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By *Franco Fiordelisi, Ornella Ricci, Francesco Saverio Stentella Lopes*

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Corporate Culture and Merger Success

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Abstract

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Keywords: mergers; corporate culture; competing values framework; operating performance.

JEL classification: G34

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I. Introduction

It is widely believed that corporate culture[1] is important to the success of an acquisition (Larsson, Brousseau, Driver, Sweet, 2004; Kusstatscher and Cooper, 2005). Anecdotal and survey evidence suggest that corporate culture is a major cause of disappointing performances in M&As (e.g., AOL-Time Warner, Sprint-Nextel, Citigroup-Travelers, and HP-Compaq), as documented in Datta (1991), Cartwright and Cooper (1993), Weber (1996), Teerikangas and Very (2006), and Bouwman (2013). Despite its importance, there is little research in finance on the role of corporate culture in M&As. This is perhaps because the notion of culture is somewhat nebulous, and it raises numerous measurement issues in empirical research (Guiso, Sapienza and Zingales 2006). Nonetheless, recent research has begun to explore the empirical link between culture and various economic phenomena using novel approaches to measuring culture (Fang, 2001; Guiso et al. 2006; Bernhardt, Hughson, Kutsoati, 2006; Guiso, Sapienza and Zingales, 2009; Giannetti and Yafeh, 2012; Hutton, Jiang, and Kumar 2015,), although mergers in particular have never been empaddressed to date[2].

What role does corporate culture play in merger success? Do acquirers exhibit a specific type of culture? also, is there a specific type of culture that may be associated to a better performance in a merger deal? According to the Q-Theory of mergers (i.e. better-managed firms acquire underperforming companies, improve their management, and generate profits, Jovanovic and Rousseau 2002), one should expect that corporate culture does not play any role in M&As. Yet, it is widely agreed (anecdotal evidence, surveys, and business cases) that corporate culture is critical for the success of a merger deal (Bouwman, 2013). Our paper provides the first empirical

[1] The cultural conflict between two merging companies may lead to lower commitment and cooperation (Buono, Bowditch, Lewis, 1985), greater turnover among acquired executives (Lubatkin, Schweiger, Weber, 1999) and decline in shareholder value of the buying firm (Chatterjee, Lubatkin, Schweiger, Weber, 1992).

[2] Few paper analyse the role of culture in mergers developing a theoretical framework. Van den Steen (2010) studies the effects of "culture clash" in mergers and acquisitions by developing an economic theory of the costs and benefits of corporate culture. Weber and Camerer (2003) propose laboratory experiments to explore merger failure due to conflicting organizational cultures.

evidence that corporate culture has a first order impact on merger success: specifically, companies more focused on collaboration and cost control (labeled here as an "internally-oriented culture") are less likely to be involved in a merger; however, when they do merge with other companies, they generate higher returns, both in the short term (around the announcement date) and in the long term (with a stronger growth in profitability than companies with a different culture).

The most challenging issue in our paper is to measure corporate culture for a large set of companies in an objective manner. As such, the first part of the paper is devoted to illustrate our estimation approach and validate our measures. To define corporate culture, we rely on the Competing Values Framework (CVF) in organizational behavior research developed by Quinn and Rohrbaugh (1983) and Cameron, De Graff, Quinn and Thakor (2006). The premise of the CVF is that culture varies according to two dimensions: 1) externally vs. internally-oriented culture, and 2) flexible over stable oriented culture. Thus, there are four basic competing values/preferences/priorities within every company: adhocracy (external and flexible culture), market (external and stable culture), hierarchy (internal and stable culture), and clan (internal and flexible culture). This framework perfectly fits modern corporations nowadays, as managers regularly confront issues such as how to be innovative, how to stay competitive, how to organize and deploy resources, and how to collectively change and grow as a company. Based on the CVF, we compile a new dataset on corporate culture for the population of Compustat firms using text analysis. The premise of text analysis is that the words and language used in a company's 10-K (i.e. annual reports) reveal some information on the organizational culture it has developed over time. The text analysis approach has been employed by a growing number of finance and accounting papers to examine the tone and sentiment of corporate 10-Ks, newspaper articles,

