Does Accounting Quality Matter In Strategic Alliances? Evidence From Alliance Contract Provisions

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Dedication

To my parents and Cong

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Abstract

Does Accounting Quality Matter In Strategic Alliances? Evidence From Alliance Contract Provisions

I examine relations between accounting quality and alliance contract provisions. Strategic alliances are cooperative agreements between two firms, such as the recent alliance between Google and an Italian eyewear company to produce Google glasses. Although alliance contracts are common and economically significant, there is sparse evidence on the interaction of accounting with such contracts. I investigate whether alliance partner firm accounting quality influences contract provisions, which I denote "operational governance" terms. Primary findings suggest that partner firms with poor quality accounting have relatively more operational governance terms in the alliance contracts. Associations are more substantial for both accounting and non-accounting operational governance provisions. Findings are magnified among smaller (less dominant) partner firms and alliance activities with more relationship-specific investments. The evidence suggests that accounting quality is an important determinant of operational governance terms in alliance contracts.

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Chapter 1: Introduction

On March 24, 2014, Google and Luxottica Group, an Italian eyewear company, announced a strategic alliance partnership to develop and distribute an innovative wearable device. These corporations will establish a team to work on the design, development and engineering of glass products. The new Google glasses will include cameras for pictures and video. [1] Although alliance contracts are common and economically significant, there is sparse evidence on the interaction of accounting with such contracts. My study helps fill the gap by examining the relation between alliance contract provisions and accounting quality.

Corporate strategic alliances are characterized as "cooperative agreements between two firms to pursue common objectives while remaining independent entities" (NBER, 2002). Compared to an arm's-length relation, alliance activities facilitate greater coordination, cooperation and information sharing between parties. Firms can form long-term development, distribution, manufacturing, marketing, supply and technology contracts.[2] Corporate strategic alliances are particularly important to young firms, often serving as the dominant source of external funding for research and development in many industries (Lerner and Rajan, 2006).

I investigate whether partner firm accounting quality influences alliance contract provisions, which I denote "operational governance" terms. Alliance contracts typically

[1] SDC platinum reports that 48,997 M&As and 66,554 alliances occurred between 1990 and 2007 (Bodnaruk et al., 2013). Also, a recent study by Columbia University and European Trade Commission find that in 2010, alliance activities bring in 40% of total revenues for top 1000 domestic public corporations.

[2] For example, Microsoft and Wonderware formed a technology alliance to develop the first industrial human-machine interface based on the Microsoft Windows platform; Biomatrix Inc. and Collagen Corporation created a distribution alliance relationship, whereby Biomatrix Inc. appointed Collagen Corporation as the exclusive distributor for promotion, sale and distribution. Boehringer Ingelhelm and Sanofi announced a manufacturing alliance in the beginning of 2015 to extend Sanofi's manufacturing capacity network to its products.

include operational governance mechanisms as contractual safeguards to facilitate resource and information sharing in the alliance relationship (Parkhe, 1993; Arino and Reuer, 2002). Operational governance mechanisms contained in alliance contracts are important for at least two reasons. First, operational governance provisions reduce agency conflicts between partner firms in the alliance relationship. Anecdotal evidence suggests that firms entering alliance activities are potentially vulnerable to conflicts of interests between parties (Gulati, 1995). Although alliances are increasing in popularity, they are difficult to manage, and roughly half fail (Bleeke and Ernst, 1993; Kogut, 1988; Alliance Analyst, 1998). [3] Successful alliances effectively mitigate the risk of opportunistic behavior and coordinate the optimal combination of productive resources across parties (Nickerson and Zenger, 2004; Gulati, Lawrence, and Puranam, 2005). Second, operational governance provisions are important in helping partner firms anticipate and reduce bankruptcy risk through ongoing governance and monitoring. The counterparty can experience substantial loss if its alliance partner files for bankruptcy (Boone and Ivanov, 2012).[4]

Financial accounting information impacts economic performance through its governance or monitoring role (Bushman and Smith, 2003). Low quality accounting information jeopardizes the effectiveness of the monitoring role, because accounting information does not reflect true financial and operating performance. Leuz and Verrecchia (2000) argue that low quality accounting exacerbates agency problems

[3]Anecdotal evidence suggests that alliance partnerships fail for a number of reasons, such as a mismatch with the partner's strategy; the partner is unable to deliver expected competences and mismatch of the partner's culture. However, the main reason is attributed to a lack of trust, i.e., alliance partners are reluctant to share ideas and support.

[4]Boone and Ivanov (2012) examine 366 partnerships that have a partner firm file for bankruptcy from 1989 to 2007. They find that the non-bankrupt strategic alliance partners experience a negative stock price reaction surrounding their partner's bankruptcy filing announcement.

between the company and outside parties. I argue that greater agency problems, in turn, increase demand for additional governance provisions between the contracting parties. A lack of transparency in financial reporting also makes it difficult for one party to assess another party's current and future financial performance, and to detect opportunistic behavior of the other party. As a result, I predict that partner firms are more likely to demand greater operational governance provisions when agency problems are greater - that is, when accounting quality or financial transparency is low. In both cases, the monitoring role of accounting quality is less effective. Following extant literature, I use four measures of accounting quality in my primary specifications, namely, modified accruals (Dechow and Dichev, 2002), internal control weaknesses (Doyle, Ge and McVay, 2007), restatements (Baber, Kang, Liang and Zhu, 2015) and unexplained audit fees (Hribar, Kravet and Wilson, 2014).

Among the operational governance provisions typically contained in alliance contracts, some relate to accounting information, which I categorize as "accounting operational governance provisions." For example, one common provision is that an alliance partner has the right to examine its counterparty's interim financial statements. Other provisions are less directly related to accounting information, such as requirements to keep confidential information and to protect intellectual property. Because accounting quality may differentially influence contract provisions, I investigate operational governance clauses both in the aggregate, and separately for accounting and non-accounting provisions.

Primary findings suggest that partner firms with poor quality accounting have relatively more operational governance provisions in their alliance contracts. This result

applies to both accounting and non-accounting operational governance provisions. To further explore the influence of accounting quality on operational governance terms, I conduct two cross-sectional analyses. First, using relative firm size to proxy for firm dominance, I find that the negative relation between accounting quality and operational governance provisions is stronger for the less dominant (relatively smaller) firm in alliance relationships. Second, I explore relations between accounting quality and operational governance clauses for alliances involving higher level of relationship-specific investments. Many alliance arrangements require one or both parties to make investments for the alliance that are arguably of less value in alternative applications. Such relationship-specific investments are characterized by hold-up problems (Williamson, 1983). Thus, I investigate whether the relation between accounting information quality and operational governance provisions is magnified among alliance activities with greater relationship-specific investments. I find results consistent with my prediction that relationship specific investments lead to hold-up by the contracting parties.

My study contributes to prior literature that focuses on the role and/or the effect of accounting information in contracting. First, I add to the accounting literature by examining another important contracting context in which accounting quality affects firm activities. Specifically, I examine accounting information quality in alliance contracts and document that accounting quality and operational governance terms are substitutes. Although alliance contracts are common and economically important, there is sparse evidence on the interaction of accounting with such contracts. One exception is the recent literature on long-term supply contracts, which constitute a subset of alliance activities.[5]

[5]Long-term supply contracts comprise approximately 13% of the alliance contracts in my sample. Mayer and Teece (2008) study differences between alliance contracts and supply contracts using 15 alliance

Prior supply contract studies examine issues related to earnings management and income smoothing (Raman and Shahrur 2008; Dou et al. 2013); accounting conservatism (Hui et al. 2012); and whether hold-up concerns and information asymmetry determine supply contract design (Costello 2013). To my knowledge, however, no prior accounting study broadly investigates alliance contract terms, and whether accounting quality influences alliance contract provisions.

My study also contributes to the empirical contracting literature by investigating bilateral monitoring mechanisms that exist in alliance relationships. Other contracts typically have unilateral monitoring mechanisms. For example, debt contracting literature finds that lenders govern borrowers using financial covenants, but borrowers rarely monitor banks; likewise, shareholders use accounting thresholds to monitor executives in compensation contracts. In the strategic alliance setting, however, each party is often entitled to monitor its partner, although the monitoring mechanisms contained in the alliance agreements may differ for each party. Moreover, anecdotal evidence indicates that partner firms usually exchange a lot private information during the partner selection process. Hence, it is not clear ex ante whether the publicly available accounting information is useful in making these alliance agreements.

The remainder of the paper proceeds as follows. Section 2 discusses the setting and hypothesis development. Sections 3 and 4 describe the sample selection and main

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agreements by a manufacturer of jet engines, and find that alliance contracts specify exchange of firm-specific information and involve more joint decision making. In contrast, supply contracts are more narrowly focused on terms of payments, quantity and quality details for each party. Mayer and Teece (2008) conclude that the purpose of alliance agreements is to share risk, specify responsibilities and provide monitoring mechanisms to resolve disputes.

variables. Section 5 develops the research design. Sections 6 and 7 discuss results, section 8 contains robustness tests, while section 9 concludes.

Chapter 2: Theory and hypothesis development

2.1 The Strategic alliance setting

A strategic alliance is an ongoing relationship where contracting parties agree to share resources to achieve a mutually beneficial objective. These alliances are inter-firm activities that lie between one extreme of full ownership by one firm of the other and the other extreme of a short-term, arm's-length contracting. Gomes-Casseres et al. (2006) suggest that strategic alliances involve a mix of features of firms and markets. More specifically, they resemble markets in that partners remain separate independent entities, and they resemble firms because partners share a common goal, and agree to coordinate their actions, and to participate in joint decision making. Examples of strategic alliance activities include developing products, technologies and resources; gaining access to new technology and know-how; developing one's own resources by combining with a partner's resources (Chan et al, 1997); diversifying performance risks and achieving economies of scale during the manufacturing process (Contractor and Lorange, 2004); and overcoming legal and regulatory barriers.

There are two main types of strategic alliances – joint ventures and contractual alliances (Kogut, 1988; Baughn and Osborn, 1990). Joint ventures imply equity and profit sharing through a separately established organization. In other words, joint venture partners establish a separate quasi-independent company, in which the partners share equity and managerial control. In contrast, a contractual alliance indicates strategic alignment among or between partner firms such that no new independent entity is created. Contractual alliances are typically more informal and involve less commitment by the partners (Das et al., 1998). This paper focuses on these contractual alliances.

Strategic alliance agreements differ from bower-lender arrangements in at least one important aspect. In the borrower-lender setting, lenders usually influence borrowers through financial covenants, warranties and collateral, whereas borrowers rarely monitor the lender/bank. In the strategic alliance setting, however, each party is agrees to monitor its partner, although the monitoring mechanisms may differ for each party.[6]

2.2 Agency problems between partner firms

Firms entering into alliance agreements face considerable conflict of interests, because partner firm behavior is unobservable. Moreover, firms typically have limited information about the quality of their partners. Although anecdotal evidence suggests that firms conduct extensive negotiations before finalizing a partnership agreement, there are still sources of conflict of interests between partner firms. The source of conflict may differ depending the type of alliance. For example, in the supply contract setting, the supplier knows less about the downstream demand and the buyer knows less about the product quality inputs (Costello, 2013). With respect to research and development (R&D) agreements, the complexity and uncertainty surrounding collaborating R&D efforts create incentives for opportunistic behaviors by contracting parties (Ryall and Sampson, 2009). Therefore, when research activities are non-contractible, partners need to craft the R&D agreement carefully to prevent the use of shared resources to subsidize other projects or to substitute one project for another (Lerner and Malmendier, 2010).

Leuz and Verrecchia (2000) establish the theoretical foundation that low quality accounting exacerbates agency problems between the company and outside investors. Low quality accounting information makes a firm's operational performance less transparent to outside investors and contracting parties. Biddle and Hilary (2006) find

[6] I discuss this point in detail in section 7.1.

that low quality accounting increases information asymmetry between managers and equity investors that potentially compromises firm investment efficiency. Bhattacharya et al. (2013) find that low quality earnings are significantly and incrementally associated with a higher level of information asymmetry. Therefore, I anticipate that poor quality accounting precipitates agency problems between partner firms. Greater agency problems, in turn, increase demand for tighter governance mechanisms.

In the strategic alliance setting, a partner firm can limit information disclosures before the alliance becomes operational, which makes it difficult for the counterparty to detect opportunistic behavior. In addition, poor quality accounting compromises the other party's ability to assess current performance and predict future performance (Dechow and Schrand, 2004). One means to deal with the agency problems between alliance partners is to impose more accounting and other operational governance provisions on partner firms.[7] Accounting governance provisions enhance financial transparency between partner firms, and other governance provisions help partner firms uncover potentially detrimental activities of the counterparty at an early stage.[8] Therefore, if one partner firm's accounting information does not truly reflect its financial image and operational status, then operational governance clauses can be included in the alliance agreement.

In sum, I hypothesize that operational governance provisions function as a form of monitoring and governing mechanism in strategic alliance activities. In particular, I predict that partner firms are more likely to make agreements conditional on operational

[7]Another way to deal with the adverse selection problem is to agree to a shorter duration contract. A shorter duration agreement allows partner firms to renegotiate more frequently and to periodically evaluate the quality and performance of its partner firm. However, it is empirically challenging to examine how multiple firms' accounting quality influences the contract duration. Therefore I consider duration analysis to be beyond the scope of my paper.

