DISECONOMIES OF MANAGING IN ACQUISITIONS: EVIDENCE FROM CIVIL LAWSUITS

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ABSTRACT

The difficulties of managing and coordinating operations as firms expand are expected to increase disproportionately with firm size. If firms face such diseconomies of managing, then acquisitions should make the combined entity more difficult to manage than the two entities operating independently. To document the existence of diseconomies of managing in acquisitions, we examine the change in civil lawsuit judgments involving acquired firms pre and post acquisition. Civil lawsuit judgments can capture breakdowns in management oversight that cause firms to take actions that a prudent firm would not take or fail to take actions that a prudent firm would take. We find that acquired entities face a significant increase in lawsuit judgments post acquisition. We describe why our findings provide evidence of diseconomies of managing versus alternative explanations and highlight why managerial diseconomies should be an important consideration when managing or examining acquisition strategies.

Key Words: Diseconomies of managing, Acquisitions, Legal liability, Civil lawsuits
INTRODUCTION

It has long been argued that coordinating and managing becomes disproportionately difficult as firm size increases (e.g., Robinson 1934; Coase 1937). If firms face diseconomies of managing, we expect they will be pronounced in acquisitions because combining independent firms results in a larger post acquisition entity. Therefore, when diseconomies of managing exist, the effort required to effectively manage the combined entity will exceed the effort to effectively manage these firms separately. This has the potential to mitigate or negate any benefits stemming from an acquisition and is, therefore, strategically important.

We focus on the existence of diseconomies of managing because much of the research on acquisition performance focuses on the benefit-side of the acquisition. Namely, the assessment of when synergies are present or not (e.g., Capron and Pistre 2002; Seth 1990; Singh and Montgomery 1987) and the assessment of how acquisitions should be implemented to capture the desired benefits (e.g., Haspeslagh and Jemison 1991; Zollo and Singh 2004). However, acquisition performance is a function of both the benefits and the costs of combining firms. By focusing on diseconomies of managing, we identify, assess, and highlight an important cost that will manifest in acquisitions. Our contention is that research that focuses on the “cost side” of acquisitions has the potential to provide further insight into what determines acquisition success and failure.

Because we focus on managerial diseconomies we choose a novel – and arguably more direct – approach to test its existence compared to studies that examine acquisition performance. Rather than examine stock price movements or financial returns, we examine the number of civil lawsuit judgments involving the target firm prior to and subsequent to being acquired. We do this for three reasons. First, focusing on financial performance aggregates benefits that motivate an acquisition with any resulting costs, which confounds this measure. Second, many outcomes of managerial diseconomies will be problems stemming from insufficient managerial oversight. Such activities are notoriously difficult to measure. However, because lawsuits stem from firms failing to take actions that a prudent firm would take or taking actions a prudent firm would not take, our measure provides a way to identify insufficient
managerial oversight. Third, because lawsuit judgments are part of the public record, these data are available for privately held and publicly held firms. This mitigates a bias in the existing literature toward investigating only large publicly held firms (e.g., Ang and Kohers 2001). For these reasons, we argue that civil legal liability provides an insightful measure of diseconomies of managing.

Empirically, we examine 576 acquired firms in the US during 1987. Our sample includes both private and public firms and foreign and domestic acquirers, which mitigates sampling biases towards public and domestic acquisitions (e.g., Ang and Kohers 2001; Mathur, Rangan, Chhachhi, and Sundaram 1994). We find evidence that acquired firms have more civil lawsuits brought to judgment in a five-year post acquisition period as compared to a five-year pre acquisition period. We undertake many sensitivity analyses to help verify that this finding is consistent with our arguments of diseconomies of managing versus alternative explanations. For example, we utilize heterogeneity within types of lawsuits to identify lawsuits that most likely manifest breakdowns in managerial oversight. We also utilize heterogeneity in acquisitions to aid in assessing if diseconomies of managing drive the results. We argue that diseconomies of managing will be more pronounced the larger the size of the target. For the subset of firms that we are able to assess firm size, we find evidence that the larger the target – the greater increase in post-acquisition lawsuit judgments. We also hypothesize that foreign acquirers face greater difficulties managing compared to domestic firms due to the complications of managing across distance and business environments (Hymer 1976; Zaheer 1995; Mezias 2002). However, we do not find evidence that foreign acquirers have greater increases in lawsuits compared to domestic firms.

Identifying the existence of diseconomies of managing within acquisitions has important managerial and research implications. Conceptually separating and empirically documenting the effect of managerial diseconomies highlight that many difficulties associated with acquisitions stem from inherent difficulties associated with firm size. Therefore, failed acquisitions do not necessarily result from unrealized synergies or poor implementation, but rather might result from increased difficulties in managing a larger entity. Assessing acquisition failures and successes in this light can facilitate refined prescriptions for managers. We believe that investigating, understanding, and acknowledging inherent
costs stemming from acquisitions, such as diseconomies of managing, deserves more central consideration.

The following section discusses diseconomies of managing, presents our hypotheses, and motivates our approach to investigate this issue. In the subsequent two sections we describe the data and present our analyses. The final section discusses implications of our findings and concludes.

**ACQUISITIONS AND DISECONOMIES OF MANAGING**

The notion that firms face diseconomies of scale with respect to managing has long been discussed. For example, Coase (1937) discusses how the cost of organizing additional transactions within a firm likely increases (*i.e.*, there are diminishing returns to management) – otherwise there was not a good explanation for why the existence of transaction costs did not result in one large firm. Likewise, many strategy textbooks (*e.g.*, Besanko, Drangrove and Shanley 2000; Saloner, Shepard and Poldony 2001) present U-shaped average cost curves, which indicate that at some point firms face diseconomies of scale. The explanation for the right tail of the U-shaped average cost curve often revolves around how increased difficulty of managing and coordinating activities as size increases offsets any benefits associated with size at some point. Such commonality in textbook coverage indicates widespread acceptance of diseconomies of managing. Moreover, the literature on corporate divestitures finds that firms with larger numbers of product lines are more likely to engage in divestitures (*e.g.*, Hitt, Hoskisson, Johnson and Moesel 1996; Markides 1992; Bergh and Lawless 1998) because these firms over-diversified (*i.e.*, they face diseconomies of managing) and divesting business lines increases profitability.

The mechanism leading to diseconomies of managing – control loss – has also long been discussed. For example, Robinson (1934) argues that larger firms are more difficult to coordinate or manage. Building from these arguments and from the tradition of bounded rationality within organizations (March and Simon, 1958), Williamson (1970) argues that diseconomies of managing stem from control loss resulting from many forces including “malcoordination” and “data transmission loses.” More recently, scholars have focused on sources of managerial diseconomies that can be considered as reflections of bounded rationality and control loss. These include limits to individuals’ processing
abilities (e.g., Geanakoplos and Milgram 1991), the costs of monitoring and motivating subordinates (e.g., Qian 1994), or individuals within firms using information for their benefit versus the firm’s benefit (e.g., McAfee and McMillan 1995).

In addition, existing research investigates how incentive limitations can be associated with firm size (Williamson, 1985). For example, Tirole (1986) examines how hierarchical structures can lead to collusion amongst supervisors and agents. Milgrom and Roberts (1988) highlight that when organizational members with access to information differ from those with decision-making authority, considerable time and effort can be focused on influencing decision makers. Rasmusen and Zenger (1990) argue that constructing incentive contracts is more easily done in smaller teams (i.e., firms) because individual contributions are more easily identified and rewarded/punished than in larger teams. Zenger (1994) shows that diseconomies in contracting provide one explanation why small firms have superior research and development performance compared to large firms. Highlighting the importance of investigating such diseconomies, he also notes “our general understanding of diseconomies of scale and the costs of organizing lags far behind our understanding of the advantages of large size” (Zenger 1994: 709). In particular, although there is considerable theoretical discussion of diseconomies of managing, there is little empirically assessment of such cost-related issues.1

We expect that diseconomies of managing will exist regardless of how the larger operation is organized – however, we do not dismiss that certain forms of organizing can mitigate the effect. For example, an acquired firm might operate as a separate division from the rest of the company (i.e., the acquiring firm chooses a decentralized structure for its expanded operations). We expect the managerial effort required by the parent firm to manage the expanded operations increases, unless the division is completely autonomous (e.g., it does not report to the parent firm, obtain resources from the rest of the

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1 We argue that there exist managerial diseconomies related to firm size (consistent with Williamson, 1970), and not related solely to the growth rate of the firm (e.g., Kaldor, 1934; Penrose, 1959). Although diseconomies of managing is often related to a discussion on the limits to firm size (i.e., optimal firm size), we focus on documenting the existence of diseconomies of managing and make no reference to optimal firm size. The latter would entail making assumptions on the existence of benefits to size and how the costs and benefits of size change relative to each other as size increases.
firm, or share resources with the rest of the firm). Consistent with the previously presented mechanisms, even utilizing a decentralized divisional structure would require an extra layer of reporting to the corporate parent, which increases chances of transmission loss, heightens control requirements for the acquiring firm, and increases difficulties of aligning incentives. Therefore, we expect that the difficulties of managing increase even when firms utilize divisional structures. Moreover, the difficulties of managing are likely further increased if the acquiring firm chooses a greater degree of centralization for acquired operations. Based on these arguments, we expect that acquisitions will demonstrate diseconomies of managing.