press releases, and investor message boards (see, for example, Antweiler and Frank 2004;Tetlock 2007; Li 2008;Tetlock, Saar-Tsechansky, and Mackassy 2008; Loughran and McDonald 2011, and 2014; and Jegadeesh and Wu 2013, Hoberg and Phillips 2016, Hoberg and Phillips 2018). We first identify a set of keywords and their synonyms for each of the cultural dimensions. We then compute the frequency with which these different sets of words occur in 10-Ks to measure cultural dimensions.

We also carefully validate our corporate culture measures. We run two separate validation tests: one informal anecdotal test and a formal one, following Hoberg and Phillips (2016). Specifically, in our first validation test we use the information about corporate culture that the large majority of companies in the S&P500 have on their webpage (Guiso, Sapienza and Zingales 2015). We then sort the companies in the S&P500 based on our cultural dimensions and we check the consistency between the cultural profile resulting from our estimations and the corporate culture of the companies as described on their website. In our second validation test we rely on a specific exogenous shock to corporate culture which affected only a subset of companies in our sample. Specifically, we use the activation of paid family leave programs in California, New Jersey and Rhode Island as a natural experiment to validate our corporate culture measures. We argue that paid family leave programs shifted the corporate culture of affected companies toward the internal dimensions of the CVF. To test this hypothesis, we run a difference in difference analysis where we use our corporate culture scores as dependent variable and we define as affected those companies located in states with an active paid family leave program, and the other companies in our sample as controls. Our statistical results confirm that paid family leave programs exogenously shifted the cultural orientation of companies in our sample from the external to the internal dimensions of the CVF.

In the second part of the paper, we study the impact of corporate culture on merger participation and outcomes. We design a two-step empirical analysis. First, we examine how corporate culture affects the probability of acquiring other companies. Then, we examine the effect of corporate culture on the outcome of a merger. Specifically, we measure merger outcome by focusing on announcement returns and post-merger operating performance. In order to rule out any unobservable factors that may affect our results at state and industry level, we run regression models augmented with industry-year and state-year fixed effects. These fixed effects improve the reliability of our estimates, but cannot exclude the possibility that unobserved factors at company level, unrelated to corporate culture, might bias our estimates. To rule out this possibility we exploit the exogenous shift of corporate culture generated by the activation of paid family leave programs in California, New Jersey and Rhode Island. This shift is arguably independent from the characteristics of companies in our sample and allows us to use firm fixed effects. We show that our findings are qualitatively unaffected when we employ the activation of paid family leave to approximate a pseudo-random shift in the corporate culture of companies in our sample.

Our paper differs from prior work and thus contributes to the literature in a number of ways. First, to the best of our knowledge, our paper presents for the first-time large sample evidence in the finance literature showing that corporate culture matters when it comes to deal initiation and deal performance. Second, our paper is one of the first to use text analysis to construct measures of corporate culture for the population of Compustat firms, providing further insights into a growing field of research that values the role of corporate culture. Third, our paper employs a richer set of measures for cultural differences compared to the mere distance measure commonly used in prior work.

Our paper is inspired by and closely related to Ahern et al. (2015), who are the first to pinpoint the importance of national culture in cross-border M&As. Using three key dimensions of national culture (trust, hierarchy, and individualism) from the World Value Survey, Ahern et al. (2015) find that the volume of cross-border mergers is lower when countries are more culturally distant, and that a greater cultural distance in trust and individualism leads to lower combined announcement returns. Different from their study, we examine the role of corporate culture in domestic deals in the US, which is one of the largest M&A markets in the world.

The rest of this paper is organized as follows. Section II reports a detailed analysis of our empirical approach to measure corporate culture and proposes a preliminarily validation of our estimates. In section III, we develop our approach on mergers by reviewing past papers and developing our research hypotheses. Our econometric framework is dealt with in section IV. Section V discusses the empirical results and robustness checks and section VI concludes.