[8] Although some operational governance terms relate to other aspects of partnership: termination and/or confidentiality, I discuss it in detail in section 7.3.

governance provisions when agency problems are greater or when financial transparency is low. In both cases, the monitoring role of accounting information is less effective. Therefore, I expect that partner firms with low quality accounting will have more operational governance clauses contained in alliance agreements. This leads to my first prediction:

Ceteris paribus, firms with low quality accounting exhibit more operational governance provisions contained in the strategic alliance agreements (H1).

2.3 Accounting-related versus non-accounting-related operational governance provisions

Some operational governance provisions are arguably accounting and/or accounting-related, while others are not. For example, common operational governance provisions include one party's right to inspect or audit financial statements. Another example is a requirement to maintain records for future inspection. Common non-accounting-related operational governance provisions include protection of intellectual property and designation of a mutual alliance manager. Accordingly, I classify alliance contract terms as "accounting-related" and "non-accounting-related" and examine them separately. [9]

Whether or how alliance partner accounting quality influences accounting-related governance clauses is not straightforward. In the debt contracting setting, Costello and Wittenberg-Moerman (2011), who examine the impact of internal control weaknesses on debt contracting, predict and find that lenders are less likely to use financial covenants if there are internal control weaknesses exist. They argue that financial covenants are less efficient in conveying changes in a borrower's creditworthiness due to the poor

[9] I do a principal component analysis to identify underlying constructs among operational governance terms in Section 7.3 as a robustness check.

accounting quality. Similarly, Ball et al. (2008) and Minnis (2011) find that when financial statement reliability decreases, lenders are less likely to use contractual provisions that are based on accounting numbers. Therefore, these factors would lead to a positive association between accounting quality and accounting-related operational governance provisions, because accounting information is a less useful contracting mechanism in a low quality accounting environment.

Accounting-related operational governance terms differ from financial covenants in debt contracts in one important aspect, however. Operational governance provisions do not use accounting numbers directly, but rather, impose monitoring mechanisms that relate to accounting quality. For example, consider a common accounting-related operational governance provision, of providing an alliance party with the right to examine its counterparty's interim financial statements. Although this provision does not directly use accounting numbers, it does provide oversight for one party over the other. Therefore, accounting-related operational governance provisions do not directly utilize accounting numbers from financial reports, but rather, help monitor and govern the accounting aspects of alliance activities. These arguments suggest a negative relation between accounting quality and the level of accounting-related operational governance provisions. Firms with low quality accounting require greater scrutiny over financial statements and the transaction recording process from the counterparties to reduce agency problems. This leads to my second hypothesis, which is non-directional:

Ceteris paribus, there is no relation between partner firm accounting quality and accounting-related operational governance provisions in the strategic alliance agreement (H2a).

Likewise, the relation between accounting quality and non-accounting-related operational governance terms is not straightforward ex ante. On the one hand, poor

quality accounting suggests greater agency problems between partners, a higher level of non-accounting-related operational governance can reduce agency problems through ongoing monitoring and governing; On the other hand, those non-accounting-related operational governance terms do not use accounting numbers directly, so it is reasonable to expect that accounting information quality will not affect non-accounting-related operational governance terms. The following hypothesis applies:

Ceteris paribus, there is no relation between partner firm accounting quality and non-accounting-related operational governance provisions in the strategic alliance agreement (H2b).

Chapter 3: Sample selection

Notice that firms with contractual alliances are not required to file separate financial statements or tax returns for the alliance. Nevertheless, Regulation S-K of the Securities Act of 1933 mandates that publicly traded companies include material contracts as exhibits in SEC filings, which includes strategic alliance contracts. The mandatory disclosed agreements provide a rich research setting due to the substantial variation in the contract details among all types of alliance agreements.

I identify strategic alliance contracts for the period from January 1996 to December 2012 by searching SEC filings for exhibits containing any of the following phrases: "intellectual property," "technology cross-license," "technology transfer and licensing," "research, design and development," "cross-license," "technology development and license," "trademark license," "research and development," "R&D agreement," "technology," "production," "manufacturing," "sales," "distribution," "sales and distribution," "marketing," "supply," and "procurement" in the title.[10] I randomly select 1,000,000 filings among the total SEC filings, and found 2,196 alliance agreements using the above phrases. After deleting agreements that are amended, from subsidiaries, or that have more than two counterparties, I obtain 1,292 strategic alliance contracts from 732 unique firms.[11]

Table 1 summarizes the sample selection process. First, I confirm that the contract is between two independent companies forming an alliance activity over a stated period. I exclude joint ventures and agreements between mutually held companies because these

[10] I follow the definitions on SDC platinum to categorize different types of alliance activities.

[11] Alliance activity involving more than two parties requires extra and potentially unique governance structures (Chen and Zeng, 2003), and therefore I do not include this type of alliance in my analysis.

companies have equity investments in each other and therefore are likely to have alternative governance arrangements. Second, I hand-collect the filing party's Central Indexing Key (CIK) provided in the filing. I next use company name to identify the non-filing counterparty by merging with the Compustat Annual database. If the counterparty is public, then I manually match the name to the Compustat Annual database to obtain its CIK number. Finally, I read each agreement to obtain the following variables: zip codes of both parties involved in the alliance, operational governance terms, durations of the agreements, and any exclusivity provisions.

Table 2 panel A reports the distribution of alliance agreements by type. Technology-related agreements represent the largest portion of the sample agreements (55%), which is consistent with alliances serving as the dominant source of external financing for R&D by firms in many industries (NBER, 2002). Distribution and supply agreements are also a large portion of the sample agreements with 228 (18%) and 167 (13%) observations, respectively. Table 2 panel B presents the distribution of firms by two-digit Fama-French Industry Code. Healthcare and medical equipment represent the largest percentage of sample firms (31%). This is consistent with the fact that alliance activity in the healthcare biotechnology industry is intensive (Sampson, 2004, Ryall and Sampson 2009; Hagedoorn and Hesen, 2007). The second most active industry utilizing strategic alliances is Business Equipment (26%). The considerable distribution of deals across industries indicates that prior studies (Lerner and Merges, 1998; Robinson, 2008; Ryall and Sampson, 2009; Lerner and Malmendier, 2010; Costello, 2013) focusing on one specific industry may not generate empirical implications that can be generalized to the strategic alliance market as a whole.

Chapter 4: Research methods

4.1 Proxies for operational governance provisions

Most alliance agreements specify operational governance provisions. The classification of contractual provisions follows Parkhe (1993), who develops a checklist used in both the prior strategic management and economics literatures (Arino and Reuer, 2007; Robinson and Stuart, 2007). This line of research establishes that operational governance structures play an important role in monitoring and coordinating alliance activities (Robinson and Stuart, 2007; Devarakonda and Reuer, 2010).[12]

Based on Parkhe (1993), I use the number of provisions contained in the agreement to proxy for the level of operational governance terms. A greater number of clauses indicates a higher level of operational governance mechanisms. I classify contractual provisions into 20 categories as listed in Table 2, Panel C. Among the governance provisions, and based upon my detailed reading of alliance contract details, six provisions reported in the first six rows specifically relate to accounting quality, which I categorize as accounting-related operational governance. I classify the remaining fourteen provisions as non-accounting-related operational governance clauses.

Table 2, panel C also presents the distribution of operational governance provisions. There are 2,799 total operational governance provisions included in 1,249 unique alliance agreements with operational governance provisions. About 43% of the agreements contain conditional termination rights, indicating that the partner firm can

[12]Conversations with a strategic alliance manager at a national electronic company reveal that setting up joint steering committees (one of the operational governance clauses) is very important to the effective management of strategic alliances in many industries. Scholars also suggest that oversight committees and other functional committees provide roles such as coordination, information sharing and monitoring in alliances (Robinson and Stuart, 2007).

terminate the alliance contract if the counterparty files for bankruptcy, seeks reorganization, or readjustment or arrangement under any law related to bankruptcy or insolvency. Approximately 8% have unconditional termination rights, which means that one party can terminate the agreement without any specific reason. About 37% of the agreements contain a provision that requires confidentiality. Approximately 20% of the agreements require the maintenance of relevant books and records. Nearly 12% have audit rights, indicating that a partner firm can conduct an independent audit; while 8% require periodic written reports (regularly report operational activities to partner) of all relevant alliance transactions and activities.

4.2 Proxies for accounting quality

When empirically testing the hypotheses, it is important to note that there is no consensus on how to measure accounting quality (Dechow et al., 2010). Prior research on debt contracting uses measures of accruals quality (Bharath, et al., 2008), the timeliness of accounting information (Wittenberg-Moerman, 2008), and the debt contracting value of accounting (Ball, et al., 2008; Christensen and Nikolaev, 2012; Dou, 2014). Prior studies in long-term supply contracting mainly use firm status to proxy for accounting quality, assuming that private firms are more informationally opaque and thus have a lower level of accounting quality (Costello, 2013; 2015). Resolving the issue of the best measure of accounting quality is beyond the scope of my paper. I use a number of key measures that have been previously used in the accounting literature.

Specifically, I use four proxies for accounting quality in order to capture different aspects of financial statement reliability, namely accruals quality, internal control

weaknesses, restatements and unexplained audit fees.[13] First, I use the accruals quality measure developed by Dechow and Dichev (2002), as modified by McNichols (2002) and Francis et al. (2005). I use this measure as my primary accounting quality proxy in the alliance setting for two reasons. First, large abnormal accruals indicate unexpected deviations between earnings and operating cash flows that render it harder for alliance partners to reliably estimate future financial performance. Partner firms' economic performance is an important determinant of alliance quality and success (Saxton, 1997; Arend and Amit, 2005). Second, the measure in Dechow and Dichev (2002) does not solely rely on earnings management or assumptions about market efficiency.

I use the following model:

$$\Delta wc_t = \beta_0 + \beta_1 cfo_{t-1} + \beta_2 cfo_t + \beta_3 cfo_{t+1} + \beta_4 \Delta rev_t + \beta_5 \Delta ppe_t + \varepsilon_t \quad (1)$$

The proxy for accruals quality is the squared residuals from the above regression, year and industry based on the 48 Fama and French (1997) industry classifications. If an industry group has fewer than eight observations in any given year, then observations pertaining to that industry are removed. The residuals measure the extent to which current accruals (ΔWC) do not effectively map into past, present, or future cash flows. In summary, a higher accrual value reflects slower quality accounting.

My second measure of accounting quality is the presence of internal control weaknesses. Internal controls over financial reporting are defined as a process to provide reasonable assurance about the reliability of financial reporting (PCAOB, 2004). Conceptually, a good internal control system is the foundation for high-quality financial reporting, since strong internal controls likely decrease both procedural and estimation

[13] I use all four proxies in my main empirically analysis, and use accruals quality as the main measure in the two cross-sectional tests.

errors, as well as earnings management. Empirical accounting studies have shown a positive association between internal control quality and earnings quality measures (Doyle et al., 2007; Ashbaugh-Skaife et al., 2008). Specifically, Ashbaugh-Skaife at al. (2008) find that firms with internal control deficiencies report lower quality accruals than do firms not reporting internal control problems. Doyle et al. (2007) empirically study the relation between internal control systems and accruals quality, and find that good internal control over financial reporting is an effective internal monitoring device and results in higher quality accounting information.

The internal control report provides a rigorous assessment of the reliability of a firm's financial reporting environment. Internal control problems are a leading indicator of future accounting issues, which are priced in the corporate debt market (Costello and Wittenberg-Moerman, 2012). Section 302 of Sarbanes-Oxley requires that officers certify the financial statements, including the effectiveness of internal controls over financial reporting and any material changes in internal controls. Empirical studies show that material weaknesses disclosed under Section 302 provide indication of financial reporting deficiencies. Therefore, I use an indicator variable set to 1 for internal control weaknesses disclosed under Section 302 to proxy for poor quality accounting.[14]

My third proxy for accounting quality is restatements. A restatement indicates that the firm's past financial statements are not materially in accordance with GAAP and therefore should not be relied upon (GAO, 2003). A company often reveals serious accounting problems via a restatement of its financial reports (Agrawal and Chadha,

[14]Section 404 requires that annual financial reports filed with the SEC contain management's assessment of the effectiveness of internal control over financial reporting. However, Doyle et al. (2008) find that Section 404 disclosures are not related to poor accruals quality. Therefore I use material weakness disclosures made under Section 302 to proxy for poor quality accounting.

2005). Prior empirical accounting scholars find that restatements indicate weaker corporate governance as well as lower quality financial reporting (Baber et al., 2015).

Prior accounting research finds that approximately 90% of restatements affect prior reported net income, among which over 80% have the effects of decreasing prior overstated net income (Scholz, 2008; Ettredge et al. 2012). Furthermore, auditors and investors usually view income-decreasing restatements as more serious (Agrawal et al., 2005). Therefore, I use income decreasing restatements (Income Decr) to proxy for accounting quality. Specifically, I code the time when the misstatement occurs, (rather than the time when the mistake is corrected), as the misstatement year following Baber, Kang, Liang and Zhu (2015). For Income Decr, I use the total number of net income misstatements prior to the alliance agreement to proxy for partner firm accounting quality.

