486</td>
<td>30</td>
<td>166</td>
<td>104</td>
<td>775</td>
<td>243</td>
<td>943</td>
<td>202</td>
</tr>
<tr>
<td>Corporations</td>
<td>26</td>
<td>2</td>
<td>14</td>
<td>2</td>
<td>5</td>
<td>5</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Other</td>
<td>97</td>
<td>2</td>
<td>14</td>
<td>11</td>
<td>27</td>
<td>17</td>
<td>19</td>
<td>7</td>
</tr>
<tr>
<td><strong>Total Firms</strong></td>
<td>12132</td>
<td>452</td>
<td>4062</td>
<td>373</td>
<td>4259</td>
<td>355</td>
<td>2085</td>
<td>418</td>
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<tr>
<td><strong>Share of Partnerships</strong></td>
<td>0.61</td>
<td>0.78</td>
<td>0.77</td>
<td>0.57</td>
<td>0.64</td>
<td>0.19</td>
<td>0.37</td>
<td>0.39</td>
</tr>
</tbody>
</table>

The table reports organizational form for all firms that published a summary of their organizational charter in the *Gazette des Tribunaux* from January 1, 1833, to December 31, 1850.
Table 4: Transition matrix for organizational form

<table>
<thead>
<tr>
<th>Initial Form</th>
<th>Reorganized form</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>P</td>
</tr>
<tr>
<td>Partnerships</td>
<td>518</td>
</tr>
<tr>
<td>Commandite Simple</td>
<td>62</td>
</tr>
<tr>
<td>Commandite par Actions</td>
<td>94</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
</tr>
</tbody>
</table>

Note: All firms that published a summary of their organizational charter in the _Gazette des Tribunaux_ from January 1, 1833, to December 31, 1850, for which we were able to trace a successor firm that was also a multi-owner firm.
Figure 1

Firm Returns when Shirking Arises

Corporations
Partnerships
Critical values
Figure 2

Firm Returns with Shirking, Untimely Dissolution, and private appropriation (d>β)

Firm Returns with Shirking, Untimely Dissolution, and private appropriation (d<β)

Entrepreneur’s equity stake

Entrepreneur’s equity stake
Figure 3

New Multiowner Firms in Paris 1833-1923

- Corporations
- Share Commandites
- Commandites
- Partnerships