II. Measuring corporate culture

Corporate culture is an inherently difficult-to-measure concept. In this section, we illustrate our empirical approach to measure corporate culture: we report past papers (section II.1), we define culture in a sufficiently narrow way focusing on the Competing Value Framework (section II.2), and we describe the text analysis methodology used to capture corporate culture in a systematic and objective manner as much as is achievable (section II.3). Finally, we validate our measures of corporate culture.

II.1 Past literature

A growing literature in finance examines the importance of national culture in a wide range of financial and investment outcomes (see Ahern et al. (2015) for a review and some recent papers by Bryan, Nash, and Patel (2015) on CEO pay design and Griffin, Guedhami, Kwok, Li, Shao (2018) on corporate governance practices). The literature has almost completely overlooked the role of corporate culture in firm policies and performance (until recently, see discussion below), perhaps because the notion of corporate culture is somewhat nebulous, and it raises numerous measurement issues in empirical research (see the review by Zingales 2015). Nonetheless, a number of recent papers have made headway to explore the relation between corporate culture and firm policies using novel proxies for corporate culture.

Cronqvist, Low, and Nilsson (2009) find that a broad range of spinoffs' financing and investment policies appear to be more similar to the policies of their parents than to those of similar-sized industry peers, even in cases when the spinoffs are run by outsider CEOs. They measure corporate culture with firm fixed effects and indices on employee relations and diversity from the KLD Research & Analytic arguing that these findings are consistent with a culture-based explanation. Using the high annual rankings of the *Best Companies to Work for in America* by the Great Place to Work Institute to proxy for firms with a strong corporate culture, Bargeron, Smith, and Lehn (2012) find that firms with strong cultures make significantly smaller acquisitions than other firms, and acquirer announcement period returns are negative for deals made by strong culture firms. Using corporate executives' personal traits, such as reckless behavior or frugality, as a proxy for corporate culture of the firm that they manage, Davidson, Dey, and Smith (2015) find that firms whose CEOs and CFOs have a legal record are more likely to commit fraud, and firms with extravagant CEOs are associated with a loose control environment characterized by more frauds and unintentional material reporting errors. Using ties

to multinationals as a proxy for the corporate culture of transparency, Braguinsky and Mityakov (2015) find that private Russian firms with closer ties to multinationals are associated with improved transparency of wage reporting and fewer accounting fraud. Using a novel proprietary data set based on surveys of the employees of more than 1,000 US firms developed by the Great Place to Work Institute, and employees' perception of top management as trustworthy and ethical as a proxy for corporate culture, Guiso, Sapienza and Zingales (2015) find that corporate culture is strongly associated with firm value.

It is important to note that most of the prior works on corporate culture employ proxies instead of measuring corporate culture directly. The only exception that we are aware of is the study carried out by Fiordelisi and Ricci (2014). Using the CVF and 10-Ks text analysis, Fiordelisi and Ricci (2014) find that CEO turnover-to-performance sensitivity is strengthened in firms with an internal focus, and weakened in firms with an external focus. They further find that firms with an external focus are less likely to have an insider CEO successor.

II.2 The Competing Values Framework (CVF)

Culture is a broad concept and represents the implicit and explicit contracts that govern behavior within the organization (Bénabouand Tirole2002, 2006, and 2010; Tabellini 2008). A first necessary step for our analysis is to define culture in a sufficiently narrow way within this framework so that it is possible to identify the causal link between culture and merger outcomes.