Finally, I use unexplained audit fees as my fourth measure of accounting quality. Anecdotal evidence indicates that auditing helps firms understand and reduce risks in alliance activities, which can improve alliance performance (strategic alliance magazine, 2014).[15] Economic theory suggests that in a competitive equilibrium, audit fees include the expected cost of poor quality earnings. Prior literature establishes that auditors face considerable reputation costs and litigation risks if their client's financial reports are misstated (Palmrose 1987; Thompson and McCoy 2008; Hennes et al. 2010). Therefore, auditors have to increase the audit hours they work, the risk premium they charge, or both when they perceive client accounting quality to be low (Hribar et al., 2014). Charles et al. (2010) find a positive association between audit fees and Audit Integrity's proprietary measure of financial reporting risk. Hribar et al. (2014) use a regression-based approach

[15] Prior conversations with alliance managers indicate that trustworthiness is an important factor when selecting alliance partners and entering into alliance agreements.

to model the determinants of audit fees that are unlikely to capture accounting quality, and use the residuals from this specification as a measure of accounting quality. They find that unexplained audit fees are significantly and positively correlated with other measures of accounting quality, such as accruals measures and earnings smoothness. They also find that unexplained audit fees are incrementally informative for forecasting accounting restatements, fraud and SEC comment letters.

Following Hribar et al. (2014), I use unexplained audit fee residuals from a modified determinant model to proxy for accounting quality. Demirkan and Zhou (2015) examine audit and non-audit services for contractual alliances and find that audit fees are higher for firms with strategic alliance activities, their proxy for operational complexity. Therefore, I include alliance and joint venture indicators as another two determinants in the regression to remove factors that determine audit fees, but do not necessarily indicate differences in accounting quality. I use the following model to estimate the unexplained audit fees for all firms covered by the Compustat Annual Database, and then I merge this database with my alliance sample using firm ID and the fiscal year. I use the full population rather than my primary sample to minimize estimation errors, because partner firms in my sample only have alliance activities during a certain time period. The most accurate method is to model the determinant regression based on all available firm-years.

$$\begin{aligned} Ln(\text{audit fee})_t = {} & \beta_0 + \beta_1 \text{big4}_t + \beta_2 Ln(\text{assets})_t + \beta_3 \text{bus seg}_t + \beta_4 \text{fgn}_t \\ & + \beta_5 \text{inv}_t + \beta_6 \text{rec}_t + \beta_7 \text{cr}_t + \beta_8 \text{btm}_t + \beta_9 \text{inv}_t + \beta_{10} \text{lev}_t + \beta_{11} \text{empls}_t \\ & + \beta_{12} \text{merger}_t + \beta_{13} \text{dec_ye}_t + \beta_{14} \text{roa}_t + \beta_{15} \text{loss}_t + \beta_{16} \text{aud opn}_t \\ & + \beta_{17} \text{client}_t + \beta_{18} \text{ipo}_t + \beta_{19} \text{liprisk}_t + \beta_{20} \text{joint venture}_t \\ & + \beta_{21} \text{alliance}_t + \beta_{22} \Sigma \text{ind}_t + \varepsilon_t \quad (2) \end{aligned}$$

In summary, I use four proxies for accounting quality, which are accruals quality, internal control weaknesses disclosed under SOX 302, restatements, and unexplained

audit fees. All four proxies are negatively associated with accounting information quality. In other words, higher values reflect the worse quality accounting.

5. Research Design

5.1 The influence of accounting quality on operational governance provisions (H1)

I investigate the influence of accounting quality on operational governance provisions using the following OLS model:[16]

$$\text{Log (operational governance)}_t = \beta_0 + \beta_1 \text{accounting quality}_{t-1} + \Sigma\beta_k \text{controls}_{t-1} + \Sigma\beta_j \text{ alliance type}_t + \Sigma\beta_l \text{ind}_{t-1} + \Sigma\beta_m \text{year}_{t-1} + \varepsilon_t \quad (3)$$

where the dependent variable is the logarithm of the number of operational governance terms. Accounting Quality is *accruals quality*, the squared residuals from eq. (2). I use three measures to control for information asymmetry between partner firms, as Costello (2013) finds that information asymmetry is a determinant of long-term supply contract design. *Distance* is the physical distance between the operating facilities of alliance partners, as geographic proximity helps partner firms obtain "soft" information.[17]The quality of soft information is a decreasing function of the borrower-lender distance (Petersen and Rajan, 2002; Hauswald and Marquez, 2006). *International* is an indicator variable set to one if the alliance relationship has an international partner firm. *Prior* is an indicator variable set to one if two contracting parties had a previous alliance relationship.

[16]It is possible that factors influencing the decision to form alliance activities will impact the level of operational governance provisions in alliance agreements; there could be a selection bias that confounds my main findings. Thus, I use a Heckman two-stage method and re-examine my main findings, with consistent results. See appendix F for detailed results.

[17]Petersen (2004) defines hard information as "quantitative, easy to store and transmit in impersonal ways, and its content is independent of the collection process." However, soft information is not easily or accurately reducible to a numerical score. Such soft information includes a manager's ability, honesty, etc.

I control for a variety of firm characteristics and agreement-specific features that likely influence the operational governance clauses in strategic alliance agreements. Precise definitions of explanatory variables appear in Appendix A. I control for firm size (*Size*), because size can influence the available resources of the partner firm. Larger firms with greater resources are more likely to invest in operational governance provisions and are more influential in the agreement draft process (Arino and Reuer, 2002; Ryall and Sampson, 2009), while smaller firms lack bargaining power and the experience and resources required to craft more sophisticated alliance agreements. Prior research on contractual completeness predicts and finds that asset specificity is an important contractual attribute affecting contract design (Joskow, 1988; Poppo and Zenger, 2002; Arino and Reuer, 2002). Accordingly, I use R&D expenses (*R&D*) to measure firm-level asset specificity (Venkatraman and Zaheer, 1995; Poppo and Zenger, 2002; Raman and Shahrur, 2008).

Prior literature finds that performance of alliance partners affects contract complexity (Poppo and Zenger, 2002).[18] I control for the partner firm operating performance prior to forming the alliance relationship using a series of controls, such as age (*Age*) and EBITDA volatility (*Ebitda Vol*). Moreover, a financially distressed partner can have a significant impact on the firm's future operations. For example, a distressed partner may reduce its demand for the firm's products, while a distressed supplier may reduce the supply of important raw materials. Therefore, I control for the risk of bankruptcy using Altman's *Z* (*ALTMAN Z*) (Costello, 2013).

[18]Poppo and Zenger (2002) measure contract complexity by asking senior managers if the alliance agreement is highly customized and requires considerable legal work.

Partner firm corporate governance features may also influence the extent of operational governance clauses, as prior literature suggests that firm corporate governance reflects the level of agency issues (Armstrong et al., 2010). In the alliance setting, Parkhe (1993) points out that the perceptions of opportunistic behavior lead partner firms to negotiate more contractual safeguards into the strategic alliance agreements. Therefore, I use *E-index* (Bebchuk, Cohen and Ferrell, 2008) to measure partner firm external corporate governance structures.[19] In addition, prior empirical accounting literature suggests that institutional investors (*Institutional*) function as a monitoring mechanism, since they are more sophisticated and important price-setters in capital markets (Ramalingegowda and Yu, 2012). Moreover, I include three internal corporate governance measures (Baber, Kang, Liang and Zhu, 2015), which are the proportion of the full board that is independent directors (*Board Ind*), CEO duality (*Duality*) and board size (*Board Size*). Finally, I control for alliance type, because operational governance terms may differ across different types of alliance activities. I also control for contract duration, because prior literature finds contract complexity is positively related with contractual duration (Arino and Reuer, 2007).

5.2 Distinguishing on accounting-related (H2a) and non-accounting-related operational governance provisions (H2b)

Following prior model specifications, I code accounting-related (non-accounting-related) operational governance as an ordinal dependent variable. I use the following OLS model to examine H2a and H2b.

[19] The E-index has a value ranging from 0 to 6, which consists of the presence of a staggered board, limits to amend bylaws, limits to amend the charter, supermajority, golden parachutes and poison pills, for a total of 6 provisions.

$$\text{Log(accounting-related operational governance)}_t = \beta_0 + \beta_1 \text{accounting quality}_{t-1} + \Sigma\beta_k \text{controls}_{t-1} + \Sigma\beta_j \Sigma \text{alliance type}_t + \Sigma\beta_l \Sigma \text{ind}_{t-1} + \Sigma\beta_m \text{year}_{t-1} + \varepsilon_t, \quad (4)$$

The remaining variables are as defined in equation (3).

$$\text{Log(non-accounting-related operational governance)}_t = \beta_0 + \beta_1 \text{accounting quality}_{t-1} + \Sigma\beta_k \text{controls}_{t-1} + \Sigma\beta_j \Sigma \text{alliance type}_t + \Sigma\beta_l \Sigma \text{ind}_{t-1} + \Sigma\beta_m \text{year}_{t-1} + \varepsilon_t, \quad (5)$$

The remaining variables are the same as those described in equation (3).

Chapter 5: Main Results

5.1 Univariate results

Descriptive statistics are presented in Table 3. All variables are defined in Appendix A. The average value of operational governance provisions (*operational governance*) contained in strategic alliance agreements is 4.6, with a minimum of zero and a maximum of 20. Accounting-related operational governance provisions (*accounting-related operational governance*) have a minimum of zero and with a maximum of six; the sample average is one, and fewer than 50% of the sample alliances contain accounting-related operational governance clauses. Consistent with prior literature, accruals quality (*accruals quality*) has a mean of 0.0. About 13% of firms contract with international firms (*international*), and more than 2/3 of the sample firms are private firms (*private*). [20]

5.2 Hypothesis test results

Primary results for H1, which examines OLS specifications of relations between partner firm accounting quality and operational governance provisions, are presented in panel A of Table 4. All specifications incorporate year and industry fixed effects, because variations within one firm across years might lead to variations in the operational governance clauses; alternative industry characteristics could also explain the number of operational governance provisions. I cluster standard errors on firm level to consider cross-sectional dependence (Petersen, 2009).

Focusing on Panel A, results show that partner firms with poor quality accounting have more operational governance clauses in strategic alliance agreements

[20] I use an indicator to proxy for firm status and examine whether main results hold among private firms. See Section 8.1 for details.

across all four accounting quality proxies. For example, the coefficient for accruals quality in column 1 is positively significant, indicating that partner firms with worse quality accruals have a higher level of operational governance clauses in alliance agreements. In terms of the economic significance, the coefficient on accruals quality implies that a one-standard deviation increase in accruals quality increases the number of operational governance clauses by 0.61 (=3.06*0.20, i.e., within firm standard deviation*coefficient). Therefore, the economic magnitude of accounting quality and the level of operational governance provisions is not trivial. Other accounting quality proxies have similar results of column 2. *ICW* is positively associated with the level of operational governance provisions. I also find that income decreasing restatements (*Income Decr*) are positively related with operational governance provisions contained in the alliance agreements. Finding that income decreasing restatements is consistent with the prior literature that income decreasing restatements as more serious (Agrawal et al., 2005). I also find that *Unexplained Audit Fees* (Column 4) are positively associated with operational governance provisions.

With respect to control variables, information asymmetry proxies work in the predicted direction. Specifically, *Distance* is positively significant in column 1, indicating that a greater level of geographic distance between partner firms leads to more operational governance clauses. *International* is positively significant in the operational governance regression in all specifications, indicating that international partner firms usually have more operational governance clauses. *Institutional* is positively related to the governance clauses, indicating that institutional investors have a higher demand for the outcome of the alliance activity, and therefore more operational governance clauses to

reduce the alliance risk. Panel B of table 4 presents the results of accounting-related operational governance. Similarly to the results of H1, I find partner firms with poor quality accounting have more accounting-related operational governance provisions across three accounting quality proxies. Specifically, I find that *Accruals Quality*, *ICW* and *Income Decr* are all positively related with the level of accounting-related operational governance clauses, which indicate that firms with poor quality accounting are more likely to have more accounting-related operational governance provisions contained in alliance agreements. *Distance* is positively significant in column 1, 2 and 3. *Institutional* is positively significant in columns 1, 3 and 4, which suggests that institutional investors and alliance partners serve as complementary external monitoring mechanisms. Results for H2b, which examines whether accounting information quality impacts the level of non-accounting-related operational governance clauses, are reported in panel C of Table 4. I find similar results as those in panel A and B. Specifically, I find that partner firms with poor quality accounting possess more non-accounting-related operational governance provisions contained in alliance agreements. In terms of the economic significance, a one standard deviation increases in accruals quality leads to an increase of of non-accounting-related operational governance provisions by 0.21 (=0.15*1.44, i.e., within firm standard deviation*coefficient). In addition, *Institutional* is positive and significant in columns 1, 3and 4, indicating partner firms with more institutional investors have more non-accounting-related operational governance provisions.

Overall, the Table 4 results suggest that partner firms with poor quality accounting information have more operational governance terms; In addition, partner firms with poor accounting quality have more of both accounting and non-accounting-

related operational governance clauses. My findings provide new evidence on how accounting information quality affects strategic alliance contracts.

Chapter 6: Cross-sectional tests

I conduct two cross-sectional tests to provide additional insight on the effect of partner firm accounting quality on operational governance terms.