H1: Acquisitions will demonstrate diseconomies of managing.

We wish to stress that this hypothesis focuses on diseconomies of managing, a specific cost associated with acquisitions, and makes no prediction regarding realized benefits of an acquisition. Predicting realized benefits requires including specific predictions of benefits of increasing firm size through acquisition that must exceed the corresponding diseconomies of managing that also develop. Therefore, this hypothesis should not be interpreted that acquisitions, on average, are poor performing because performance also depends on the benefits that firms realize once making an acquisition.²

We expect diseconomies of managing to exist for all acquisitions; nevertheless, we believe that characteristics of the acquisition affect the magnitude of the diseconomies. Acquiring firms add the responsibilities of managing the target firm’s operations post acquisition. The corresponding increase in the complexities of managing the combined operations is a function of the size of the acquired operations. Therefore, we expect the resulting diseconomies of managing to be more pronounced, the larger the target firm. We hypothesize that:

H2: The larger the size of the acquired firm, the greater diseconomies of managing.

We also expect that the difficulty of managing differs between foreign and domestic acquirers. Foreign acquirers face greater difficulties of managing acquired operations compared to domestic firms

² In fact, well managed acquisition strategies should account for the existence of diseconomies of managing and incorporate this when calculating the required benefits that must be realized by the acquisition.
because of the added difficulties of managing across distance and business environments (Hymer 1976; Zaheer 1995; Mezias 2002). As a result, we predict that foreign-owned firms will have greater difficulties managing acquired firms. Moreover, if foreign acquirers are less familiar with local managerial, social, cultural, and institutional aspects of the host country environment (Zaheer 1995; Mezias 2002), then they will have to expend extra effort to operate as effectively as a domestic acquirer. Therefore, we hypothesize that:

\[ H3: \text{Firms purchased by foreign acquirers demonstrate greater difficulties of managing compared to firms purchased by domestic acquirers.} \]

**DATA AND MEASURES**

Documenting the existence of diseconomies of managing is a complicated task. One approach is to examine financial performance post acquisition. However, as mentioned, this assessment confounds the benefits motivating an acquisition with emergent costs like diseconomies of managing. For example, even if management difficulties increase as a result of an acquisition, increased size can be used to spread fixed costs in production, technology, or advertising – which is a benefit. Because our goal is to document diseconomies of managing, we choose not to examine financial performance as it aggregates benefits and costs. Nevertheless, better understanding acquisition costs has the potential to inform our understanding of overall acquisition performance.

An alternative to assessing financial performance is to more directly measure managerial costs by assessing administrative activities or managerial head count. However, such measures capture administrative activities, staffing, or compensation. They do not capture whether staffing levels are insufficient, whether managers have to work harder than previously, or whether the make-up of the managerial team is inappropriate. All of these likely reflect diseconomies of managing. Moreover, many acquisitions look for cost savings in administrative activities when combining firms. Attempting to reduce administrative activities might actually compound the difficulties of managing if the increase in firm size resulting from an acquisition increases managerial complexity. Yet, if we were to use administrative activities as a measure of diseconomies, then reduced administrative activities would suggest that
managing was less difficult rather than more difficult. Because we expect larger firms are more difficult to coordinate and manage, we argue that diseconomies of managing will often be manifest by miscoordination or mistakenly under-investing in management oversight of the acquired firm by the new owners.

We employ a novel approach to empirically document the existence of diseconomies of managing - the extent to which firms face civil lawsuit judgments. Civil lawsuits reflect that a party has not fulfilled a legal obligation or has not taken actions that a prudent firm should exercise. Although civil lawsuits will not measure all difficulties of managing a firm, they typically capture substantial disputes related to imprudent action, negligence, or mismanagement of relationships. For example, firms remiss in product safety invite lawsuits. Firms remiss in providing a workplace free from sexual harassment invite lawsuits.

These examples demonstrate how civil lawsuits capture control loss through the lack of prudent oversight or mismanagement of stakeholder relationships. Therefore, although novel in this implementation, civil lawsuits can capture the underlying mechanism of control loss that drives managerial diseconomies.

In addition, civil lawsuits can have significant economic ramifications. For example, awards of several million dollars and legal fees of a million dollars are common (Nye 1995). Employee plaintiffs win most lawsuits and average jury awards exceed $600,000 (Edwards 1994). Moreover, firms perceived to violate social norms that trigger lawsuits face potentially more serious consequences through work force disruptions, loss of reputation, and potential boycotts (Mezias 2002). Therefore, lawsuit judgments capture diseconomies of managing that have a tangible economic impact on the firm. Having spelled-out the basis for our study and the motivation for our approach, we now describe the sample and variable definitions.

**Sample**

We base our analyses on the cohort of foreign and domestic acquisitions in the US during 1987. We restrict our analysis to one year to hold constant many business environment factors including the state of the legal environment and macroeconomic conditions in the US. We also restrict our analysis to
acquisitions in the manufacturing sector because legal norms and precedent vary across sectors (Baron, Dobbin and Jennings 1986).


From these data we exclude non-verifiable acquisitions, double listings, and portfolio or passive minority investments. We also exclude instances where an acquirer purchased operations that were part of a firm and did not function in a stand-alone fashion because we could not isolate lawsuits associated with the acquired operations in the pre-acquisition period. Finally, we exclude acquisitions where the name of the acquired entity could not be searched properly. The usable sample consists of 576 acquisitions by 206 foreign and 370 domestic acquirers.

Due to the comprehensiveness of the sample, many acquisitions involve privately held acquirers or targets. For instance, only 21 of the 576 acquisitions involve publicly-traded acquirers and publicly-traded targets. The prevalence of privately held firms in the sample precludes us from collecting additional data on participating firms with commonly used databases. However, the periodical *Mergers and Acquisitions, 1987* provides information on size (as measured by revenues) and industry affiliation for many firms in our sample. We are able to gather revenue data for target firms in 196 of the 576 acquisitions and revenue data for both acquirer and target in 146 of the 576 acquisitions. Therefore, we are able to collect additional data and further analyze several acquisitions that include privately held acquirers or targets, although it requires that we suffer a reduction in sample size.
Civil Lawsuit Judgments

The data on civil lawsuit judgments comes from the Lexis-Nexis Legal Library, which documents all US civil lawsuit judgments from state and federal courts – except in rare cases in which judges or settlement terms do not allow judgments to be made available. Although this database allows us to comprehensively track US civil lawsuit judgments involving a focal firm, it does not classify lawsuit judgments by type of civil action. As we will describe below, we choose to focus our analysis of certain types of legal action that arguably best reflect diseconomies of managing.

To classify lawsuit judgments we first consulted the Statistics Division of the Administrative Office of the United States Courts and Black’s Law Dictionary (Black 1999) about categories of civil actions. With the aid of two third-year law students, we read and classified all judgments involving our sample firms into categories based on the civil action involved in the dispute. Lawsuits were classified by these two independent coders into 17 unique categories to help ensure inter-rater reliability (Krippendorf 1980). The 17 categories are antitrust, bankruptcy, contract disputes, copyright infringements, environmental violations, false advertising claims, insurance claims disputes, labor disputes, land related disputes, patent infringements, personal injury, product liability, securities related disputes, statute violations, taxation issues, torts, and violations of interstate or international trade agreements. Because torts encompass a broad category of civil suits, we subdivided these lawsuits into personal injury, product liability, and all other torts. We also subdivided statute violations into violations of environmental statues and all other statute violations.