To measure corporate culture, we rely on the Competing Values Framework (CVF) developed by Quinn and Rohrbaugh (1983) and Cameron et al. (2006), and widely used in the organizational behavior literature (see, for example, Ostroff, Kinicki, and Tamkins 2003, Hartnell, Ou, and Kinicki 2011, and Schneider, Ehrhart, and Macey 2013). Among the various frameworks on organizational culture developed in the management literature (e.g. Hofstede

1991; O'Reilly, Chatman, and Caldwell 1991; Denison 1990; Deal and Kennedy, 1982; Cooke 1987), the CVF has various pros. First and foremost, this framework fits very well modern corporations nowadays, as managers regularly confront issues such as how to be innovative, how to stay competitive, how to organize and deploy resources, and how to collectively change and grow as a company. These four values compete in a very real sense for a company's limited resources (as funding, time, and people). How managers respond to the tension created between these competing values will shape a company's culture, practices, products, and ultimately, how it innovates and grows. Second, the CVF identifies the underlying organizational dimensions that exist in most human and organizational activities. Third, the CVF is intuitive and aligns with the four biological determined drives in the brain (the need to bond, to learn, to acquire, and to defend: Lawrence and Nohria, 2002). Panels A and B of Table 1 summarize key attributes of the CVF's four cultural dimensions (Cameron et al. 2006).

There are two *external* organization-oriented cultural dimensions. The first dimension is the *adhocracy* culture (also called the "create" culture in the CVF). This cultural dimension focuses on creating future opportunities in the marketplace through innovation of a firm's products and services. Firms with the adhocracy culture encourage entrepreneurship, vision, and constant change, e.g., allowing for freedom of thought and action among employees so that rule breaking and reaching beyond barriers are common characteristics of this corporate culture. They aim to develop new technologies, innovative product-line extensions, radical new process breakthroughs, and innovations in distribution and logistics that redefine entire industries.

The second externally-oriented dimension is the *market* culture (also called the "compete" culture in the CVF). This cultural dimension focuses on a firm's external effectiveness by pursuing enhanced competitiveness and emphasizing organizational

effectiveness, fast response, and customer focus. Firms with market culture attach the highest priority to customers and shareholders and judge success based on indicators such as market shares, revenues, meeting budgetary targets, and profitability growth.

There are two *internal* person-oriented cultural dimensions. The first dimension is the *hierarchy* culture (also called the "control" culture in the CVF). This cultural dimension focuses on a firm's control mechanisms to create value through internal improvements in efficiency and implementation of better processes (e.g., by the extensive use of processes, systems, and technology) and quality enhancements (such as statistical process control and other quality control processes). Firms with hierarchy culture make extensive use of standardized procedures and emphasize rule reinforcement and uniformity.

The second internally-oriented dimension is the *clan* culture (also called the "collaborate" culture in the CVF). This cultural dimension focuses on employees and on various attempts to develop human competencies and strengthen organizational culture by building consensus. The logic behind such focuses is that human affiliation produces positive affective employee attitudes directed toward the organization. Firms with clan culture develop cooperative processes and attain cohesion through consensus and broad employee involvement (e.g., clarifying and reinforcing organizational values, norms, and expectations, developing employees and cross-functional work groups, implementing programs to enhance employee retention, and fostering teamwork and decentralized decision making). These firms succeed because they hire, develop, and retain their human resource base. Table 1 summarizes the attributes of the four types of corporate culture.

<<< INSERT TABLE 1 >>>

Panel A of Table 1 yields important insights into the CVF. First, while aspects of all four cultural dimensions are usually present in any organization, one or two dimensions typically dominate. Second, some pairs of cultural dimensions share a common focus, while some other pairs have tensions or "competing values" between them. For example, adhocracy and market share an external focus, while market and hierarchy share a stability focus. Adhocracy tends to clash with hierarchy, and market tends to clash with clan. Such clashes exist because these cultural dimensions emphasize different forms of value creation.

II.3. Our text analysis approach

In order to measure CVF's four cultural dimensions (i.e., adhocracy, market, hierarchy, and clan), we use text analysis to capture, in a systematic and in as much as is achievable objective manner, the characteristics specific to a text (Stone, Dunphy, Smith, Ogilvie, 1966). Our content analysis is motivated by the notion that words and expressions used by members of an organization (labeled "vocabulary") represent the outcome of an organizational culture that has developed over time (Levinson 2003).