6.1 Large versus small firms in the strategic alliance relationship

I next investigate whether the influence of accounting quality on operational governance terms differs between large firms and small firms within a given alliance relationship. Prior management literature finds that larger firms exploit smaller firms and tend to take away a greater portion of values created in alliance relationships (Stuart, Hoang and Hybels, 1999). This section examines whether smaller firms with poor quality accounting are more likely to have more operational governance provisions imposed. I focus on the subset of agreements for which I have data for both partners in alliances between U.S. publicly held firms.[21] I use partner firm relative size, based on the ratio of firm sizes, measured by the market value of equity. I use the following OLS model:

$$\text{Log(governance)}_t = \beta_0 + \beta_1 \text{accounting quality}_{t-1} + \beta_2 \text{relative size}_t + \beta_3 \text{accounting quality}_{t-1} \times \text{relative size}_t + \beta_4 \text{controls}_{t-1} + \beta_5 \Sigma \text{alliance type}_t + \beta_6 \Sigma \text{ind}_{t-1} + \beta_7 \text{year}_{t-1} + \varepsilon_t, \quad (5)$$

where the logarithm of the number of governance provisions refers to operational, accounting-related, and non-accounting-related operational governance provisions. Accounting quality is *accruals quality*. Other variables are the same as those in previous specifications.[22]

Table 5 panel A presents results. The interaction term *relative size*accruals quality* is significantly negative across measures of operational governance and accounting-related operational governance provisions. This shows that within an alliance

[21]The sample contains 242 paired alliance activities with two public domestic partners, with 196 pairs that have data available for all variables in the regression.

[22]Results are qualitatively the same if I partition the sample based on the firm size.

relationship, a relatively smaller firm with poor quality accounting is more likely to have more operational governance provisions clauses contained in the alliance contract. I interpret my results as indicating that relative bargaining power influences the relation between firm accounting quality and operational governance provisions in alliance agreements. Smaller firms with poor quality accounting have more governance provisions contained in the alliance contracts, relative to their larger counterparties.

6.2 The impact of relationship-specific investments

Relationship-specific investments are those that are made to support unique transactions between the firm and its partners. Due to their specific nature, these types of investments are more valuable within the relationship. Prior studies examining long-term supply contracts find that firms are more likely to manipulate earnings when there is a higher level of relationship-specific investments (Raman and Shahrur, 2008). In an international setting, Dou et al. (2013) find that firms in weak legal regime countries that operate in high relationship-specific industries tend to smooth earnings more to maintain long-term relationships. Costello (2013) focuses on contract duration and relationship-specific assets in long-term supply contracts and finds relationship-specific assets are associated with a longer contract duration. Overall, the literature suggests that relationship-specific assets play a critical role in the design of long-term supply contracts.

In the strategic alliance setting, many alliances activities require one or both partner firms to make investments that support the alliance, but are of less value for other applications. To the degree that one firm has made such relationship-specific investments, it is vulnerable to the other firm attempting to extract additional rents through holdup or other opportunistic behavior (Williamson, 1983). Therefore, partner firms tend to under-

invest if there is no monitoring mechanism to mitigate the hold-up risk (Klein et al., 1978; Williamson, 1979, 1983; Grossman and Hart, 1986; Hart and Moore, 1990).

Although a detailed examination of relationship specific assets is beyond the scope of this paper, I anticipate that the influence of accounting quality on operational governance provisions is stronger when there is a higher level of relationship-specific assets. Costello (2013) finds that financial covenants and relationship-specific assets are positively associated. Therefore, I anticipate that when there is a higher level of relationship-specific assets in the alliance relationship, the influence of accounting quality on operational governance provisions is stronger.

Following prior accounting research, I use one firm-level proxy and one industry-level proxy for relationship-specific assets (Raman and Shahrur, 2008).[23] The firm-level proxy is R&D intensity, measured as R&D expense deflated by total sales. The second proxy is Nunn's (2007) relationship-specificity measure at the industry level.[24] Nunn uses "input-output" tables in the United States to determine which intermediate inputs are used and in what percentages in the production of each final product. Specifically, Nunn identifies inputs requiring relationship-specific investments using data on whether an input is sold on an organized exchange. If an input is sold on an exchange, then the market for this type of input is considered "thick", with many alternative buyers and sellers. Therefore, by definition, this input is not relationship-specific (Klein et al.1978; Williamson 1979, 1983). Nunn (2007) calculates relationship specificity as the proportion of relationship-specific inputs for each unit of output. This proxy is conceptually and

[23]Costello (2013) uses contract-specific proxies for asset specificity, in which one is the product word count. This approach does not apply to my setting because I investigate all types of alliance agreements, and for some alliance activities, there is no exchange of specific goods e.g. distribution alliances.
[24]Nunn's data are available from: http://scholar.harvard.edu/nunn/pages/data-0

empirically validated in Nunn (2007), as well as in several prior studies use it (e.g. Bodnaruk et al. 2009; Ciccone and Papaioannou 2009; Dou et al. 2013).

Table 6 presents the results based on firm-level R&D intensity (Panel A) and industry-level relationship specificity (Panel B) to proxy for the level of relationship-specific investments. The results in Panel A suggest that partners with poor quality accounting and a higher level of R&D expenditures have more operational, accounting-related and non-accounting-related operational governance provisions. This evidence is consistent with higher levels of monitoring mechanisms mitigating unobserved opportunistic behavior when there is a greater relationship-specific investment involved in the alliance relationship.

Panel B presents results using the industry-level measure to proxy for relationship-specific investments (Nunn, 2007). Similar to Panel A, I find that firms residing in industries with a higher level of relationship-specific investments and poor quality accounting have a higher level of all measures of operational governance provisions in the alliance contracts. This suggests that the negative relation between accounting quality and operational governance provisions more substantial when alliance activities require a higher level of relationship-specific investments.

Chapter 7: Robustness tests

7.1 Private firms

Anecdotal evidence indicates that many privately held firms form alliance activities with large public partner firms in order to convey their underlying quality and attract future equity investors. Numerous studies in finance explore the role of strategic alliance partners as sources of capital for nascent firms. Lerner, Shane and Tsai (1998) empirically suggest that "cold" initial public offering market relies more on strategic alliances.[25]Ivanov and Lewis (2008) find that IPO firms with alliances obtain higher valuations on the day of the offering and have greater positive long-run returns. Qi, Sutto and Zheng (2015) further find that the valuation premiums for IPOs with alliance partners are 2.13 times higher than those without alliance partners. Consistent with the prior literature, about 68% of partners are privately held firms in my sample.

A major hurdle to empirical work on private firm accounting quality is the dearth of data on private firms. Prior studies in long-term supply contracting mainly use firm status (public vs. private) to proxy for accounting quality, assuming that private firms are more informationally opaque and thus have a lower level of accounting quality (Costello, 2013; 2015). In this section, I use a "private firm" indicator to measure accounting quality and examine whether it influences operational governance clauses. Model specifications include *private* as the main independent variable because data for most control variables are not publicly available.

Table 8 presents the results *Private* is significantly positive across all specifications, indicating that private firms have greater operational governance

[25] They define "cold" as IPO markets as those which have much lower issuance, less underpricing and fewer instances of oversubscription.

provisions in their alliance agreements. This is consistent with the conjecture that private firms are informationally opaque and therefore, require greater external monitoring in the alliance relationship.

7.2 Considering both counterparty public firms within an alliance relationship

As mentioned in section 8.1, more than 2/3 of the firms in my sample are private firms, therefore only a small portion of the alliance agreements are made between two public firms. In this section, I focus on agreements where both parties are public firms for which I have data for both parties in the agreement. I examine whether partner firm accounting quality influences the operational governance clauses in a given alliance agreement after controlling for its counterparty's characteristics. To test this, I use specification (2) and in addition, control for several counterparty firm-level characteristics described below.

I include *counterparty size*, because results from section 7.1 suggest that counterparty size impacts operational governance terms; I also include counterparty performance proxies, such as *Ebitda Vol* and *ALTMAN Z*, because partners with better performance are more likely to closely monitor the alliance performance, and also are less likely to be monitored by their counterparty.[26] Table 8presents the results. Controlling for counterparty characteristics, I find the relation between poor accounting quality and governance holds for both operational (column 1) and non-accounting-related (column 3) governance clauses in the alliance agreements. Results from the second column indicate that accounting quality does not significantly influence the level of accounting-related governance provisions, however. Overall, results in table 8 suggest that the relation between accounting quality and governance provisions generally holds

[26] Results are qualitatively the same if I cluster standard errors on alliance agreement rather than on the firm.

after retaining only observations where data are available for both counterparties and controlling for counterparty characteristics.

7.3 Principal Component Analysis

Principal component analysis provides one parsimonious way to represent the latent constructs among operational governance dimensions. I do a principal component analysis as a robustness check to identify the underlying dimensions of operational governance terms and determine which provisions are associated with each factor (Schloetzer, 2012; Anderson et al., 2014). I retain the first two factors with eigen values greater than one. Results from Appendix C suggest that results are largely consistent with the categorization of accounting versus. non-accounting-related operational governance terms in the prior section. Specifically, four out of six accounting-related operational governance provisions are associated with Factor 1.[27]Moreover, regression results with Factor 1 and Factor 2 as dependent variables (Appendix D and E) are also consistent with those in table 4. In conclusion, partner firms with poor quality accounting have more operational governance terms.

7.4 Termination and confidentiality clauses

Following the literature in strategic alliance contracting (Arino and Reuer, 2007), I treat each operational governance terms equally in the empirical analysis. However, some terms are more consequential than others and therefore should have a stronger relation with accounting quality. I separately investigate termination and confidentiality two provisions; the former should have a stronger relation with accounting quality while

[27]Financial statement and inventory management have few observations in my sample agreements, which partially explain why they are not loaded with factor1.

the latter should have no relation. Results presented in table 9 are consistent with my predications.

Chapter 8: Conclusion

I examine relations between accounting quality and the level of operational governance terms in strategic alliance agreements. Although strategic alliance contracts are common and economically meaningful, there is sparse evidence on the interaction of accounting with such contracts. Good quality accounting reduces agency conflicts between alliance partners and helps predict partner firm future performance; accordingly, I hypothesize that higher quality accounting leads to fewer operational governance terms. To test this hypothesis, I hand-collect data from alliance agreements filed by partner firms. The main results suggest that partner firms with good quality accounting have fewer operational governance clauses contained in the alliance agreements.

I also conduct two cross-sectional analyses to provide further insight into the effect of accounting quality on operational governance terms. I find that smaller firms with poor quality accounting are more likely to have more operational governance terms contained in the contract. I also examine whether the amount of relationship specific investments influences relations between accounting quality and operational governance terms. Using two proxies for relationship-specific investments, I find that this relation is more sensitive to alliance activities that involve greater relationship-specific investments.

Taken together, my findings suggest that partner firms with lower quality accounting have relatively more operational governance terms in their alliance contracts. This result applies to both accounting and non-accounting operational governance provisions. My study contributes to the accounting literature by examining another important contracting context in which accounting quality affects firm activities. I also contribute to the management literature on strategic alliance agreements by considering

the influence of accounting quality. Overall, results from my study suggest that accounting information plays a crucial role in alliance activities.

Table 1 Sample selection

Filters	# of filings	# of agreements
Total number of filings from 1996 to 2012	12,408,593	26,342
Random selection of 1,000,000 filings	1,000,000	2,196
Alliance agreements found in the automatic search[1] from the selected filings	1,000,000	2,196
Delete amended and amendment of original agreements		904
Final sample		1,292

[1]For the period January 1996 to December 2012, I first search SEC filings for the following key words (case-insensitive): "R&D agreement", "technology agreement", "license agreement", "production agreement", "development agreement", "manufacturing agreement", "distribution agreement", "supply agreement", "marketing agreement", "intellectual property agreement", "technology cross-license agreement", "technology transfer and licensing agreement", "research, design and development agreement", "cross-license agreement", "technology development and license agreement", "trademark license agreement", "research and development agreement", "sales and distribution agreement", "supply and services agreement", and "supply and sales agreement". For each identified key word, the agreement is identified if "ex-" or "exhibit" (both are case-insensitive) is found within 20 lines prior to the key word and one of the following two conditions is met: 1) "TABLE OF CONTENTS" (case-sensitive) is found in the 60 lines after the key word; 2) "this + keyword" (for example, "this supply agreement" which is case-insensitive) or "THIS AGREEMENT" (case-sensitive) or ' "agreement" ' (case-insensitive and with double quotes) is found in the 60 lines after the key word.