The text of most judgments made classification straightforward, and remarkably few classification disagreements emerged. In fact, avoiding double classifications was the only substantive issue we faced in coding the data. To ensure judgments were properly classified into only one category, we developed the following heuristics. Although product liability and personal injury are subcategories of torts, these judgments were classified as product liability or personal injury respectively, and not also as torts. If a product liability caused a personal injury, then that judgment was classified as product liability only. If an employee suffered a personal injury, then that judgment was classified as personal injury only.
and not as a labor dispute. If a product liability created an environmental hazard, then that judgment was classified as product liability only. Although environmental regulations are a subcategory of statutes, these judgments were classified as environmental only and not also as statute violations. Judgments involving labor contract violations were classified as labor disputes only and not also as contract disputes. Lastly, the copyright classification includes judgments about trade secret and trademark infringements, which are not violations of trade agreements. These heuristics quickly resolved multiple classification issues, which occurred in less than five percent of our sample judgments.

Before analyzing the data, we identified six types of lawsuits that most directly capture the possibility that a firm was not acting prudently and would be a manifestation of control loss. These categories are personal injury, product liability, other torts, labor disputes, environmental violations, and contract disputes. Tort lawsuits, including personal injury and product liability, stem from injury due to negligence, which represents a lack of prudent oversight. Environmental lawsuits often occur because complying with the myriad of environmental regulations requires sophisticated administrative oversight that is often business or operation specific. Contract lawsuits can stem from new owners mistakenly altering or neglecting established methods of honoring contract obligations. Finally, labor lawsuits can reflect a lack of due diligence to ensure identification and implementation of accepted labor practices. Our focal dependent variable is based on the sum of these six types of civil lawsuit judgments, although we track each type separately in sensitivity analyses.

We choose not to focus on the other 11 types of civil lawsuits for one of two reasons. First, acquisition activity *per se* might disproportionately trigger some of these lawsuits. For example, securities-related lawsuits are more likely to occur when mergers and acquisitions involve equity exchanges. In these cases, increases in lawsuits would reflect the acquisition and not the ensuing difficulties of managing the larger firm. Likewise, if firms overpay for acquisitions or if acquisitions adversely affect cash flow, then bankruptcy lawsuits may be more likely post acquisition. However, the driver for this increase can be manifold and not restricted to management difficulties. Two other classifications that we choose not to include are copyright and patent lawsuits. Because intangible assets
are often an important consideration in acquisitions, new owners might be more likely to assert their ownership over technologies and trademarks if they are central components of the acquisition motivation. Therefore, in our context these lawsuits might be related to effectively protecting acquired assets and unrelated to diseconomies of managing. Finally, government regulators often scrutinize acquisitions, which suggest that acquisition activity, and not diseconomies of managing, might trigger many antitrust and trade agreement lawsuits. A second reason for not including types of civil actions is a lack of a compelling rationale connecting them to diseconomies of managing. In particular, the relationships between diseconomies of managing and false advertising claims, insurance disputes, land related disputes, statute violations, or taxation cases are more tenuous. Avoiding lawsuits types triggered by acquisition activity *per se* and lawsuits types that lack a clear connection to diseconomies of managing provides us with a cleaner test of our arguments. Nevertheless, in sensitivity analyses depicted in Table 6, we show that our conclusions are unchanged when we evaluate all civil lawsuit types.

We analyze civil lawsuit judgments and not lawsuit filings because filings may be mere threats or frivolous legal actions. Thus, this measure is more likely to capture serious occurrences of control loss through improper supervision, stakeholder mismanagement, negligence, and ineffective contracting. Additionally, offsite or online access to civil lawsuit filings is not available for the time period of our study. Consequently, analyzing filings would require visiting each and every US court to compile these records. The scope of this undertaking is enormous. For example, New York has approximately 2000 civil courthouses (Finn 1996).

In defining this lawsuit judgment variable for our analysis, we include all judgments whether the focal firm is a defendant or a plaintiff. Although it might be easier to envision stakeholders suing firms to remedy perceived injustices stemming from diseconomies of managing, management difficulties can also create situations where firms must become plaintiffs. For example, a lack of prudent oversight may contribute to miscommunication between parties to contracts, especially ongoing contracts established with prior owners. Such miscommunication may alter perceived contract obligations, or some parties may exploit ownership transitions or lack of due diligence and shirk obligations. This is akin to the idea that *ex
ante and ex post transaction costs are related (e.g., Klein 1988). The acquired firm may have to sue the party to a contract to gain compliance or compensate breach of contract. Also, litigation is more likely when contracts are not effectively constructed or managed, which is more likely when diseconomies of managing exist. Therefore, including judgments where focal firms are either defendants or plaintiffs affords a more comprehensive test of diseconomies of managing. In sensitivity analyses, we show that including only lawsuit judgments where the focal firm is the defendant does not alter our conclusions.

Before discussing the structure of our hypothesis tests, we briefly describe several examples of lawsuit judgments from our sample to provide a more concrete picture of how civil lawsuit judgments capture diseconomies of managing.

**Examples of lawsuits**

In one case a firm had its first product liability lawsuit five years after being acquired suggesting that post acquisition production designs or manufacturing processes triggered a product defect. One breach of contract lawsuit involved a former employee successfully suing the acquired firm to honor a settlement agreement made between her and the former owners. Similarly, several acquired firms that had no pre acquisition lawsuits, subsequently lost contract violation cases. This is consistent with the situation where new owners might not provide sufficient oversight, or understand the acquired firm’s existing contractual obligations.³

Other cases demonstrate a lack of prudent attention to employee rights and safety. For example, several acquired firms faced for the first time class action lawsuits brought by employees for violation of the Age Discrimination in Employment Act. In one of these lawsuits, employees’ council successfully argued that the acquirer’s workforce reductions had a disparate impact on older workers. This judgment was made 5 years after the acquisition so it is unlikely these workforce reductions were part of the initial purpose of the acquisition, but potentially reflect a lack of due diligence in managing subsequent layoffs

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³ We recognize that firms might make acquisitions to breach contractual obligations in the target firm and capture wealth in this manner (e.g., Schliefer and Summers 1988). Nevertheless, the timing of lawsuits in many of these examples (happening years after the acquisition) combined with many judgments against the acquired firms mitigates the concern that this is the overriding cause of lawsuits in our sample.
by the new owners. In another labor-related example, the US Department of Labor brought suit because the acquired company’s procedures violated US Occupational Safety and Health Administration’s rules in the post acquisition period. This firm had no such violations previously.

Finally, an acquired firm sued a supplier for breach of contract. Although this contract was made between the supplier and the prior owners, it was still binding to the acquired firm and that supplier. It appeared that the supplier believed it could exploit changing ownership and change contract performance without being detected. Had the acquirer understood and recognized the supplier’s change in performance when it first occurred, it is unlikely the parties would have required judicial resolution. This example also illustrates why acquirers might need to become plaintiffs to help rectify a lack of due diligence that could lead stakeholders to shirk obligations.

TEST FORMULATION

Hypothesis 1

We expect the number of civil lawsuit judgments a firm faces to be a function of the size of the firm and other business factors as represented in equation 1. Lawsuits increase with size for two potential reasons: (a) diseconomies of managing and (b) lawsuit activity expectedly increases as business activity increases (Mezias 2002). An example of the latter point is when there is a probability that each product sold will be defective, the chances that a firm sells a defective product and faces litigation increases with the number of products sold. A host of firm and industry factors are also likely influence lawsuit judgments. For example, medical device firms are more active litigators and litigants compared to many other firms. Therefore, we expect equation 1 to represent lawsuit judgments of the target firm.

\[
\text{Lawsuit judgments}_{\text{Target}} = g(\text{Size}_{\text{Target}}, \text{other business factors})
\]  

[1]

The number of civil lawsuit judgments an acquiring firm faces will reflect similar determinants as represented by the following equation.

\[
\text{Lawsuit judgments}_{\text{Acquirer}} = f(\text{Size}_{\text{Acquirer}}, \text{other business factors})
\]  

[2]

If diseconomies of managing do not exist, the difficulty of running the combined firm will be the same as running the two firms independently. The number of lawsuits faced by the combined entity
would equal the lawsuits of the independent entities as reflected in equation 3. Therefore, lawsuit activity would only reflect the level of business activity and nature of the underlying business.

\[ \text{Lawsuit judgments}_{\text{Combined}} = \text{Lawsuit judgments}_{\text{Acquirer}} + \text{Lawsuit judgments}_{\text{Target}} \]  

However, if diseconomies of managing exist, then the difficulty of running the combined firm will be greater than running these firms independently. Under this condition, lawsuits of the combined entity will be greater than the combination of the previously independent firms. That is, lawsuits of the combined entity will be super-additive of the lawsuits of the independent firms (i.e., the underlying function between firm size and lawsuit judgments is convex which is consistent with diseconomies of managing).