The exact bag of words used for measuring each cultural dimension is adapted from Fiordelisi and Ricci (2014) and is provided in Panel C of Table 1. Starting from the words reported in the belief, value, artifact, and effectiveness criteria of Figure 1 Panel B in Table 1, Fiordelisi and Ricci (2014) identify synonyms for each cultural dimension within the Harvard-IV-4 Psycho-Social Dictionary. They then drop words that occur in more than one bag of words for each cultural dimension in order to identify only unique words that capture a particular cultural dimension. For example, words like "begin, change, and envision" are taken as representing "adhocracy" and a relatively high frequency of their use in corporate documents suggests that the firm has an adhocracy-oriented culture. Words like "achieve, drive, and expand" are taken as representing "market," words like "caution, conservation, and efficiency" are taken as representing "hierarchy," and words like "capability, collective, and cooperation" are taken as representing "clan." Loughran and McDonald (2011) note that the Harvard-IV-4 Psycho-Social Dictionary is a commonly used source of word classification, in part because its composition is beyond the control of the researcher and the possible impact of researcher subjectivity is significantly reduced.

Following Loughran and McDonald (2011), we first download from the Edgar website (www.sec.gov) the 10-K reports related to the period 1994-2014 (due to data availability, as Edgar only started to cover 10-Ks since 1994), with the exception of the amended documents. We include only one filing per firm in each calendar year, with at least 180 days between filings. Finally, we use a bag of words method that requires us to parse the 10-K documents into vectors of words and word counts (excluding tables and exhibits). The raw score for each cultural dimension is the frequency of its synonyms (as listed in Panel C of Table 1) normalized by the total number of words in the 10-K section.

To identify the cultural orientation for each firm-year, we construct two variables: internal-external and flexibility-stability. We first rescale the raw scores to range between 0 and 1 based on the industry-year distribution. Specifically, for each raw score, we calculate the maximum and the minimum in each year in each industry (three - digit SIC code). We then rescale each variable as:

$$scaled\ culture_{ij,t} = \frac{raw\ score_{ij,t} - \min_{jt}(raw\ score_{ij,t})}{\max_{jt}(raw\ score_{ij,t}) - \min_{jt}(raw\ score_{ij,t})} \quad (1)$$

where raw score is the raw count of the words in the bag of words of each cultural dimension (market, hierarchy, adhocracy, and clan) and $\min_{jt}(raw\ score_{ijt})$ is the minimum (maximum) raw score in the year and in the industry where the company operates. We then construct four variables: Internal (scaled score of clan plus scaled score of hierarchy), External (scaled score of market plus scaled score of adhocracy), Flexibility (scaled score of clan plus scaled score of adhocracy), Stability (scaled score of market plus scaled score of hierarchy). Finally, the variables capturing the cultural orientation of each firm in each year in our sample is given by:

$$Internal - External_{it} = \frac{Internal_{it} - External_{it}}{Internal_{it} + External_{it}} \quad (2)$$

$$Flexibility - Stability_{it} = \frac{Flexbility_{it} - Stability_{it}}{Flexbility_{it} + Stability_{it}} \quad (3)$$

These measures range between -1 and 1 and capture the cultural orientation of companies at firm-year level. In our tests, we use these measures to examine how corporate culture influences merger participation and how it affects the outcome of a merger deal.

II.4. Validating our culture measures

We estimate cultural scores for each company in our sample by the means of text analysis. The measurement of corporate culture is based on the assumption that words and language used by an organization reflect the culture that the company develops over time. However, before we are able to use our corporate culture variables reliably, they need to be validated. In this section, we provide different validation tests to show the reliability of our measurements in capturing the corporate culture of companies in our sample.

One possible difficulty with our approach is that listed companies may tend to write official documents to "cater" for investors' expectations and, consequently, most official documents exhibit significant similarity. This will bias against our being able to detect any differences in culture in the cross-section. Nonetheless, in panel A of Table 2 we document that there is significant cross-section heterogeneity among companies along the four Cameron et al. (2006) corporate culture dimensions.