Table 2 Panel A Distribution of agreements in the sample

	Frequency	Percent
Development Agreement	88	6.81
Distribution Agreement	228	17.65
Manufacturing Agreement	28	2.17
Marketing Agreement	72	5.57
Supply Agreement	167	12.93
Technology Agreement	709	54.88
Total	1,292	100.00

Table 2 Panel B Distribution of firms by industries

Industry Description	Number	Frequency (%)
Business Equipment	191	26.10
Consumer Durable	10	1.37
Chemicals & Allied Products	19	2.60
Consumer Nondurables	26	3.55
Healthcare, Medicare Equipment & Drugs	225	30.73
Manufacturing	37	5.05
Money Finance	57	7.79
Oil, Gas and Coal Extraction & Products	15	2.05
Other	67	9.15
Telephone & Television Transmission	21	2.87
Utilities	5	0.68
Wholesale, Retail, Some Services	59	8.06

Table 2 Panel C Distribution of operational governance provisions

Operational governance provisions	Number	Frequency	Accounting-related	Non-accounting-related
allows to be audited by the counterparty	154	12.33	X	
financial statements are available to the counterparty	20	2	X	
inventory management	25	2	X	
maintain records of alliance activities	236	18.9	X	
milestone payments and activities*	34	2.72	X	
regularly report operational activities to partner	110	8.81	X	
allows to be inspected by the counterparty	158	12.65		X
cooperation	178	14.25		X
conditional termination rights	536	42.91		X
due diligence	84	6.73		X
establish a research program	14	1.12		X
establish cooperative committees	27	2.16		X
jointly regular meetings	34	2.72		X
keep confidential information	456	36.51		X
maintain quality standards	116	9.29		X
maintain patent rights	179	14.33		X
provide training services to the counterparty	75	6		X
protection of intellectual property	231	18.49		X
specify one mutual alliance manager	26	2.08		X
unconditional termination rights	106	8.49		X
*mainly in research and development agreement				

Table 3 Descriptive statistics

VARIABLES	N	mean	sd	p25	p50	p75	max
OPERATIONAL GOVERNANCE	703	4.60	3.06	2.00	4.00	7.00	20.00
ACCOUNTING-RELATED OPERATIONAL GOVERNANCE	703	1.00	1.12	0.00	0.00	2.00	6.00
NON-ACCOUNTING RELATEDOPERATIONAL GOVERNANCE	703	3.74	2.37	2.00	3.00	5.00	14.00
ACCRUALS QUALITY	703	0.00	0.08	0.00	0.02	0.08	2.18
ICW	225	0.05	0.22	0.00	0.00	1.00	1.00
INCOME DECR	703	0.24	1.85	0.00	0.00	0.00	19.00
DISTANCE (LOGGED)	703	6.15	2.39	5.26	7.01	7.79	8.67
INTERNATIONAL	703	0.13	0.33	0.00	0.00	0.00	1.00
PRIVATE	703	0.68	0.46	0.00	1.00	1.00	1.00
SIZE	703	2.76	2.63	0.00	2.98	5.55	6.12
R&D	703	0.08	0.12	0.00	0.00	0.17	0.29
ALTMAN Z	703	4.50	12.25	1.05	3.21	6.58	8.78
EBITDA VOL	703	1.52	4.88	0.00	0.90	3.36	20.59
INSTITUTIONAL	703	0.04	0.07	0.00	0.00	0.01	0.59
AGE	703	13.26	10.58	5.00	10.00	17.00	42.00
E-INDEX	703	1.62	1.38	0.00	2.00	3.00	6.00
PROPORTION	703	0.70	0.18	0.59	0.75	0.86	1.00
PRIOR	703	0.11	0.31	0.00	0.00	0.00	1.00
DUALITY	703	0.00	0.06	0.00	0.00	0.00	1.00
BOARD SIZE	703	9.45	3.28	7.00	9.00	12.00	16.00
DURATION (LOGGED)	703	1.86	1.32	1.10	1.61	2.30	4.60

Table 4 Main results Panel A Operational governance

ACCOUNTING QUALITY	(1) ACCRUALS QUALITY	(2) ICW	(3) INCOME DECR	(4) UNEXPLAINED AUDIT FEES
DEP VARIABLES	OPERATIONAL GOVERNANCE	OPERATIONAL GOVERNANCE	OPERATIONAL GOVERNANCE	OPERATIONAL GOVERNANCE
ACCOUNTING QUALITY	0.201***	0.155***	0.040***	0.146**
	(3.081)	(2.611)	(3.623)	(2.219)
DISTANCE	0.014***	0.014	0.016	0.000
	(3.897)	(0.844)	(1.596)	(0.779)
INTERNATIONAL	0.138***	0.307***	0.128**	0.208**
	(3.873)	(6.239)	(2.132)	(2.196)
SIZE	0.004	-0.026	-0.000	-0.015
	(0.192)	(-1.281)	(-0.005)	(-0.518)
R&D	-0.035	0.107	0.014	0.451**
	(-0.138)	(0.417)	(0.055)	(2.061)
ALTMAN Z	0.006	-0.000**	0.005	-0.001
	(0.484)	(-2.459)	(0.404)	(-0.607)
EBITDA VOL	-0.000	1.363*	-0.000	0.004
	(-0.368)	(1.905)	(-0.732)	(0.839)
INSTITUTIONAL	1.215***	-0.003	1.110***	1.922***
	(3.005)	(-0.665)	(2.692)	(3.911)
AGE	-0.005*	-0.026	-0.003	-0.006
	(-1.838)	(-0.559)	(-0.996)	(-1.281)
E-INDEX	0.034	-0.059	-0.012	0.046
	(1.417)	(-0.751)	(-0.262)	(1.073)
DURATION	-0.021	-0.051	-0.021	0.012
	(-1.067)	(-0.172)	(-1.089)	(0.430)
PRIOR	-0.045	0.060	-0.061	-0.036
	(-0.706)	(0.617)	(-0.951)	(-0.301)
BOARD IND	-0.190	0.018	-0.231	-0.137
	(-0.746)	(0.542)	(-0.902)	(-0.366)
DUALITY	0.151**	0.155***	0.123	0.145
	(2.144)	(2.611)	(0.926)	(1.064)
BOARD SIZE	0.020	0.018	0.022	0.007
	(0.812)	(0.542)	(1.100)	(0.200)
ALLIANCE TYPE	Yes	Yes	Yes	Yes
YEAR FE	Yes	Yes	Yes	Yes
INDUSTRY FE	Yes	Yes	Yes	Yes
OBSERVATIONS	698	221	698	313
ADJ R^2(%)	23.30	25.30	22.60	22.60

Notes: This table presents results between accounting quality and operational governance provisions in alliance agreements using modified accrual as a proxy for accounting quality. The dependent variable is the number of operational governance provisions, contained in the alliance agreements. Measures of accounting quality include accrual quality, internal control weakness, restatement and unexplained audit fees. All variables are defined in the appendix. Z-statistics are in parentheses and are adjusted for within cluster correlation by firm. *, ** and *** indicate significance at two-tailed probability levels of 10%, 5%, and 1%, respectively.

Table 4 Panel B Accounting-related operational governance

	(1)	(2)	(3)	(4)
ACCOUNTING QUALITY	ACCRUALS QUALITY	ICW	INCOME DECR	UNEXPLAINED AUDIT FEES
DEP VARIABLES	ACCT-GOV	ACCT-GOV	ACCT-GOV	ACCT-GOV
ACCOUNTING QUALITY	0.196***	0.274*	0.019***	0.032
	(3.838)	(1.720)	(2.628)	(0.397)
DISTANCE	0.019***	0.026**	0.018**	0.000
	(2.968)	(2.133)	(2.041)	(0.574)
INTERNATIONAL	-0.133**	-0.004	-0.142**	-0.087
	(-2.114)	(-0.039)	(-2.341)	(-0.713)
SIZE	-0.001	-0.006	-0.005	-0.004
	(-0.197)	(-0.270)	(-0.422)	(-0.209)
R&D	-0.015	0.151	-0.021	-0.119
	(-0.175)	(0.285)	(-0.090)	(-0.349)
ALTMAN Z	0.018	0.052**	0.019*	-0.004
	(1.172)	(2.546)	(1.664)	(-0.213)
EBITDA VOL	-0.000	-0.480	-0.000	0.007
	(-1.179)	(-0.664)	(-1.459)	(1.165)
INSTITUTIONAL	0.820*	0.001	0.656*	1.234**
	(1.903)	(0.274)	(1.674)	(2.116)
AGE	-0.001	-0.065	0.001	-0.003
	(-0.283)	(-1.640)	(0.384)	(-0.601)
E-INDEX	-0.088***	-0.042	-0.075	-0.077
	(-2.775)	(-1.241)	(-1.482)	(-1.102)
DURATION	-0.022	-0.352	-0.022	0.003
	(-1.134)	(-1.108)	(-1.233)	(0.123)
PRIOR	-0.102*	-0.347*	-0.083	-0.081
	(-1.957)	(-1.696)	(-1.417)	(-0.954)
BOARD IND	-0.383	0.035	-0.410	-0.394
	(-1.297)	(1.250)	(-1.599)	(-1.109)
DUALITY	0.148	0.274*	0.073	-0.010
	(1.418)	(1.720)	(0.363)	(-0.048)
BOARD SIZE	0.037	0.018	0.037**	0.034
	(1.294)	(0.542)	(2.091)	(1.193)
ALLIANCE TYPE	Yes	Yes	Yes	Yes
YEAR FE	Yes	Yes	Yes	Yes
INDUSTRY FE	Yes	Yes	Yes	Yes
OBSERVATIONS	698	221	698	313
ADJ R^2(%)	15.70	13.80	13.41	14.01

Notes: This table presents results between accounting quality and accounting-related operational governance provisions in alliance agreements using other proxies for accounting quality. The dependent variable is the number of accounting-related operational governance provisions in the alliance agreements. Measures of accounting quality include accrual quality, internal control weakness, restatement and unexplained audit fees. All variables are defined in the appendix. Z-statistics are in parentheses and are adjusted for within cluster correlation by firm. *, ** and *** indicate significance at two-tailed probability levels of 10%, 5%, and 1%, respectively.

Table 4 Panel C Non accounting-related operational governance

ACCOUNTING QUALITY	(1) ACCRUALS QUALITY	(2) ICW	(3) INCOME DECR	(4) UNEXPLAINED AUDIT FEES
DEP VARIABLES	NON-ACCT	NON-ACCT	NON-ACCT	NON-ACCT
ACCOUNTING QUALITY	0.150**	0.142**	0.034***	0.131**
	(2.543)	(1.981)	(3.470)	(2.023)
DISTANCE	0.007*	-0.000	0.010	0.000
	(1.908)	(-0.010)	(1.052)	(0.634)
INTERNATIONAL	0.188***	0.288***	0.182***	0.252***
	(6.036)	(5.102)	(3.069)	(2.778)
SIZE	0.003	-0.033	0.003	-0.032
	(0.225)	(-1.282)	(0.222)	(-1.033)
R&D	-0.000	0.302	-0.007	0.666***
	(-0.699)	(1.347)	(-0.028)	(3.020)
ALTMAN Z	-0.000	0.010	-0.001	-0.001
	(-0.027)	(0.408)	(-0.123)	(-0.819)
EBITDA VOL	-0.000	1.195**	-0.000	0.005
	(-0.271)	(2.110)	(-0.464)	(0.899)
INSTITUTIONAL	1.037***	-0.003	0.962**	1.947***
	(2.852)	(-0.586)	(2.441)	(4.771)
AGE	-0.005**	0.002	-0.003	-0.007
	(-1.980)	(0.039)	(-1.163)	(-1.397)
E-INDEX	0.065**	-0.052	0.015	0.072*
	(2.387)	(-0.932)	(0.371)	(1.774)
DURATION	-0.013	-0.111	-0.015	0.024
	(-0.879)	(-0.310)	(-0.879)	(0.826)
PRIOR	-0.015	0.177***	-0.041	-0.015
	(-0.243)	(3.667)	(-0.664)	(-0.119)
BOARD IND	-0.098	0.020	-0.129	-0.049
	(-0.511)	(0.514)	(-0.584)	(-0.154)
DUALITY	0.047	0.142**	0.044	0.007
	(0.546)	(1.981)	(0.338)	(0.043)
BOARD SIZE	0.011	0.020	0.013	-0.002
	(0.621)	(0.514)	(0.758)	(-0.086)
ALLIANCE TYPE	Yes	Yes	Yes	Yes
YEAR FE	Yes	Yes	Yes	Yes
INDUSTRY FE	Yes	Yes	Yes	Yes
OBSERVATIONS	698	221	698	313
ADJ R^2(%)	23.80	27.30	22.00	23.10

Notes: This table presents results between accounting quality and non-accounting-related operational governance provisions in alliance agreements using other proxies for accounting quality. The dependent variable is the number of non-accounting-related operational governance provisions in the alliance agreements. Measures of accounting quality include accrual quality, internal control weakness, restatement and unexplained audit fees .All variables are defined in the appendix. Z-statistics are in parentheses and are adjusted for within cluster correlation by firm. *, ** and *** indicate significance at two-tailed probability levels of 10%, 5%, and 1%, respectively.

Table 5 The influence of accounting quality on governance provisions considering firm size

DEP VARIABLES	(1) OPERATIONAL GOVERNANCE	(2) ACCOUNTING-RELATED	(3) NON-ACCOUNTING-RELATED
ACCRUAL QUALITY	1.444**	1.250	1.350**
	(2.125)	(1.643)	(2.059)
RELATIVE SIZE	0.100	0.184	0.005
	(1.207)	(0.615)	(0.088)
SIZE*ACCRUAL QUALITY	-1.566***	-2.871**	-0.933
	(-3.194)	(-2.249)	(-0.629)
DISTANCE	-0.000	-0.000	0.000
	(-0.349)	(-0.722)	(0.075)
INTERNATIONAL	-0.044	-0.065	-0.119
	(-0.126)	(-0.250)	(-0.222)
R&D	-0.012	0.021	-0.016
	(-0.218)	(0.273)	(-0.330)
ALTMAN Z	-0.098**	-0.063***	-0.102***
	(-2.631)	(-3.279)	(-3.886)
EBITDA VOL	0.013	-0.021	0.024***
	(0.929)	(-0.961)	(3.654)
INSTUTIONAL	-0.000	-0.000***	-0.000
	(-1.062)	(-5.481)	(-0.294)
AGE	0.785*	0.407	0.884***
	(1.678)	(0.600)	(2.680)
E-INDEX	-0.005	-0.005	-0.008*
	(-1.310)	(-0.507)	(-1.909)
DURATION	0.005	-0.018	0.026
	(0.078)	(-0.316)	(0.178)
PRIOR	-0.118	-0.076	-0.116
	(-1.095)	(-0.639)	(-1.058)
BOARD IND	-0.261**	-0.054	-0.197**
	(-2.456)	(-0.709)	(-2.307)
DUALITY	-1.285***	-1.323**	-1.271***
	(-2.710)	(-2.141)	(-7.198)
BOARD SIZE	-0.577**	-0.101	-0.996***
	(-2.260)	(-0.431)	(-3.916)
ALLIANCE TYPE	Yes	Yes	Yes
YEAR FE	Yes	Yes	Yes
INDUSTRY FE	Yes	Yes	Yes
OBSERVATIONS	196	196	196
ADJ R^2(%)	59.70	48.20	55.00

Notes: This table reports results for relations between accounting quality and operational governance provisions, accounting-related operational governance and non-accounting-related operational governance for small firms in one alliance agreement. The subset contains 196 paired alliance activities with two public domestic partners when all variables in the regression are available. All variables are defined in the appendix. Z-statistics are in parentheses and are adjusted for within cluster correlation by firm. *, ** and *** indicate significance at two-tailed probability levels of 10%, 5%, and 1%, respectively.