If we could compare the level of lawsuits of the firms operating independently versus the counterfactual of operating as one firm, then equation 3 would be the null hypothesis that diseconomies of managing do not exist. Evidence of diseconomies of managing exist would be manifest by the following inequality.

\[ \text{Lawsuit judgments}_{\text{Combined}} > \text{Lawsuit judgments}_{\text{Acquirer}} + \text{Lawsuit judgments}_{\text{Target}} \]  

Unfortunately, we cannot empirically assess the counterfactual in this manner because firms are either independent or combined at any point in time and we cannot observe the other possibility. To make a similar comparison, we can assess lawsuits post acquisition – when the firms are combined – and pre acquisition – when the firms are independent. In doing so, the inequality in [4] can be represented by the following.

\[ (\text{Lawsuit judgments}_{\text{Acquirer}}^{\text{post}} + \text{Lawsuit judgments}_{\text{Target}}^{\text{post}}) > \text{Lawsuit judgments}_{\text{Acquirer}}^{\text{pre}} + \text{Lawsuit judgments}_{\text{Target}}^{\text{pre}} \]  

Rearranging terms leads to the following inequality.

\[ \Delta \text{Lawsuit judgments}_{\text{Acquirer}} + \Delta \text{Lawsuit judgments}_{\text{Target}} > 0 \]  

The advantage of using the inequality in [6] to assess if diseconomies of managing exist is that it holds constant the level of business activity of each firm and all of the “other business factors” that affect lawsuit judgments because it mirrors the structure of the comparison in [4]. A disadvantage is that for this comparison to be most meaningful, the businesses cannot change across the pre and post periods in a way
that would affect lawsuit judgments. If the businesses change, then the comparison can be misleading. Because lawsuits are relatively infrequent events, we have to look at windows of several years pre and post acquisition and it is unrealistic to expect that businesses do not change over this period of time.

The ideal strategy to control for business changes when assessing [6] would be to empirically measure and control for them. However, sources of these changes can be manifold making identification and measurement a concern. Moreover, one of the strengths of our data is that we collect a comprehensive set of acquiring and target firms, most which are privately held and for which limited information is available. These considerations make this approach infeasible.

The solution that we adopt is to focus on one element of equation 5 where we expect the business changes across pre and post periods to be (a) minimal or (b) work against supporting our hypothesis. Therefore, we focus on the change in lawsuits of the target firm. Focusing on lawsuits of the target firm has the following advantages with respect to testing for diseconomies of managing. First, the literature that examines plant productivity of acquired firms in diversifying acquisitions argues that there exists a “new toy” effect where managers focus their attention on acquired plants to the detriment of existing plants (Schoar, 2002). If managers pay more attention to managing the acquired entity, we would expect the reflection of diseconomies of managing to be weaker in acquired operations versus existing operations. Second, acquiring firms tend to transfer more resources from the target firm to the acquirer than vise-a-versa in horizontal acquisitions (Capron, Dussauge and Mitchell 1998) and acquired units are more likely to be combined into internally developed units than internally developed units are to be combined into acquired units (Karim, 2006). Therefore, to the extent that business activity changes between the pre and post periods for target firms, it likely decreases. This would work against our expectation of increased lawsuit judgments based on the level of business activity within the target. Third, previous research shows that many acquisitions fail and are divested (e.g., Kaplan and Weisbach 1992), which would not be consistent with growth of acquired operations.4

4 There also exists another measurement advantage to focus on the target firms. Because a substantial proportion of acquiring firms in our sample are foreign-based, many stakeholders of the acquiring firm may not seek remedies to
In addition, legal statutes and treatises ensure acquired firms remain legal entities after acquisitions and therefore may be parties to lawsuits involving post-acquisition grievances. Fletcher’s Cyclopedia of the Law of Private Corporations (Fletcher, et. al, 1999) catalogs relevant treatises on mergers and acquisitions. Volume 15, Chapter 61, part 4 addresses how acquisitions or mergers affect creation or dissolution of corporate entities: “So constituent corporations do not entirely die on consolidation so as to prevent them from maintaining or defending (legal) actions…” (p. 114). This section also indicates that acquisitions seldom result in:

“winding up of the business of the old corporation and the distribution of its property. In fact, the very object of the transaction and of the statues which permit it is to continue the business of the old companies. Commonly, when different corporations are consolidated, the franchises, rights and properties continue their existences…” (p. 126).

Our consultations with practicing lawyers indicate that, when suing acquired firms, parties typically do not also sue the acquiring firm because the acquired firm is a going concern with its own legal status. These lawyers also indicated that it was even less likely that parties suing a firm would also try to sue its divisions, subsidiaries, or affiliates unless the legal issue stemmed directly from a division, subsidiary, or affiliate.

For the above reasons, we focus on the second term in [6] when testing for the existence of diseconomies of managing. Therefore, our test the existence of diseconomies of managing is the following assessment.

\[
\Delta \text{Lawsuit judgments}_{\text{Target}} > 0 \quad [7]
\]

We acknowledge that this test will be misleading if \(\Delta \text{Lawsuit judgments}_{\text{Acquirer}}\) decreases more than \(\Delta \text{Lawsuit judgments}_{\text{Target}}\) increases. We address this possibility in the discussion of alternative explanations and document that it does not occur within our data. Moreover, because many acquiring firms have acquisition programs where they acquire a number of businesses in succession it is much more difficult make the assessment of how pre and post operations of the acquired entity might change.

conflicts in US Courts. Therefore, we do not believe that we can accurately assess civil liability of foreign firms by only assessing legal activity in the United States.
We use the periods 1982-1986 and 1988-1992 as pre and post periods from which to calculate ΔLawsuit judgments_{Target}. We choose windows of this length because lawsuits brought to judgment are relatively rare events. Moreover, we want a long enough window to ensure that we capture difficulties associated with the ongoing management of the acquired entity. We use 1988 to start the post acquisition window because all acquisitions occur in 1987 and the Administrative Office of the US District Courts indicates that for the twelve-month period ending September 1987, the median time from civil lawsuit filing to judgment was 14 months.

Another concern with using pre and post windows centers on anecdotal accounts that the US has become increasingly litigious. If the overall level of litigation increased over the sample period this could potentially invalidate our approach because increases in lawsuit judgments post acquisition might reflect overall increases in litigation over time. Figure 1 documents the total number of federal civil lawsuits brought to judgment in the US during our period of analysis. These data clearly indicate that the total number of civil lawsuit judgments was actually greater during the pre rather than the post acquisition period (1982-1986 and 1988-1992 respectively). Fewer civil judgments in the post rather than pre acquisition period also make it less likely that we will find support for our hypotheses.

**Hypotheses 2 and 3**

If we find an increase in lawsuit activity of the target firm post acquisition, testing hypothesis 2 allows us to assess if diseconomies of managing drive the increase in lawsuits versus other alternative explanations. Hypothesis 2 predicts that diseconomies of managing will be more pronounced, the larger the size of the **target firm**. The following discussion links our test formulation to this prediction.

Because the acquirer purchases the target, the acquirer controls the combined business. The operations that the acquiring firm’s management has to control post acquisition can be represented by the following equation.

\[ \text{Size}_{\text{Acquirer}}^{\text{post}} = \text{Size}_{\text{Acquirer}}^{\text{pre}} + \text{Size}_{\text{Target}}^{\text{pre}} \]  \[ \text{[8]} \]

Rearranging the terms leads to equation 9.

\[ \Delta \text{Size}_{\text{Acquirer}} = \text{Size}_{\text{Target}}^{\text{pre}} \]  \[ \text{[9]} \]
Therefore, to test if increased lawsuits are a function of the increased management task (i.e., diseconomies of managing), we regress $\Delta \text{Lawsuit judgments}_{\text{Target}}$ on $\Delta \text{Size}_{\text{Acquirer}}$. That is, the degree to which lawsuits are super-additive should be a function of how much the size of the managing entity increased. From equation 9, this is equivalent to regressing $\Delta \text{Lawsuit judgments}_{\text{Target}}$ on $\text{Size}_{\text{Target}}^{\text{pre}}$, which is how we operationalize the test of Hypothesis 2. A positive coefficient estimate of $\text{Size}_{\text{Target}}^{\text{pre}}$ indicates that the degree to which lawsuits in the target increase is a function of the size by which the controlling firm grew. We measure target firm size by firm revenues (in millions of dollars) because it is the most comprehensive measure of size that we can access from a source where we believe the data are comparable.