<<< INSERT TABLE 2>>>

In panel B, C and D we then present additional evidence to validate our measures of corporate culture. First, in Panel B of Table 2, we rank companies included in the S&P large-cap index for each cultural dimension in 2000, 2005 and 2010. We then report the names of the first

ten companies for each dimension. Panel B of Table 2 has a twofold objective. First, it helps to show that our measures of corporate culture are persistent but move over time. Second, it allows a first informal validation of our measures by examining the culture of the companies in the top positions and checking if it is in line with the core values of the CVF dimension in which their score is very high. As an example, the first column lists Lowe's Companies among the first 10 companies in the dimension Clan in two out of three ranks (2005 and 2010). The core values related to the dimension Clan in the CVF are attachment and affiliation. On their webpage dedicated to (their) culture, Lowe's Companies identify these two values as the funding values of their internal organization. As an example, the company states:" How *do we do it? Together, our Red Vest associates work as individuals sharing their knowledge and skills and as a cooperative, collaborative team that embodies the "Power of We" to help customer's dreams come true – project after project"*. Similar evidence is reported in column 2 where tech-companies like Microsoft or Adobe Systems are listed among the first ten companies on the dimension Adhocracy in two out of three ranks. Some of the core values associated with this dimension are growth, autonomy, and the effectiveness of this cultural dimension can be measured through the innovative output of companies. In 2000, Microsoft unquestionably fitted these two core values. In the late 90s Microsoft was growing at an unprecedented speed and at the beginning of 2000, the company's stocks were trading at more than $58, the highest value in the company's history. Indeed, the focus of the company was growth and autonomy by means of innovation. The third column in panel B of Table 2 reports the ranking for the hierarchy dimension. The core values for this dimension are: communication, routinization, formalization, and consistency. Companies that have made these values their flags such as Wall-Mart stores or GAP are listed in the rankings. Finally, looking at the last column, Xerox is among the first ten companies in the

dimension Market for the entire period from 2000 to 2010. On the webpage dedicated to culture the company states that:" *It's important we build a culture that our employees are proud to be part of, one that is focused on customers and accountability. Our executives have taken the time to reflect on their own behaviors and leadership around"*. This statement strongly reflects the means of the dimension market in the CVF, which are: customer focus, productivity, enhancing and competitiveness. Another important aspect that can be captured in panel B of Table 2 is that some companies tend to have high scores in more than one dimension. As an example, Xerox is present for the whole period in the Market ranking but is also listed among the companies with the highest score in Hierarchy in 2000. This is an important feature of our measures of corporate culture as it allows us to distinguish between externally and internally-oriented companies. In our setting, high scores in hierarchy and market dimensions show an orientation toward stability rather than flexibility. Another example is Meadwestvaco: the company is listed among the ten companies with the highest score for clan and hierarchy, and it is here defined as internally-oriented culture.

As shown in panel B of Table 2, our measures are quite persistent over time, several companies appear more than once in our rankings and some of them, like Xerox, are listed among the first 10 in a specific dimension for the entire 10-year period. This evidence suggests that corporate culture is significantly persistent over time, and firm fixed effects should capture a very relevant portion of corporate culture. This finding is in line with Cronqvist et al. (2009), who attempt to capture corporate culture using firm fixed effects. However, our measures represent a step ahead compared to simple fixed effects as they also allow capturing different cultural dimensions and their variation over time. In order to gain additional insight into the persistency of our measures of corporate culture, we estimate the portion of variance explained

by firm fixed effects for each cultural dimension, and the relative F-test for the relevance of firm fixed effects in each dimension. The results reported in panel C of Table 2 clearly show that our measures are very persistent and firm fixed effects explain a large portion of the variation of our corporate culture scores. While the persistency of corporate culture is in line with the existing literature, it may create identification issues as it hinders the possibility to augment our regression models with firm fixed effects. To overcome the identification issue we focus on a specific exogenous shift of corporate culture that affected only a subset of companies in our sample. Specifically, we exploit the activation of paid family leave programs in California (2004), New Jersey (2009) and Rhode Island (2014). The activation date of these programs is specific to each state, which generates a pseudo random variation of corporate culture within firms allowing us to use firm fixed effects.