Table 6 The influence of relationship-specific investments Panel A Firm-level R&D intensity

	(1)	(2)	(3)
DEP VARIABLES	OPERATIONAL GOVERNANCE	ACCOUNTING-RELATED	NON-ACCOUNTING-RELATED
ACCRUAL QUALITY	0.153*	0.192***	0.098
	(1.959)	(3.628)	(1.452)
R&D	-0.000***	-0.000	0.074
	(-2.884)	(-1.401)	(0.270)
ACCRUAL QULAITY*R&D	0.002**	0.004***	0.001**
	(2.202)	(6.018)	(2.244)
DISTANCE	0.014***	0.017**	0.008*
	(2.625)	(2.558)	(1.727)
INTERNATIONAL	0.141***	-0.135***	0.191***
	(4.578)	(-2.696)	(7.227)
SIZE	0.005	-0.002	0.004
	(0.328)	(-0.403)	(0.180)
ALTMAN Z	0.009	0.023*	0.003
	(0.734)	(1.656)	(0.176)
EBITDA VOL	-0.000	-0.000	-0.000
	(-0.538)	(-1.405)	(-0.304)
INSTITUTIONAL	1.066***	0.665	0.915**
	(4.087)	(1.456)	(2.478)
AGE	-0.004	-0.000	-0.004
	(-1.557)	(-0.035)	(-1.579)
E-INDEX	-0.012	-0.060**	0.015
	(-0.497)	(-2.291)	(0.429)
DURATION	-0.030	-0.025	-0.023
	(-1.289)	(-1.235)	(-1.132)
PRIOR	-0.067	-0.086*	-0.048
	(-0.796)	(-1.838)	(-0.648)
BOARD IND	-0.265	-0.447	-0.156
	(-1.070)	(-1.505)	(-0.887)
DUALITY	0.137***	0.080	0.054
	(2.746)	(0.679)	(0.948)
BOARD SIZE	0.026	0.039	0.017
	(1.103)	(1.394)	(1.048)
ALLIANCE TYPE	Yes	Yes	Yes
YEAR FE	Yes	Yes	Yes
INDUSTRY FE	Yes	Yes	Yes
OBSERVATIONS	698	698	698
ADJ R^2(%)	20.90	13.60	20.60

Notes: This table presents results examining the influence of relationship-specific investments on the relation between accounting quality and operational governance provisions using firm-level R&D intensity to proxy for relationship-specific investments. All variables are defined in the appendix. T-statistics are in parentheses and are adjusted for within cluster correlation by firm. *, ** and *** indicate significance at two-tailed probability levels of 10%, 5%, and 1%, respectively.

Table 6 Panel B: Industry-level Relationship-specific investment

DEP VARIABLES	(1) OPERATIONAL GOVERNANCE	(2) ACCOUNTING-RELATED	(3) NON-ACCOUNTING-RELATED
ACCRUAL QUALITY	0.318***	0.327***	0.228***
	(6.658)	(5.342)	(3.585)
RELSPEC	0.045	0.064	0.035
	(0.453)	(0.504)	(0.449)
ACCRUAL QUALITY*RELSPEC	1.845***	2.383***	1.300**
	(3.526)	(7.084)	(2.087)
DISTANCE	0.013***	0.021***	0.006*
	(3.813)	(2.992)	(1.777)
INTERNATIONAL	0.125***	-0.141**	0.181***
	(3.638)	(-2.039)	(6.117)
SIZE	0.002	-0.002	0.006
	(0.139)	(-0.474)	(0.411)
ALTMAN Z	0.002	0.014	-0.002
	(0.253)	(0.804)	(-0.255)
EBITDA VOL	-0.000	-0.000	-0.000
	(-0.355)	(-0.535)	(-0.550)
INSTUTIONAL	1.181***	0.852*	0.187**
	(2.860)	(1.771)	(2.475)
AGE	-0.005*	-0.001	-0.004**
	(-1.771)	(-0.330)	(-1.997)
E-INDEX	0.035	-0.081**	0.060**
	(1.382)	(-2.275)	(1.985)
DURATION	-0.023	-0.025*	-0.013
	(-1.539)	(-1.719)	(-1.074)
PRIOR	-0.038	-0.100**	0.011
	(-0.611)	(-1.969)	(0.228)
BOARD IND	-0.223	-0.422	-0.149
	(-0.909)	(-1.407)	(-0.852)
DUALITY	0.171	0.175	0.058
	(1.568)	(1.615)	(0.522)
BOARD SIZE	0.025	0.040	0.019
	(1.046)	(1.381)	(1.192)
ALLIANCE TYPE	Yes	Yes	Yes
YEAR FE	Yes	Yes	Yes
INDUSTRY FE	Yes	Yes	Yes
OBSERVATIONS	698	698	698
ADJ R^2(%)	22.70	15.30	22.80

Notes: This table presents results examining the influence of relationship-specific investments on the relation between accounting quality and operational governance provisions using industry-level relationship-specific investments to proxy for relationship-specific investments (Nunn, 2007). All variables are defined in the appendix. T-statistics are in parentheses and are adjusted for within cluster correlation by firm. *, ** and *** indicate significance at two-tailed probability levels of 10%, 5%, and 1%, respectively.

Table 7 The relation between private firm accounting quality and the level of operational governance provisions

DEP VARIABLES	(1) OPERATIONAL GOVERNANCE	(2) ACCOUNTING-RELATED	(3) NON-ACCOUNTING-RELATED
PRIVATE	0.173***	0.100***	0.153***
	(6.940)	(4.677)	(6.568)
DISTANCE	0.055***	0.019***	0.053***
	(12.179)	(5.001)	(12.511)
INTERNATIONAL	0.166***	0.076**	0.147***
	(4.597)	(2.431)	(4.358)
PRIOR	-0.002	0.008	-0.004
	(-0.040)	(0.248)	(-0.101)
ALLIANCE TYPE	Yes	Yes	Yes
FIRM FE	Yes	Yes	Yes
OBSERVATIONS	2,622	2,622	2,622
ADJ R^2(%)	12.50	3.80	12.60

This table reports the results examining the relation between private firm accounting quality and the level of operational governance provisions in alliance agreements. All variables are defined in the appendix. *, ** and *** indicate significance at two-tailed probability levels of 10%, 5%, and 1%, respectively.

Table 8 Controlling for counterparty characteristics

DEP VARIABLES	(1) OPERATIONAL GOVERNANCE	(2) ACCOUNTING-RELATED	(3) NON-ACCOUNTING-RELATED
ACCRUAL QUALITY	1.088**	0.100	1.402**
	(2.024)	(0.394)	(2.171)
DISTANCE	0.013	0.011	0.015
	(1.283)	(0.699)	(1.047)
INTERNATIONAL	0.020	-0.170***	0.031
	(0.232)	(-3.713)	(0.358)
SIZE	0.027***	0.019*	0.019**
	(2.652)	(1.898)	(2.348)
R&D	0.009	0.057**	-0.019
	(0.168)	(2.490)	(-0.288)
INSTUTIONAL	0.433*	0.407	0.360**
	(1.782)	(0.893)	(2.210)
ALTMAN Z	0.005	0.007	0.004
	(0.851)	(0.733)	(0.983)
EBITDA VOL	-0.000	-0.000**	-0.000
	(-0.590)	(-2.240)	(-0.166)
AGE	-0.002	0.005	-0.004*
	(-0.450)	(0.480)	(-1.866)
E-INDEX	-0.087	-0.130***	-0.025
	(-1.234)	(-2.630)	(-0.313)
COUNTERPARTY SIZE	0.019	0.004	0.019
	(0.846)	(0.150)	(1.314)
COUNTERPARTY R&D	0.070	0.162***	0.016
	(0.787)	(3.945)	(0.185)
COUNTERPARTY ALTMAN Z	-0.037***	-0.020	-0.039***
	(-3.207)	(-1.478)	(-5.020)
COUNTERPARTY EBITDA VOL	0.000***	0.000**	0.000***
	(5.766)	(2.515)	(4.958)
COUNTERPARTY E-INDEX	-0.043	-0.074	0.016
	(-0.452)	(-0.913)	(0.200)
COUNTERPARTY AGE	0.005	0.003	0.005
	(0.657)	(0.405)	(1.008)
DURATION	-0.045	-0.044	-0.024
	(-0.716)	(-1.079)	(-0.453)
ALLIANCE TYPE	Yes	Yes	Yes
YEAR FE	Yes	Yes	Yes
INDUSTRY FE	Yes	Yes	Yes
OBSERVATIONS	196	196	196
ADJ R^2(%)	50.20	39.40	45.60

This table reports results of the influence of accounting quality on operational governance, accounting-related operational governance and non-accounting-related operational governance between two public firms in one alliance agreements. The subset contains 196 paired alliance activities with two public domestic partners and with all variables in the regression available. All variables are defined in the appendix. Z-statistics are in parentheses and are adjusted for within cluster correlation by firm. *, ** and *** indicate significance at two-tailed probability levels of 10%, 5%, and 1%, respectively.

Table 9 Termination and confidentiality terms

DEP VARIABLES	(1) TERMINATION	(2) CONFIDENTIALITY
ACCRUAL QUALITY	0.674**	0.466
	(1.999)	(1.030)
DISTANCE	-0.053	0.022
	(-1.534)	(0.824)
INTERNATIONAL	0.547**	0.194
	(2.346)	(0.937)
SIZE	-0.054	0.021
	(-1.347)	(0.831)
R&D	0.703	0.003***
	(0.903)	(3.785)
ALTMAN Z	0.029	-0.006
	(0.783)	(-1.179)
EBITDA VOL	0.000	0.000***
	(1.404)	(2.959)
INSTITUTIONAL	0.195	0.226
	(0.134)	(0.540)
AGE	-0.013	-0.009
	(-1.483)	(-1.279)
E-INDEX	0.488***	0.357**
	(2.822)	(2.480)
DURATION	-0.052	-0.044
	(-1.020)	(-1.018)
PRIOR	0.046	0.128
	(0.206)	(0.705)
BOARD IND	-1.609	-1.043
	(-1.358)	(-1.233)
DUALITY	0.629	0.003
	(1.162)	(0.005)
BOARD SIZE	0.135	0.068
	(1.499)	(1.242)
ALLIANCE TYPE	Yes	Yes
YEAR FE	Yes	Yes
INDUSTRY FE	Yes	Yes
OBSERVATIONS	474	599
PSEUDO R^2(%)	24.90	17.46

This table reports results of the influence of accounting quality on termination and confidentiality terms in strategic alliance agreements. All variables are defined in the appendix. Z-statistics are in parentheses and are adjusted for within cluster correlation by firm. *, ** and *** indicate significance at two-tailed probability levels of 10%, 5%, and 1%, respectively.