To test Hypothesis 3, which predicts that managing will be more difficult for foreign acquirers, we regress $\Delta \text{Lawsuit judgments}_{\text{Target}}$ on a dummy variable labeled Foreign. We code this variable as one if the acquiring firm is foreign-owned and zero if it is US-owned. The dummy variable foreign is equivalent to the variable $\Delta \text{nationality of control}$. This is because all targets are US-owned firms and foreign acquirers change control to foreign-owned; whereas US-acquirers do not change the nationality of control.

To further assess that our results are not driven by other influences, we include two control variables in some of the empirical specifications. The first variable, Related, identifies if the acquirer and target are in the same primary 2-digit Standard Industrial Classification. This controls for the possibility that the level of relatedness between the target and acquirer could affect the degree or nature of integration; and thus affect the resulting lawsuits. We recognize that using 2-digit SIC codes provides a rather coarse measure of relatedness. However, the data sources we can access did not provide more refined data on a consistent basis. The second control variable, Acquirer Revenue, measures revenues of the acquirer (in millions of dollars) to help assess if an increase is lawsuit activity is driven by larger firms.

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This approach assumes that the rate at which the combined entity grows after the acquisition is not positively correlated with the size of the target firm. Otherwise growth of the combined firm might lead to this relationship.
being more prominent targets. That is, larger parent firms have deeper pockets to pay lawsuit claims.

A final comment about our empirical specification is warranted. Civil lawsuits brought to judgment are relatively rare events. Consequently, many firms in our sample have no lawsuit judgments in the pre and post acquisition periods. Because we focus on the change in judgments between the pre and post periods, all firms with zero lawsuit counts report no change. The existence of many firms with no change makes it less likely to find increases in lawsuit activity as we predict. Therefore, with this empirical specification, the rare event nature of lawsuit judgments decreases the chance we will reject the null hypothesis.

RESULTS

Panel A of Table 1 presents descriptive statistics for the total number of civil judgments of the six focal lawsuit categories (i.e., contract disputes, environmental violations, labor, personal injury, product liabilities, and torts) in the pre acquisition period, post acquisition period, and their difference (post minus pre). The average number of judgments in the pre period is 0.60 and in the post period is 0.89. This increase, 0.29, is statistically greater than zero. Moreover, the magnitude of this increase, which is approximately 50 percent of the pre acquisition level, is meaningful. Because the variance in the number of judgments is large, we are concerned that extreme values might unduly influence our interpretation, although the histogram in Panel C of Table 1 shows that there are large positive and negative values. Panel B collapses the values of change to show the number of acquired firms that decrease, increase, and show no change in the number of lawsuits judgments. Increases outnumber decreases 105 to 59 (1.78 times). These data support Hypothesis 1 by rejecting a binomial test of the null hypothesis that there is an equal chance of an increase or a decrease in lawsuit activity (p<0.01). The majority of no changes in the data reflect firms with no lawsuit judgments across the study period.

Table 2 presents the pre and post comparison of judgments for the six categories of lawsuits that form our civil judgments measure in Table 1. We present these data because our arguments are that each of these categories captures some element of diseconomies of managing. Therefore, we want to ensure the pattern of increased civil judgments is present in all categories and that we do not find increases in some
and decreases in others. The pattern of increased judgments in the post versus pre acquisition period appears for all six lawsuit categories. Moreover, the difference is statically significant in four of the six categories (i.e., labor, contract, personal injury, and environmental lawsuits). The two categories in which it is not significant are sub-classifications of torts (i.e., product liability lawsuits and other torts). Given the more narrow definitions of these subcategories and the resulting increased presence of zero values, sub-classification works against rejecting the null hypothesis of no change in the number of lawsuit judgments. In addition, if increases and decreases occurred with equal probability, then finding that all six categories show an increase in lawsuit activity would be unlikely (binomial test, p<0.02). Therefore, we are confident our results are not being driven by increases in only some types of lawsuits.

Table 3 restricts the analysis to the subset of firms reporting at least one lawsuit judgment over the sample period (174 firms or 30 percent of the sample). These results parallel those reported in Table 1. First, in panel A we find that the average level of lawsuit judgments in the pre acquisition period is 1.97 compared to 2.93 in the post acquisition period. The increase of 0.96 suits is statically significant and again meaningful because it represents just under a 50 percent increase in the pre acquisition average. Panel B highlights that the number of increases versus decreases is the same compared to Table 1 – as it should be. We test whether the proportion of the sample that increases lawsuit judgments versus decreases plus no change is equal using a binomial test. The observation that just over 60 percent of this sample increases lawsuit judgments in the post acquisition period rejects the null hypothesis (p<0.01). We present the histogram of values for the difference in pre and post lawsuit judgments in panel C. We find support for H1 across Tables 1, 2, and 3.

Table 4 presents results from the multivariate analyses that we use to test H2 and H3. The dependent variable in the table is ΔLawsuit judgments\textsubscript{Target} for the six lawsuit categories that we presented in the previous tables. In Model 4-1 we regress the dependent variable on a dummy variable that indicates if we have revenue data for the target firm and Lawsuit judgments\textsubscript{Target,pre}. The revenue dummy variable assesses if the dependent variable systematically differs for the firms for which we do and do not have revenue data. We include the variable Lawsuit judgments\textsubscript{Target,pre} to capture if the change in lawsuits is
affected by the level of lawsuits in the pre period. For instance, firms with zero lawsuits in the pre period cannot realize a decline in lawsuits.

Turning to the results, we find the dummy variable for availability of revenue data of the target firm is not statistically different from zero using a two-tailed test. This indicates that the average difference in pre and post lawsuit judgments does not statistically differ among firms for which we have and do not have revenue data. We find that $\text{Lawsuit judgments}_{\text{Target pre}}$ has a negative and significant effect. This is consistent with the observation that firms with no lawsuits in the pre period cannot realize a reduction in lawsuits. It is also be consistent with regression to the mean. Because lawsuits are rare events, having a spike in lawsuit activity in either the pre or post period is associated with not having a spike in the other period (i.e., $\Delta \text{Lawsuit judgments}_{\text{Target}}$ is negatively correlated with $\text{Lawsuit judgments}_{\text{Target pre}}$). Finally, confirming our previous analyses and in support of H1, the intercept is positive and significant. This indicates that firms, on average, experience an increase in lawsuit judgments post acquisition.

Model 4-2 presents the tests of H2 and H3 by regressing the difference in pre and post lawsuit judgments on target firm size (i.e., target firm revenue at time of the acquisition), a dummy variable indicating whether or not the acquirer was foreign-owned, and $\text{Lawsuit judgments}_{\text{Target pre}}$. Consistent with H2, we find a positive and highly significant coefficient estimate of target revenue. The magnitude of the effect is meaningful, moving one standard deviation of target revenue increase the difference by approximately 1.3. The estimate of the foreign dummy variable is not significantly different from zero. As a result, we do not find support for H3. Again, we find that the effect of $\text{Lawsuit judgments}_{\text{Target pre}}$ is negative and significant. Also noteworthy is that the R-squared for this specification has a value of 0.23. This is of reasonable magnitude because the construction of the dependent variable removes all constant firm effects.

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6 To confirm that the zero level of lawsuits in the pre period was not the sole driver of this result, we restricted the sample to firms with lawsuits in the pre period and re-estimated the model. We found consistent results with respect to the variable $\text{Lawsuit judgments}_{\text{Target pre}}$. This lends support to the interpretation that this result is in part a reflection of regression to the mean.
Model 4-3 adds another independent variable to control for the alternative explanation that the level of relatedness between the target and acquirer affects the degree or nature of integration.\(^7\) To assess this explanation we include the dummy variable Related. Because SIC data for both target and acquirer were available for only a subset of acquisitions, the sample size in this model drops. Despite the reduction in sample size, the results are entirely consistent with Model 4-2. We find a positive and significant coefficient estimate of target revenue and a non-significant effect of foreign ownership. Although the magnitude of the effect of target firm revenue drops compared to Model 4-1, its magnitude is still meaningful. We also find a non-significant effect of Related and in this specification a non-significant effect of Lawsuit judgments\(_{\text{target pre.}}\).

Model 4-4 assesses another alternative explanation, which is that the increase in lawsuits reflects “deep pockets” of the new firm rather than increased difficulties of managing. Namely, larger firms have greater ability to pay lawsuit judgments and are thus more often sued. To assess this interpretation, we controlled for the size of the acquiring firm using their revenues at the time of the acquisition. If the deep pockets argument is prevalent in these data, then the increase in lawsuits should be more pronounced for larger acquiring firms because they have deeper pockets. The specification in Model 4-4 versus Model 4-3 adds this variable, but drops the variable Related. We do this to assure the largest possible sample size for this comparison. Model 4-5 includes all independent variables.