Paid family leave programs experimented in California, New Jersey and subsequently in Rhode Island have a strong impact on corporate culture for multiple reasons. First, all these programs are funded with a mutualistic approach based on salary sacrifices made by all employees of participating companies. As outlined in Appelbaum and Milkman (2011), such salary sacrifices involve around 1% of annual salaries and are paid in the form of payroll tax contribution with no cost for employers. This mutualistic approach may shift corporate culture toward collaboration. Furthermore, paid family leave programs generate an incentive for new parents to take a paid leave after the birth of a child. This incentive is likely to increase the number of parental leaves and affected employees may have to collaborate to replace their coworkers during the parental leave. Appelbaum and Milkman (2011) show that the large majority of companies temporarily assign the work of employees on leave to other members of their existing staff. Hence ,a higher number of family leaves should translate into higher

collaboration within the organization. Furthermore, managers may also exercise a greater control on the internal processes to ensure a smooth and cost-effective continuation of the company's operations when one or more employees are on parental leave. These changes will then shift the culture of affected companies toward the internal dimensions of the CVF. In the years following the activation of paid parental leave programs, there have also been several recommendations from the media to employers to develop an internal culture that actively support parental leave[3].Hence, the activation of paid family leave programs at state level may have exogenously shifted the corporate culture of affected companies toward the internal dimensions of the CVF. We formally test this hypothesis in panel D of Table 2 where we use our cultural scores as dependent variables and we run a difference in difference analysis to test the impact of paid family leave programs on the corporate culture of listed firms in our sample. Specifically, we consider as affected, companies headquartered in California, New Jersey and Rhode Island. These states introduced paid family leave programs respectively in 2004, 2009 and 2014. In panel D of Table 2 we then test how the activation of these programs affected the culture of affected companies.

The results reported in panel D of Table 2 show that paid family leave programs shifted the corporate culture of affected companies toward the internal dimensions of the CVF. Specifically, the results reported in the first two columns of Table 2, show that the variable cultural shock, which captures the activation of paid family leave programs, has a positive and statistically significant effect on our variable internal-external. The second column in panel D of Table 2 also shows that the control sample is an appropriate counterfactual for our analysis. Our variable minus (1,4) is not statistically significant, indicating that the difference in corporate

[3] See Business Insider: https://www.businessinsider.com/politics-predict-definition-good-job-2018-12?r=US&IR=T or https://www.businessinsider.com/how-amazons-parental-leave-policy-affects-its-culture-2015-11?r=US&IR=T

culture between affected companies and companies in the control sample followed a parallel trend before the activation of paid family leave programs in the affected states. This result is outlined in Figure 1, where we graphically show that our measures of corporate culture followed a common trend before the activation of paid family leave programs in the affected states.

The last two columns in panel D of Table 2 show that paid family leave programs did not have any effect in shifting the orientation of companies toward flexibility or stability. These results further validate our corporate culture measures and identify a specific clean cultural shock that is not connected to firm characteristics, but that shifted the cultural orientation of companies in our sample. Hence, this exogenous shock can be used to further validate our results. Therefore, in the following sections we first estimate our coefficients using our cultural scores resulting from text analysis of 10-Ks, we then use the exogenous shock to corporate culture to validate our main findings.

III. Merger success: literature review and hypotheses development

In their seminal paper, Moeller, Schlingemann, and Stulz (2005) show that a large portion of deals announced by listed companies in the US between 1998 and 2001 were perceived by investors as value-destroying. Many studies have then tried to explain the value destruction phenomenon by relating announcement returns with CEOs' empire building (Malmendier and Tate 2008), market misevaluations (Dong, Hirshleifer, Richardson, and Teoh 2006), or moral hazard (Kempf, Manconi and Spalt 2017); the study of Ahern et al. (2015) also shows that differences in national cultures may have a negative impact on merger outcomes. However, no study has examined the important link between corporate culture and value creation in M&A.