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Appendices

Appendix A: Variable definitions

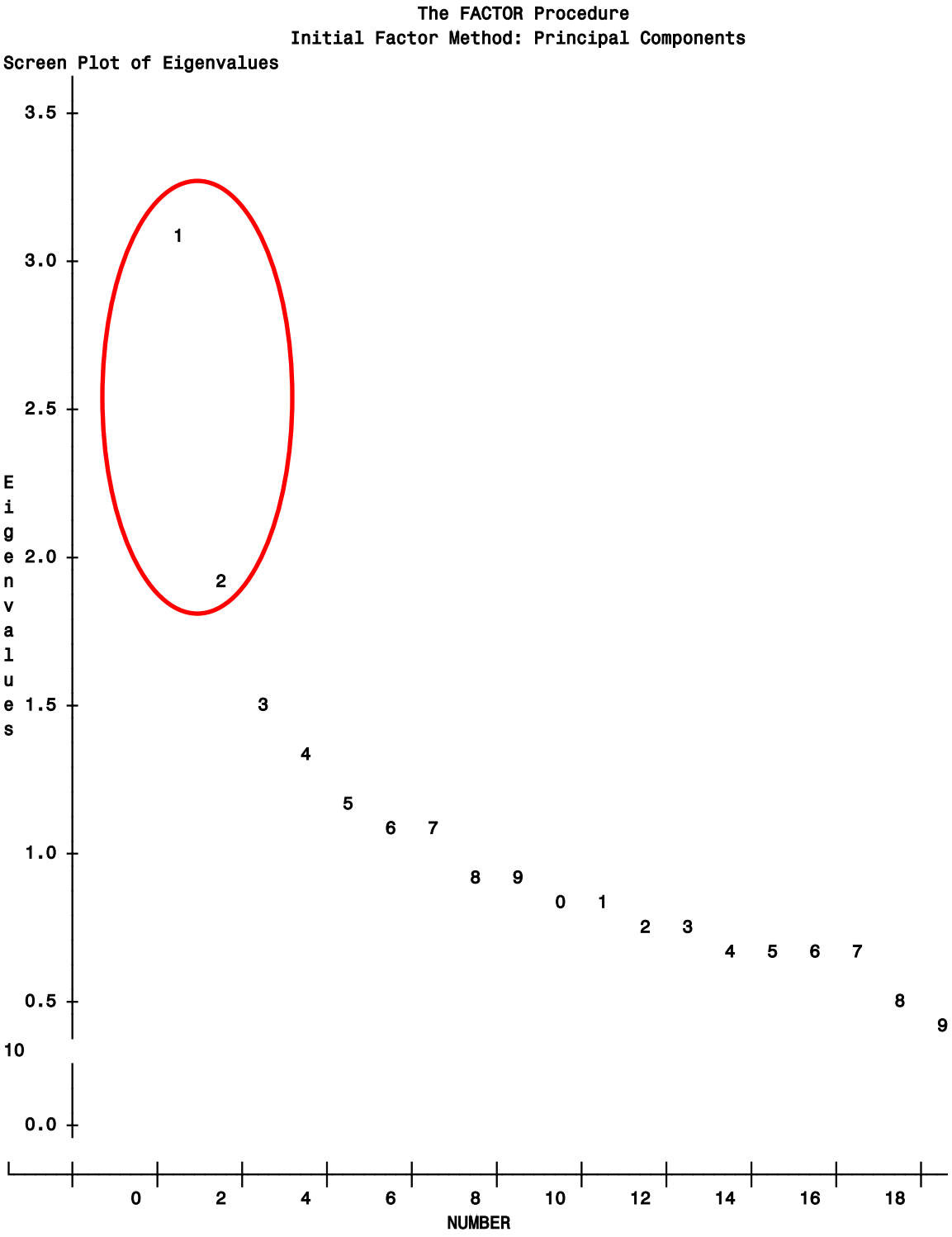
DEPENDENT VARIABLES:	
OPERATIONAL GOVERANCE	The logarithm of the number of operational governance terms in alliance agreements. (Alliance agreement).
ACCOUNTING RELATED OPERATIONAL GOVERNANCE	The logarithm of the number of accounting-related operational governance terms in alliance agreements. (Alliance agreement).
NON-ACCOUNTING-RELATED OPERATIONAL GOVERNANCE	The logarithm of the number of non-accounting-related operational governance terms in alliance agreements. (Alliance agreement).
ACCOUNTING QUALITY:	
ACCRUALS QUALITY	The magnitude of operating accruals estimated by industry and year (Compustat): $\Delta WC_t = \beta_0 + \beta_1 CFO_{t-1} + \beta_2 CFO_t + \beta_3 CFO_{t+1} + \beta_4 \Delta REV_t + \beta_5 \Delta PPE_t + \varepsilon_t$
ICW	An indicator set to 1 if there is a material weakness in internal control disclosed under SOX 302 in the year prior to entering the alliance contract (Audit Analytics).
INCOME DECR	The sum of net income decreasing misstatements the company had prior to forming the alliance activity (Audit Analytics).
UNEXPLAINED AUDIT FEES	$\text{Ln(Audit Fee)}t = \beta_0 + \beta_1 BIG4_t + \beta_2 Ln(Assets)_t + \beta_3 BUS\ SEG_t + \beta_4 FGN_t + \beta_5 INV_t + \beta_6 REC_t + \beta_7 CR_t + \beta_8 BTM_t + \beta_9 INV_t + \beta_{10} LEV_t + \beta_{11} EMPLS_t + \beta_{12} MERGER_t + \beta_{13} DEC_YE_t + \beta_{14} ROA_t + \beta_{15} LOSS_t + \beta_{16} AUD\ OPN_t + \beta_{17} CLIENT + \beta_{18} IPO_t + \beta_{19} LITRISK_t + \beta_{20} JOINT\ VENTURE_t + \beta_{21} ALLIANCE_t + \beta_{22} \sum IND_t + \varepsilon_t$ *Ln(*Audit fee) is the log of audit fee; BIG4 is an indicator variable equal to 1when the firm's auditor is a member of the Big 5(or 4) and 0otherwise (AU); BUS SEG is the square root of the number of business segments (Compustat); FGN is the ratio of foreign sales to total assets (AT); INV is inventory (INVOFS) deflated by total assets; REC is receivables (ARTFS) deflated by lagged total assets (AT); CR is the current ratio calculated as current assets (ACT) divided by current liabilities (DLC); BTM is book value of equity divided by market value

	of equity; LEV is the sum of short-term debt (dlc) and long-term debt (dlt) deflated by lagged total assets (AT); EMPLS is the square root of the number of employees disclosed in the Form 10-K filings; MERGER is an indicator variable equal to 1 if the firm is engaged in a merger or acquisition and 0 otherwise (SDC); DEC_YE is an indicator variable equal to one if the fiscal-year end does not end (FYE) in December and 0 otherwise (Compustat); ROA is operation income after depreciation (IB) deflated by lagged total assets (AT); LOSS is an indicator variable equal to 1 if income before extraordinary items and discontinued operations (oibdp) is negative in the current or prior two years and 0 otherwise (Compustat); AUD OPN is an indicator variable equal to 1 if the firm receives a modified audit opinion (AUOP) and 0 otherwise (Compustat); CLIENT is the square root of the number of years that the firm has been a client of the current auditor (Compustat); IPO is an indicator variable equal to 1 if in the year of the initial public offering and 0 otherwise (SDC); LITRISK is an indicator variable equal to 1 for high litigation risk industries and 0 otherwise, as defined in Francis et al. (1994); Joint Venture is an indicator variable equal to 1 if the firm formed joint ventures over the past 3 years prior to entering the alliance activity (SEC filings); Alliance is an indicator variable equal to 1 if the firm forms other alliance activities over the past 3 years prior to entering the alliance activity randomly selected in the sample (SEC filings);
DISTANCE	The natural logarithm of one plus the physical distance between operating facility between alliance partners in the alliance agreement. The zip codes of alliance partners are manually collected from the contract. Then the corresponding coordinates (latitudes and longitudes) for each zip code are obtained; distances are calculated (in miles) using coordinates of locations by the STATA code "geocode3" (alliance agreement).
INTERNATIONAL	An indicator variable set to 1 if the firm is an international firm (alliance agreement).
PRIOR	An indicator variable set to 1 if two firms formed an alliance relationship prior to the current one (alliance agreement).
FIRM-LEVEL CONTROLS:	
SIZE	The nature logarithm of market value of the equity over a year prior to entering the alliance agreement (Compustat).
R&D	The ratio of Research and Development Expense (XRD) over total assets over one year prior to entering the alliance agreement (Compustat).
ALTMAN Z	Altman Z=1.2(working capital/total assets) +1.4(retained earnings/total assets)+3.3(EBIT/total assets)+0.6(market value of equity/total assets)+0.999(sales/total assets) (Compustat).
EBITDA VOL	The standard deviation of EBITDA (oibdp) over the past three years prior to entering the alliance agreement (Compustat).
INSTITUTIONAL	The institutional ownership percentage for a firm over a year prior to entering alliance agreement (Thomson Financial).

AGE	The number of years between the contract year and the year the firm was founded (Alliance contract and Compustat).
E-INDEX	Entrenchment index following Bebchuk, Cohen and Ferrell (2008) over one year prior to entering the alliance. It has a value from 0 to 6, which compose of staggered board, limits to amend bylaws, limits to amend charter, supermajority, golden parachutes and poison pills 6 index provision (ISS).
DURATION	The number of years between the date that the contract commences to the date of expiry, as specified in the contract (Alliance contract).
BOARD IND	Proportion of independent directors on the board (ISS).
DUALITY	An indicator variable set to one if CEO and the chairman are the same person (ISS).
BOARD SIZE	The number of board members (ISS).
OTHER VARIABLES:	
CONFIDENTIALITY	An indicator variable set to one if the agreement has a confidentiality section in the alliance agreement (Alliance contract).
DISTRIBUTION	An indicator variable set to one if the agreement is a distribution agreement (Alliance contract).
DEVELOPMENT	An indicator variable set to one if the agreement is a development agreement (Alliance contract).
MANUFACTURING	An indicator variable set to one if the agreement is a manufacturing agreement (Alliance contract).
PRIVATE	An indicator variable set to one if the partner firm is a private firm (Alliance contract).
SUPPLY	An indicator variable set to one if the agreement is a supply agreement (Alliance contract).
TECHNOLOGY	An indicator variable set to one if the agreement is a technology agreement (Alliance contract).
TERMINATION	An indicator variable set to one if the agreement has either a conditional or unconditional Termination term in the alliance agreement (Alliance contract).

Data sources are in the parentheses.

Appendix B: Principal Component Analysis



Appendix C Principal Component Analysis

Operational Governance Terms	**Factor1**	**Factor2**	Factor3	Factor4	Factor5	Factor6	Factor7
financial statements are available to the counterparty	0.20034	0.10243	0.29579	-0.05827	0.11668	**0.50951**	0.34338
allows to be audited by the counterparty	**0.70870**	-0.18470	0.21907	-0.00738	-0.27552	-0.07847	0.02245
inventory management	0.09495	0.12839	0.32033	**0.33692**	0.26611	-0.01071	-0.43882
maintain records of alliance activities	**0.74125**	-0.20495	0.13012	-0.06292	-0.20893	-0.02451	-0.06735
milestone payments and activities	**0.43418**	-0.22319	-0.1874	-0.08214	0.45124	0.04253	0.05902
regularly report operational activities to partner	**0.61724**	-0.15068	0.02569	0.04431	0.15017	-0.04591	-0.14127
allows to be inspected by the counterparty	**0.66725**	-0.20857	0.08303	-0.15753	-0.19242	-0.12291	-0.13397
cooperation	0.34486	-0.36465	-0.12994	-0.06499	0.20729	0.11924	**0.39152**
conditional termination rights	0.23771	0.12820	-0.26400	**0.47024**	-0.25474	0.23236	-0.15121
untermination	-0.01304	0.08237	0.16191	**0.48267**	0.00377	0.57994	-0.04841
due diligence	**0.42310**	0.05172	0.04461	0.10255	0.40158	0.09783	-0.28965
establish a research program	0.15229	0.41035	-0.29552	-0.30565	-0.29044	0.24274	-0.23744
establish cooperative committees	0.26272	**0.70332**	0.20619	-0.23824	0.09670	-0.05051	0.10133
jointly regular meetings	0.18858	**0.44067**	**0.51103**	-0.05733	0.25690	-0.14669	0.24439
keep confidential information	**0.37903**	0.19131	-0.29024	**0.43154**	-0.06867	-0.07681	0.28955
maintain quality standards	0.12929	-0.03558	**0.49139**	0.12350	-0.41906	-0.11225	-0.01404
maintain patent rights	**0.40649**	0.04773	-0.47086	-0.2347	0.14017	0.08627	-0.13542
provide training services to the counterparty	0.04892	**0.35851**	-0.12643	0.30375	0.20481	-0.42164	-0.16814
protection of intellectual property	0.24823	0.22560	-0.27101	0.39693	-0.09988	-0.24150	**0.40983**
specify one mutual alliance manager	0.23599	**0.68831**	-0.14689	-0.25027	-0.13198	0.11660	-0.00953

Appendix D Principal Component Analysis Regression Results:Factor1

ACCOUNTING QUALITY	(1) ACCRUALS QUALITY	(2) ICW	(4) INCOME DECR	(6) UNEXPLAINED AUDIT FEES
DEP VARIABLES	FACTOR1	FACTOR1	FACTOR1	FACTOR1
ACCOUNTING QUALITY	0.403***	0.668***	0.302**	0.218*
	(2.925)	(2.686)	(2.340)	(1.714)
DISTANCE	0.031**	0.031	0.030**	0.045
	(2.256)	(1.046)	(2.026)	(1.525)
INTERNATIONAL	-0.197**	-0.001	-0.208**	-0.250**
	(-2.197)	(-0.007)	(-2.304)	(-2.241)
SIZE	0.001	-0.056*	0.001	-0.044
	(0.031)	(-1.773)	(0.051)	(-0.915)
R&D	-0.154	-0.564	-0.150	-0.016
	(-0.569)	(-0.751)	(-0.585)	(-0.038)
ALTMAN Z	0.007	-0.001***	-0.002***	-0.043
	(0.310)	(-4.919)	(-6.112)	(-1.158)
EBITDA VOL	-0.000*	0.029***	0.000	-0.000
	(-1.838)	(3.689)	(0.028)	(-1.548)
INSTITUTIONAL	2.111***	0.806	2.161***	4.722***
	(3.928)	(0.597)	(3.877)	(4.377)
AGE	-0.007	-0.009	-0.008	-0.015**
	(-1.226)	(-1.377)	(-1.549)	(-2.008)
E-INDEX	-0.050	0.026	-0.021	-0.125
	(-0.634)	(0.412)	(-0.333)	(-1.126)
DURATION	-0.076	-0.144	-0.084*	-0.026
	(-1.487)	(-1.267)	(-1.675)	(-0.636)
PRIOR	-0.100	-0.055	-0.091	-0.135
	(-0.889)	(-0.431)	(-0.885)	(-1.483)
PROPORTION	-0.818	-0.201	-0.842	-1.348***
	(-1.627)	(-0.258)	(-1.605)	(-3.901)
DUALITY	0.329	0.581***	0.336	0.340
	(1.538)	(2.905)	(1.417)	(0.957)
BOARD SIZE	0.079	0.009	0.078	0.141***
	(1.363)	(0.173)	(1.433)	(3.373)
ALLIANCE TYPE	Yes	Yes	Yes	Yes
YEAR FE	Yes	Yes	Yes	Yes
INDUSTRY FE	Yes	Yes	Yes	Yes
OBSERVATIONS	698	221	698	313
ADJ R^2(%)	21.75	26.91	22.30	33.54

Notes: This table presents results between accounting quality and factor 1 obtained from the principal component analysis. The dependent variable is factor 1. Measures of accounting quality include accrual quality, internal control weakness, income decreasing restatement and unexplained audit fees. All variables are defined in the appendix. T-statistics are in parentheses and are adjusted for within cluster correlation by firm. *, ** and *** indicate significance at two-tailed probability levels of 10%, 5%, and 1%, respectively.