Turning to the results in Model 4-4, we find consistent results to those previously reported. Again, we find a positive and significant coefficient estimate of target revenue and a non-significant effect of foreign ownership. The effect of target revenue is of similar magnitude to that in Model 4-3, although the level of statistical significance decreases somewhat. This decrease is likely due to the reduction in sample size or possibly from the variance inflation due to the correlation between target

\(^7\) Although not presented, we also tested if there were significant differences in lawsuits between firms for which: (a) we have relatedness data versus not and (b) we have acquirer revenue data versus not. In both cases we found no difference in the dependent variable across the comparison groups.
revenue and acquirer revenue (Table 5 presents descriptive statistics). Moreover, the coefficient estimate of acquirer revenues is not significantly different from zero. Therefore, in this model we find continued support for the interpretation of diseconomies of managing and do not find support for the deep pockets alternative explanation.

Model 4-5 includes all of the previously described independent variables and exhibits the resulting reducing in sample size. Nevertheless, the results are once again consistent within this specification. We find that target revenue continues to have a positive and significant effect. Turning to the other coefficient estimates, all remain non-significant except for Lawsuit judgments\textsubscript{Target}\textsuperscript{pre}.

In summary, the multivariate analyses provide support for our interpretation that the increased level of lawsuits post acquisition, reflects diseconomies of managing. This is because the magnitude of increase is greater, the greater the size of the target firm. We do not find evidence that lawsuits increase when acquirers are foreign-held, in different industries, or larger in revenues.

**Alternative Explanations**

We report that acquired firms realize an increase in lawsuits post acquisition. This is consistent with the existence of diseconomies of managing. However, this finding is also consistent with other, alternative, explanations. In this section, we assess why we favor our interpretation of diseconomies of managing versus plausible alternative explanations.

As we discussed in the derivation of the empirical tests, assessing ΔLawsuit judgments\textsubscript{Target} will not make valid inferences for diseconomies of managing if ΔLawsuit judgments\textsubscript{Acquirer} decreases by a larger amount. To assess if this occurred and invalidates our interpretation, we gathered lawsuit judgment data for a subset of the acquiring firms in the sample. The subset of firms was based on the set of acquisitions in model 4-5 – excluding foreign acquirers – for which we could gather reliable lawsuit data.
on the acquirer.

Within this sample of 120 firms, we found that lawsuits increased significantly in post acquisition period compared to the pre acquisition period. The average pre-value was 11.09 and the average post-value was 19.13 (p<0.0001). This provides some evidence that increases in target lawsuits are not offset by decreases in acquirer lawsuits. Moreover, consistent with our concern that focusing on the acquiring firm can be misleading due to changes in the acquirer over time, eight of the 120 acquirers had increases of over 50 lawsuits between the pre and post period. All of these firms had either acquisition programs over the sample period, major corporate restructurings (in two cases the acquirer was subsequently acquired), or both. When we excluded these 8 observations, we continued to find a positive and significant increase in lawsuit activity for the remaining acquirers. All told, we do not find evidence that our approach is invalidated by lawsuits decreasing for the acquiring firm.10

Another alternative explanation is that lawsuits capture the implementation of effective management practices and not breakdowns in managerial oversight. For instance, if the costs associated with increased litigation are offset by other cost savings, then increasing litigation might enhance the effectiveness of the acquired operation. Therefore, there is the possibility that lawsuits do not reflect breakdowns in managerial oversight, but managerial effectiveness.

To directly assess this explanation would require estimating lawsuit “production functions” and assess if acquired firms are producing too few lawsuits. This is not possible given the data we have. However, there are three reasons why we believe that our interpretation is superior to this alternative explanation. First, for this to drive the results one has to assume that target firms systematically had too few lawsuits – otherwise we would not expect to see a pattern of increased lawsuits as we do. Although we cannot disprove this assumption, we can neither make the case why it would be true. Second, assuming that target firms systematically had too few lawsuits, the increase in lawsuits would suggest that acquisitions, on average, enhanced the effectiveness of the acquired firms. Although possible, this appears

10 Once these 8 observations are deleted, we find a positive effect when regressing ΔLawsuit judgmentsAcquirer on Target revenues. This too would be consistent with the existence of diseconomies of managing.
at odds with many assessments of the average success of acquisitions. Third, even if target firms systematically had too few lawsuits and on average acquisitions enhanced the effectiveness of target firms by correcting this; we must still explain the pattern of results in Table 4. Because the increase in lawsuits is a function of target firm size, then increased effectiveness by generating more lawsuits would also have been a function of target size, not a function of acquirer size or of relatedness of the target and acquirer. We find it difficult to construct an argument for why increased effectiveness would manifest in this pattern. Our explanation of diseconomies of managing is consistent with the pattern observed. Finally, the data we described above to assess the assumption that acquirer lawsuits do not decrease appear inconsistent with this alternative interpretation. If the acquiring firm was enhancing the effectiveness of the target, we would not expect the acquirer’s operations to exhibit an increase in lawsuits. As a result, we believe our interpretation of diseconomies of managing is more plausible than the alternative explanation that lawsuit increases reflect managerial efficiencies imposed by the acquiring firms.

Another possible alternative explanation is that the increase in lawsuits is driven by acquisition-related events and does not reflect longer-term effects stemming from diseconomies of managing. Such acquisition related events would include lawsuits that were in progress, bound to occur, or driven by the transaction. In particular, assessing this alternative explanation informs us if integration activities of the acquiring firm cause a spike in lawsuit activity immediately after the acquisition. Moreover, if diseconomies are associated with growth and not the continuing operation of a firm of greater size, then we would expect lawsuits to increase immediately after the transaction and not to persist over time.

To address this alternative explanation, we redefine the windows for the pre and post periods to 1984-1986 and 1990-1992. Recall, the Statistical Division of the Administrative Office of the United States Courts comprehensive data indicate that the median time lag from civil lawsuit filing to judgment was only 14 months for the twelve-month period ending September 1987. Therefore, delaying the post acquisition window makes it less likely that we capture lawsuits that were in progress or directly attributable to the acquisition itself.

Panel A of Table 6 presents descriptive statistics of this new window for defining the dependent
variable. These results are consistent with our previously reported findings. Although both pre and post averages are expectedly smaller given the shorter windows they are proportionally smaller. Namely, we reduce the window by 40 percent (2 of 5 years) and the pre and post acquisition averages decrease by approximately 40 percent. The post-acquisition average of lawsuits judgments is 0.56 and reflects a 50 percent increase over the pre acquisition average of 0.37. This is statistically significant (p<0.01) and almost exactly the same magnitude increase as for the 5 year windows.\textsuperscript{11} These data provide evidence that the increase in lawsuits does not represent a surge of activity immediately after the acquisition, but persists over the period that we study. Moreover, recall that our measure of lawsuit judgments does not include lawsuits that we expected were driven by the acquisition \textit{per se} (e.g., securities and antitrust lawsuits).

Another possible alternative explanation is that operations of the acquired business grow post acquisition and this growth alone accounts for the increase in lawsuits. Due to the unavailability of data, we cannot empirically rule out this explanation. Although this is a viable potential interpretation, the specifics of our results make this less likely than the interpretation we favor. In particular, across almost every cut in the data, the post acquisition increase in lawsuits is approximately 50 percent. Therefore, the increase in size of the \textit{acquired} operations would have to be at least at that level to validate this argument.\textsuperscript{12} Although possible for a particular case, such an average rate of increase appears at odds with many assessments of the average success of acquisitions. One way in which such extraordinary growth would be possible is if acquiring firms transfer substantial operations to the acquired business. For example, a firm might acquire a target for its brand names and then re-brand existing products under the acquired brand name. Although this is possible, we expect that it is not prevalent in the data because targets are more likely reconfigured into the acquiring firm than acquired firms operations reconfigured into the target (\textit{e.g.}, Karim, 2006). In fact, if firms systematically transfer assets out of the acquired firm,

\textsuperscript{11} If we replicate Table 4 with any of the alternative dependent variable definitions in Table 6, we find qualitatively similar results.