Appendix E Principal Component Analysis Regression Results: Factor2

ACCOUNTING QUALITY	(1) ACCRUALS QUALITY	(2) ICW	(4) INCOME DECR	(6) UNEXPLAIND AUDIT FEES
DEP VARIABLES	FACTOR2	FACTOR2	FACTOR2	FACTOR2
ACCOUNTING QUALITY	0.100**	0.286***	0.112***	0.040*
	(2.467)	(4.947)	(4.391)	(1.750)
DISTANCE	0.002	0.001	0.002	-0.006
	(0.423)	(0.061)	(0.642)	(-0.372)
INTERNATIONAL	0.163*	0.268***	0.165*	0.308
	(1.730)	(2.854)	(1.748)	(1.394)
SIZE	-0.007*	-0.019**	-0.007*	-0.032***
	(-1.826)	(-2.185)	(-1.933)	(-2.958)
R&D	0.216	-0.093	0.216	0.359
	(0.875)	(-0.296)	(0.850)	(1.403)
ALTMAN Z	0.002	-0.007	0.005	-0.000
	(0.225)	(-0.540)	(0.497)	(-0.296)
EBITDA VOL	-0.000	0.000	-0.000	0.000
	(-0.716)	(0.078)	(-0.678)	(0.212)
INSTITUTIONAL	0.451	0.478	0.490*	0.774**
	(1.543)	(1.598)	(1.756)	(2.149)
AGE	-0.000	0.001	-0.000	-0.000
	(-0.156)	(0.244)	(-0.093)	(-0.140)
E-INDEX	0.040	0.117**	0.041	0.120**
	(1.208)	(2.183)	(1.245)	(2.431)
DURATION	0.013	0.022**	0.016	0.053
	(0.864)	(2.085)	(1.116)	(1.259)
PROPORTION	0.071**	0.221**	0.067**	0.074
	(2.383)	(2.310)	(2.420)	(0.971)
DUALITY	0.204	0.244	0.200	0.382*
	(0.895)	(0.686)	(0.862)	(1.870)
BOARD SIZE	-0.235***	0.334***	-0.235***	-0.085
	(-3.248)	(2.795)	(-3.240)	(-0.548)
ALLIANCE TYPE	Yes	Yes	Yes	Yes
YEAR FE	Yes	Yes	Yes	Yes
INDUSTRY FE	Yes	Yes	Yes	Yes
OBSERVATIONS	698	221	698	313
ADJ R^2(%)	21.30	26.29	21.94	23.30

Notes: This table presents results between accounting quality and factor 2 obtained from the principal component analysis. The dependent variable is factor 2. Measures of accounting quality include accrual quality, internal control weakness, income decreasing restatement and unexplained audit fees. All variables are defined in the appendix. T-statistics are in parentheses and are adjusted for within cluster correlation by firm. *, ** and *** indicate significance at two-tailed probability levels of 10%, 5%, and 1%, respectively.

Appendix F Tests of endogenetiy on main results

Some of the factors that explain why a particular firm forms alliance activities may also help explain the level of operational governance provisions contained in alliance agreements. In other words there could be a selection bias that confounds my main findings. In this section, I perform a two-stage heckman approach to re-examine my main results. The first stage is the determinant model to identify firms which has engage in alliances, and the second stage examines the relation between accounting quality and operational governance provisions, with an additional independent variable Lambda.

To my knowledge, prior research does not empirically specify for decisions to enter to alliance arrangements. Therefore, I identify determinants of strategic alliances based on Lerner and Merges (1998) and Johnson and Houston (2000). Lerner and Merges (1998) examine the determinants of control rights in biotechnology alliances. They find partner firm financial resources determine the allocation of control rights. Johnson and Houston (2000) investigate the motives in establishing joint ventures. They find economic similarities between partners create more values. Panel A presents the first stage probit model in predicting the propensity to form alliance activities. Panel B reports the results for relations between accounting quality and the level of operational governance structures including Lambda from the first stage. Overall, the results indicate that prior results reported in the main tables still hold in this specification test.

Appendix F Panel A First-stage probit model on determinants of alliance formation:

VARIABLES	(1) ALLIANCE
SIZE	0.155***
	(15.629)
R&D	3.165***
	(16.787)
ADVERTISING	7.000***
	(6.527)
SALE GROWTH	0.114**
	(2.134)
ROA	-1.718***
	(-15.119)
BTM	-0.000***
	(-6.083)
ATO	0.201***
	(5.766)
DIVIDEND PER SHARE	-0.576***
	(-9.479)
LEVERAGE	0.579***
	(6.255)
CAPEX	0.061
	(0.265)
EMPLOYEES	-6.091*
	(-1.656)
INTANGIBLES	0.071
	(0.608)
Year FE	Yes
Industry FE	Yes
OBSERVATIONS	128,735
PSEUDO R^2(%)	14.62

Notes: This table presents results of Heckman first-stage regression. The dependent variable is an indicator of one that represents the alliance formation; independent variables are determinant variables. All variables are defined in the appendix. Z-statistics are in parentheses and are adjusted for within cluster correlation by firm. *, ** and *** indicate significance at two-tailed probability levels of 10%, 5%, and 1%, respectively.

Appendix F Panel B Second-stage OLS regressions of the relation between accounting quality and operational governance terms, accounting-related and non-accounting-related operational governance terms

VARIABLES	(1) GOV	(2) GOV	(3) GOV	(4) GOV	(5) ACCT-GOV	(6) ACCT-GOV	(7) ACCT-GOV	(8) ACCT-GOV	(9) NON-ACCT	(10) NON-ACCT	(11) NON-ACCT	(12) NON-ACCT
ACCOUNTING	0.187***	0.229**	0.040***	0.138**	0.185***	0.277*	0.162***	0.037	0.139**	0.155**	0.034***	0.113**
QUALITY	(2.683)	(2.102)	(3.463)	(2.010)	(3.632)	(1.951)	(4.293)	(0.739)	(2.156)	(2.222)	(3.334)	(2.514)
DISTANCE	0.014***	0.013	0.016	0.000	0.019***	0.024*	0.016*	0.030**	0.007**	0.014	0.010	0.000
	(3.764)	(0.843)	(1.610)	(0.712)	(2.955)	(1.863)	(1.948)	(2.499)	(2.025)	(1.105)	(1.050)	(0.288)
INTERNATIONAL	0.142***	0.306***	0.133**	0.255**	-0.129**	-0.024	-0.141**	-0.031	0.193***	0.345***	0.186***	0.249***
	(4.028)	(3.958)	(2.188)	(2.556)	(-2.069)	(-0.217)	(-2.379)	(-0.274)	(5.872)	(4.823)	(3.131)	(3.098)
SIZE	0.015	0.003	0.015	0.007	0.011	0.012	0.009	0.009	0.013	-0.009	0.014	0.007
	(0.667)	(0.086)	(1.346)	(0.147)	(1.144)	(1.224)	(0.787)	(0.478)	(0.555)	(-0.190)	(1.307)	(0.189)
R&D	0.014	-0.008	0.015	0.034	-0.007	-0.053	0.005	-0.036	0.008	0.122*	0.009	0.015
	(1.035)	(-0.235)	(0.532)	(0.616)	(-0.822)	(-0.913)	(0.175)	(-0.881)	(0.681)	(1.710)	(0.349)	(0.357)
ALTMAN Z	0.009	-0.001***	0.008	-0.035*	0.019	0.043**	0.021*	-0.004	0.002	-0.000***	0.001	-0.050***
	(0.948)	(-3.109)	(0.639)	(-1.678)	(1.240)	(1.996)	(1.862)	(-0.245)	(0.216)	(-2.827)	(0.070)	(-2.642)
EBITDA VOL	-0.000	-0.000	-0.000	0.001*	-0.000*	-0.000**	0.000	0.000	-0.000	0.001*	-0.000	0.001
	(-0.630)	(-0.184)	(-1.084)	(1.765)	(-1.783)	(-2.570)	(0.018)	(1.262)	(-0.476)	(1.708)	(-0.746)	(1.601)
INSTITUTIONAL	0.260*	0.365	0.239	0.576***	0.178	-0.285	0.090	0.059	0.226**	0.422	0.211	0.474***
	(1.680)	(1.098)	(1.607)	(2.986)	(0.900)	(-1.475)	(0.671)	(0.341)	(2.235)	(1.652)	(1.548)	(4.534)
AGE	-0.004	-0.004	-0.001	-0.008*	0.000	0.000	0.001	-0.003	-0.004**	-0.007*	-0.002	-0.007*
	(-1.467)	(-0.767)	(-0.502)	(-1.691)	(0.017)	(0.046)	(0.264)	(-0.774)	(-2.072)	(-1.738)	(-0.767)	(-1.757)
E-INDEX	0.030	0.008	-0.013	0.046	-0.092***	-0.068*	-0.070	-0.053	0.067*	0.096**	0.014	0.082***
	(1.209)	(0.144)	(-0.266)	(1.176)	(-3.319)	(-1.690)	(-1.371)	(-0.909)	(1.923)	(2.152)	(0.327)	(3.151)
DURATION	-0.020	-0.041	-0.019	0.013	-0.021	-0.042	-0.027	0.003	-0.013	-0.024	-0.013	0.008
	(-1.134)	(-0.672)	(-0.977)	(0.472)	(-1.115)	(-1.261)	(-1.540)	(0.133)	(-0.940)	(-0.491)	(-0.781)	(0.321)
PRIOR	-0.029	0.029	-0.042	0.014	-0.089*	-0.139**	-0.077	-0.036	-0.000	0.151	-0.026	0.026
	(-0.469)	(0.381)	(-0.673)	(0.124)	(-1.756)	(-1.975)	(-1.368)	(-0.495)	(-0.000)	(1.449)	(-0.426)	(0.241)
BOARD IND	-0.202	0.025	-0.227	-0.104	-0.387	0.017	-0.401	-0.520	-0.098	0.015	-0.128	-0.163
	(-0.823)	(0.051)	(-0.871)	(-0.270)	(-1.302)	(0.059)	(-1.488)	(-1.488)	(-0.581)	(0.040)	(-0.567)	(-0.853)
DUALITY	0.137	0.220**	0.108	0.107	0.136	-0.379**	0.037	0.009	0.033	0.103	0.030	0.029
	(1.590)	(2.232)	(0.784)	(0.578)	(1.217)	(-1.973)	(0.197)	(0.037)	(0.335)	(1.056)	(0.229)	(0.192)
BOARD SIZE	0.020	0.007	0.021	0.001	0.036	0.013	0.035*	0.045*	0.011	-0.014	0.012	0.004
	(0.879)	(0.158)	(1.022)	(0.034)	(1.332)	(0.587)	(1.878)	(1.663)	(0.695)	(-0.352)	(0.683)	(0.249)
LAMBDA	-0.034	-0.060	-0.045	-0.015	-0.035	0.002	-0.039	0.035	-0.024	-0.105	-0.032	0.000
	(-0.696)	(-0.693)	(-1.252)	(-0.217)	(-1.100)	(0.048)	(-1.249)	(0.809)	(-0.465)	(-1.089)	(-0.945)	(0.005)

ALLIANCE TYPE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
YEAR FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
INDUSTRY FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
OBSERVATIONS	698	225	698	313	698	225	698	313	698	225	698	313
ADJ R^2(%)	22.80	31.10	22.10	22.80	15.50	15.00	13.10	14.00	23.10	25.60	21.50	22.10

Notes: This table presents results between accounting quality and accounting-related operational governance provisions in alliance agreements for the second stage regressions. The dependent variables are the number of operational governance terms, accounting-related and non-accounting-related operational governance provisions in the alliance agreements. Measures of accounting quality include accrual quality, internal control weakness, income decreasing restatement and unexplained audit fees. All variables are defined in the appendix. T-statistics are in parentheses and are adjusted for within cluster correlation by firm. *, ** and *** indicate significance at two-tailed probability levels of 10%, 5%, and 1%, respectively.