\textsuperscript{12} If, on average, acquired firms increase in size at less than this rate, our interpretation would still be valid. Namely, difficulties of managing increase at a faster rate than size increases (\textit{i.e.}, there are diseconomies of managing).
then our results will be biased toward observing fewer rather than more lawsuits in the post acquisition period. This is because the acquired entity should be smaller than it was pre-acquisition, which should make it easier to manage. Under this condition, the true effect of diseconomies of managing may be even larger in magnitude than what we report. Moreover, for this alternative explanation to drive the results, the following would have to hold given our overall set of findings: Target growth would have be a function of target size, not a function of acquirer size or of relatedness of the target and acquirer. We find it more difficult to construct an argument for why target firms would grow in this pattern post acquisition versus our explanation of diseconomies of managing, which is consistent with the pattern observed.

**Alternative definitions of the lawsuit variables**

Although we discussed the motivation for defining the lawsuit variable, we recognize our definition can potentially affect our results. We examine how some of these choices drive our results in Table 6. In panel B of Table 6 we do not restrict our analysis to the six lawsuits categories we selected _ex ante_. Rather, we examine all civil lawsuit categories. The results are very consistent with the data we previously reported, suggesting the pattern of results we see with the subset of lawsuits does not disappear when we consider all categories of lawsuits. Panel B, as expected, shows the means of the pre and post number of lawsuits are higher when we include all categories. Again, the post acquisition lawsuit count is statistically larger than the pre acquisition lawsuit count (p<0.001). Moreover, the magnitude of change is 44 percent, which is very consistent with other data we report.

Panel C of Table 6 restricts the analysis to lawsuits where the target firm is the defendant and focuses on the six lawsuit categories. This analysis helps rule out that the increase in lawsuit activity is driven solely by increased legal action initiated by new management. With this redefinition of the lawsuit variable, we find continued evidence that lawsuits increase in the post acquisition period and that this increase is statistically different from zero (p<0.01). Once again, the magnitude increase (45 percent) is consistent with other our definitions of this variable.

In summary, we present consistent findings that, on average, target firms face more lawsuit judgments post acquisition compared to pre acquisition. In particular, we find that the increase in lawsuits
is larger, the larger the size of the target firm. This is consistent with our arguments of diseconomies of managing. Moreover, our efforts to discern whether this increase in lawsuit judgments is consistent with the existence of diseconomies of managing versus other alternative explanations are supported. We, however, do not find support for our hypothesis that target firms acquired by foreign firms are more likely to increase lawsuits in the post acquisition period.

DISCUSSION AND CONCLUSION

In this paper we employ a novel approach to document the existence of diseconomies of managing. We show that acquired firms realize increased civil lawsuit judgments in the post acquisition period compared to the pre acquisition period. Moreover, the magnitude of the increase we find is meaningful: on average, a 50 percent increase in the number of lawsuits brought to judgment in the post acquisition period. These results suggest that diseconomies of managing are an important consideration for managing acquisitions.

Our focus and research design facilitate two important contributions of this paper. First, although both acquisition benefits and costs are important determinants of performance and success, there is a paucity of research examining costs related to acquisition. By investigating diseconomies of managing, we call attention to the importance of costs stemming from acquisition. Second, due to data limitations, empirical research on acquisition is heavily biased toward publicly held firms even though the number of acquisitions involving privately held firms is greater than those involving publicly held firms (Ang and Kohers 2001). By analyzing the relationship between civil legal liability and acquisition, we are not bound by data limitations inherent in many popular databases, thus we could include privately held firms in our analysis. We hope our novel approach helps broaden the scope of acquisition research to include both investigation into implementation issues and inclusion of privately held firms in analyses.

In employing this approach and collecting a comprehensive set of acquisitions for one year, we recognize that we sacrifice some depth of information with respect to the acquisitions in our sample. Therefore, we do not want to over-interpret our results or dismiss potential alternative explanations. Nevertheless, the pattern of results we find using multiple definitions of the lawsuit variable and assessing
how the size of the target and acquiring firms affect the magnitude of increase in lawsuits provides a
degree of confidence that we document diseconomies of managing. Furthermore, the economic
significance of the effect we present is potentially understated because we expect not all difficulties of
managing larger firms are captured by lawsuits. That is, diseconomies manifest in ways we do not
capture. Finally, the increase in lawsuit activity we document is economically meaningful in its own right
due to the costs of legal fees, legal judgments, workforce disruptions, and reputation loss.

Our arguments and findings have important implications for managing acquisitions because they
facilitate a more precise understanding of acquisition outcomes. In particular, highlighting the existence
of enhanced difficulties through diseconomies of managing provides new insight as to why acquisitions
might fail to realize their expected value. For example, focusing on breakdowns in implementation is
often predicated on the failure of acquisitions to realize potential synergies (i.e., the benefits). The
existence of diseconomies of managing, however, suggests that many difficulties faced in managing
acquired firms are a function of increased size and complexity rather than the specific combination of two
firms. Although our results cannot directly address this issue, they raise the possibility that many
difficulties often associated with acquisition integration might have nothing to do with acquisition
integration per se, but stem from diseconomies of managing. The implication is that these costs are an
inherent element of engaging in an acquisition and cannot be completely managed away by better
implementation. For this reason, we believe managerial diseconomies are important costs that must be
offset with acquisition benefits. This suggests that considering diseconomies of managing should play an
important role in acquisition strategies.

In this paper we take a step toward documenting the existence of diseconomies of managing.
Documenting the existence of this effect represents an important step toward understanding inherent costs
that acquisitions incur. We hope our findings encourage further investigation into implementation issues
because only when the nature of costs stemming from acquisitions is more carefully considered can
managers make informed decisions regarding if and when firm expansion is profitable. This is a
fundamental consideration for any growth strategy.
REFERENCES


Table 1
Labor, Contract, Product Liability, Personal Injury, Tort and Environmental Lawsuits

Total number of acquisitions = 576

A. Descriptive Statistics – Number of lawsuits

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>Std. Dev</th>
<th>Min</th>
<th>Max</th>
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</thead>
<tbody>
<tr>
<td>Pre</td>
<td>0.60</td>
<td>2.58</td>
<td>0</td>
<td>40</td>
</tr>
<tr>
<td>Post</td>
<td>0.89</td>
<td>2.80</td>
<td>0</td>
<td>28</td>
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<tr>
<td>Difference</td>
<td>0.29</td>
<td>2.33</td>
<td>-21</td>
<td>22</td>
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\(^t\)-test of the null hypothesis that the difference \(\leq 0\), \(t=2.99\) (\(p<0.01\))

B. Distribution of increases and decreases
(percentage of observations in parentheses)

<table>
<thead>
<tr>
<th>Decrease lawsuits</th>
<th>59</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(10.24)</td>
</tr>
<tr>
<td>No change</td>
<td>412</td>
</tr>
<tr>
<td></td>
<td>(71.53)</td>
</tr>
<tr>
<td>Increase lawsuits</td>
<td>105</td>
</tr>
<tr>
<td></td>
<td>(18.21)</td>
</tr>
<tr>
<td>Total</td>
<td>576</td>
</tr>
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<td></td>
<td>(100.00)</td>
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</table>

C. Histogram of the difference in Post-Pre Lawsuits
Table 2: Lawsuits by type
Total number of acquisitions = 576

<table>
<thead>
<tr>
<th>A. Labor lawsuits</th>
<th>Average</th>
<th>Std. Dev</th>
<th>Min</th>
<th>Max</th>
</tr>
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<tbody>
<tr>
<td>Pre</td>
<td>0.18</td>
<td>0.77</td>
<td>0</td>
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</tr>
<tr>
<td>Post</td>
<td>0.25</td>
<td>1.00</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>Difference</td>
<td>0.07</td>
<td>0.99</td>
<td>-7</td>
<td>9</td>
</tr>
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</table>

't-test of the null hypothesis that the difference <=0, t=1.59 (p<0.06)

<table>
<thead>
<tr>
<th>B. Contract lawsuits</th>
<th>Average</th>
<th>Std. Dev</th>
<th>Min</th>
<th>Max</th>
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</thead>
<tbody>
<tr>
<td>Pre</td>
<td>0.12</td>
<td>0.53</td>
<td>0</td>
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</tr>
<tr>
<td>Post</td>
<td>0.22</td>
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<td>0</td>
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</tr>
<tr>
<td>Difference</td>
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<td>0.81</td>
<td>-4</td>
<td>7</td>
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't-test of the null hypothesis that the difference <=0, t=2.92 (p<0.01)

<table>
<thead>
<tr>
<th>C. Product liability lawsuits</th>
<th>Average</th>
<th>Std. Dev</th>
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<th>Max</th>
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</thead>
<tbody>
<tr>
<td>Pre</td>
<td>0.13</td>
<td>0.96</td>
<td>0</td>
<td>18</td>
</tr>
<tr>
<td>Post</td>
<td>0.15</td>
<td>0.98</td>
<td>0</td>
<td>12</td>
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<tr>
<td>Difference</td>
<td>0.02</td>
<td>0.85</td>
<td>-8</td>
<td>9</td>
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</table>

't-test of the null hypothesis that the difference <=0, t=0.58

<table>
<thead>
<tr>
<th>D. Personal injury lawsuits</th>
<th>Average</th>
<th>Std. Dev</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
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<td>Pre</td>
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<td>0.28</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Post</td>
<td>0.07</td>
<td>0.39</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Difference</td>
<td>0.03</td>
<td>0.34</td>
<td>-2</td>
<td>3</td>
</tr>
</tbody>
</table>

't-test of the null hypothesis that the difference <=0, t=2.22 (p<0.02)

<table>
<thead>
<tr>
<th>E. Other torts</th>
<th>Average</th>
<th>Std. Dev</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>0.10</td>
<td>0.85</td>
<td>0</td>
<td>18</td>
</tr>
<tr>
<td>Post</td>
<td>0.13</td>
<td>0.76</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>Difference</td>
<td>0.02</td>
<td>0.61</td>
<td>-5</td>
<td>5</td>
</tr>
</tbody>
</table>

't-test of the null hypothesis that the difference <=0, t=0.95

<table>
<thead>
<tr>
<th>F. Environmental lawsuits</th>
<th>Average</th>
<th>Std. Dev</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>0.02</td>
<td>0.19</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Post</td>
<td>0.07</td>
<td>0.57</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Difference</td>
<td>0.05</td>
<td>0.55</td>
<td>-2</td>
<td>9</td>
</tr>
</tbody>
</table>

't-test of the null hypothesis that the difference <=0, t=2.11 (p<0.02)
Table 3
Labor, Contract, Product Liability, Personal Injury, Tort and Environmental Lawsuits
Restricted to firms with at least one lawsuit over the sample period

Total number of acquisitions = 174

A. Descriptive Statistics – Number of lawsuits

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>Std. Dev</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>1.97</td>
<td>4.40</td>
<td>0</td>
<td>40</td>
</tr>
<tr>
<td>Post</td>
<td>2.93</td>
<td>4.48</td>
<td>0</td>
<td>28</td>
</tr>
<tr>
<td>Difference</td>
<td>0.96</td>
<td>4.17</td>
<td>-21</td>
<td>22</td>
</tr>
</tbody>
</table>

 t-test of the null hypothesis that the difference <=0, t=3.04 (p<0.01)

B. Distribution of increases and decreases
(percentage of observations in parentheses)

| Decrease | 59  | (33.91) |
| No change | 10  | (5.75)  |
| Increase | 105 | (60.34) |
| Total    | 174 | (100.00)|

C. Histogram of the difference in Post-Pre Lawsuits
Table 4: Regression Analyses:
Dependent Variable = Difference in the Number of Labor, Contract, Product Liability, Personal Injury, Tort and Environmental Lawsuits

<table>
<thead>
<tr>
<th></th>
<th>4-1</th>
<th>4-2</th>
<th>4-3</th>
<th>4-4</th>
<th>4-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target revenue data available (Dummy variable)</td>
<td>0.295 (1.53)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Target revenues</td>
<td></td>
<td>0.002*** (5.66)</td>
<td>0.001*** (3.19)</td>
<td>0.001** (2.31)</td>
<td>0.001** (2.16)</td>
</tr>
<tr>
<td>Foreign</td>
<td>-0.324 (0.65)</td>
<td>0.074 (0.88)</td>
<td>0.619 (0.85)</td>
<td>0.540 (0.72)</td>
<td></td>
</tr>
<tr>
<td>Related</td>
<td></td>
<td>0.293 (0.43)</td>
<td></td>
<td>0.365 (0.87)</td>
<td></td>
</tr>
<tr>
<td>Acquirer revenues</td>
<td></td>
<td></td>
<td></td>
<td>0.000 (0.82)</td>
<td>0.000 (0.71)</td>
</tr>
<tr>
<td>Lawsuit judgments_Target_pre</td>
<td>-0.322*** (9.09)</td>
<td>-0.296*** (6.08)</td>
<td>-0.127 (1.45)</td>
<td>-0.311*** (2.73)</td>
<td>-0.287*** (2.39)</td>
</tr>
<tr>
<td>Intercept</td>
<td>0.381*** (3.38)</td>
<td>0.351* (1.87)</td>
<td>0.084 (0.33)</td>
<td>0.210 (0.96)</td>
<td>-0.042 (0.14)</td>
</tr>
<tr>
<td>( R^2 )</td>
<td>0.13 (1.8)</td>
<td>0.23 (1.87)</td>
<td>0.08 (1.87)</td>
<td>0.11 (1.87)</td>
<td>0.10 (1.87)</td>
</tr>
<tr>
<td>F (d.f.)</td>
<td>41.53 (2, 573)</td>
<td>19.58 (3,192)</td>
<td>3.14 (4,153)</td>
<td>4.33 (4,141)</td>
<td>3.09 (5,132)</td>
</tr>
<tr>
<td>n</td>
<td>576</td>
<td>196</td>
<td>158</td>
<td>146</td>
<td>138</td>
</tr>
</tbody>
</table>

(t-values in parenthesis)
* p<0.10, ** p<0.05, *** p<0.01: two-tailed tests
Table 5
Descriptive Statistics and Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std Dev</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ΔLawsuit judgments&lt;sub&gt;Target&lt;/sub&gt;</td>
<td>0.33</td>
<td>2.49</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Target Revenues (millions)</td>
<td>206.50</td>
<td>643.79</td>
<td>0.24</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Foreign</td>
<td>0.13</td>
<td>0.34</td>
<td>0.15</td>
<td>0.54</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Related</td>
<td>0.41</td>
<td>0.49</td>
<td>0.05</td>
<td>-0.04</td>
<td>0.02</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Acquirer Revenues (millions)</td>
<td>2685.01</td>
<td>6969.32</td>
<td>0.19</td>
<td>0.60</td>
<td>0.38</td>
<td>-0.14</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>6. Lawsuit judgments&lt;sub&gt;Target&lt;/sub&gt;&lt;sup&gt;pre&lt;/sup&gt;</td>
<td>0.64</td>
<td>1.89</td>
<td>-0.10</td>
<td>0.33</td>
<td>0.37</td>
<td>0.05</td>
<td>0.10</td>
<td>1.00</td>
</tr>
</tbody>
</table>

n=138 (the sample presented in Model 4-5).
Table 6: Sensitivity Analyses of dependent variable definition
Total number of acquisitions = 576

A. Six lawsuit categories with 1984-1986 and 1990-1992 as the pre and post windows

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>Std. Dev</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>0.37</td>
<td>1.51</td>
<td>0</td>
<td>19</td>
</tr>
<tr>
<td>Post</td>
<td>0.56</td>
<td>1.91</td>
<td>0</td>
<td>25</td>
</tr>
<tr>
<td>Difference</td>
<td>0.19^1</td>
<td>1.69</td>
<td>-10</td>
<td>22</td>
</tr>
</tbody>
</table>

^t-test of the null hypothesis that the difference <=0, t=2.67 (p<0.01)

B. All civil lawsuits (i.e., all 17 categories)

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>Std. Dev</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>1.00</td>
<td>3.80</td>
<td>0</td>
<td>50</td>
</tr>
<tr>
<td>Post</td>
<td>1.44</td>
<td>4.70</td>
<td>0</td>
<td>66</td>
</tr>
<tr>
<td>Difference</td>
<td>0.44^1</td>
<td>3.48</td>
<td>-26</td>
<td>55</td>
</tr>
</tbody>
</table>

^t-test of the null hypothesis that the difference <=0, t=3.04 (p<0.001)

C. Six lawsuit categories – only cases where the acquired firm is the defendant

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>Std. Dev</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>0.51</td>
<td>2.38</td>
<td>0</td>
<td>36</td>
</tr>
<tr>
<td>Post</td>
<td>0.74</td>
<td>2.40</td>
<td>0</td>
<td>24</td>
</tr>
<tr>
<td>Difference</td>
<td>0.23^1</td>
<td>1.90</td>
<td>-20</td>
<td>17</td>
</tr>
</tbody>
</table>

^t-test of the null hypothesis that the difference <=0, t=2.90 (p<0.01)

Figure 1 – Civil Lawsuit Judgments (Federal Courts) by year
Source: Administrative office of the United States Courts Statistical Division

Civil lawsuit judgment totals are for the 12-month period from June 30 to June 30.