This link is very important because corporate culture may strongly affect the reorganization process following a merger deal.

In this paper, we argue that companies with an internal cultural orientation plan and execute their deals more carefully. We distinguish between companies with an internal rather than external cultural orientation. We conjecture that companies oriented toward the internal dimensions of the CVF prioritize collaboration, cost control and focus on insuring a smooth continuation of the company's operations. We argue that these companies do not aggressively participate to the merger market but carefully plan their acquisitions. Thus, our first hypothesis is:

Hypothesis 1: Companies oriented toward the internal dimensions of the CVF are less likely to acquire other companies.

An existing study by Maksimovic, Phillips, and Prabhala (2011) shows that after the completion of a merger, the companies involved in the deal go through substantial reorganizations of their assets. This reorganization process is crucial to ensure the success of a merger deal. There are many examples of large deals that resulted in very poor outcomes due to severe problems developed during the reorganization process. Well known examples include: AOL-Time Warner, Sprint-Nextel, Citigroup-Travelers, and HP-Compaq. In the case of Sprint-Nextel, the absence of firm control of one company over the other and the unwillingness to cooperate among employees led the company on a very dangerous path after the merger, which ultimately resulted in a severe loss of shareholder value. As outlined by the WSJ in 2007[4] in a discussion about the Sprint-Nextel merger"The compromises required to get the deal done ensured that no one had firm control to make the tough decisions required to overcome the

[4]See: https://www.ft.com/content/e8e2686e-765e-11dc-ad83-0000779fd2ac

significant challenges. For example, top management roles were split roughly 50-50 and Sprint agreed to move the head office to a suburb of Washington DC, even though most of the staff remained in Kansas". We conjecture that the companies that are focused on maintaining control of internal processes and on cooperation among employees are less likely to participate to the merger market as they more carefully select their merger counterparties, but they obtain better results from the deals they conclude. Our second research hypothesis is:

Hypothesis 2: Merger deals concluded by companies with an internal focus result in better outcomes as captured by announcement returns and post-merger profitability.

IV. Empirical approach

IV.1. Data

We use two main sources of data, the universe of COMPUSTAT/CRSP non-financial companies (we exclude companies with SIC codes from 6000 to 6999) for which we were able to estimate our cultural scores and a sample of merger deals. Our sample of mergers includes deals selected according to the following criteria: we start with all US deals announced from January 1, 1995 to December 31, 2015 and reported in the Merger and Acquisition database of Thomson Financials SDC. We keep all deals coded as a merger, an acquisition of assets, or acquisition of majority interest. We also require the acquirer to be a US public firm listed on the AMEX, NYSE or NASDAQ. We then retain an acquisition if the acquirer owns less than 50% of the shares of the target firm before the acquisition, 100% of the shares of the target firm after the deal. To be part of our sample, a deal also needs to have a value higher than $1 million (1990 $) and the ratio of the book value of transaction over the book value of the acquirer's total assets (i.e. relative size) must beat at least 1%. We then merge the sample of M&A deals with the intersection of Compustat/CRSP and our dataset on corporate culture dimensions. These steps result in a sample of 8,566 acquirers.

Descriptive statistics for the entire sample of companies with non-missing control variables, and for the sample of acquirers are reported in Table 3 in Panels A and B respectively.

<<< INSERT TABLE 3>>>

IV.2. Econometric approach

Our analysis develops into two steps. In the first step, we examine deal origination by estimating the probability of becoming an acquirer in merger deals. Thus, we run linear

probability models[5]of firms becoming acquirers using the entire universe of Compustat/CRSP companies for which we have non-missing culture:

$$Acquirer_{ij,t} = \alpha + \beta_1 Cultural\ Orientation_{ij,t} + Firm\ Characteristic_{i,t} + I_{j,t} + e_{ij,t} \quad (4)$$

The dependent variable, $Acquirer_{ij,t}$, is equal to one if firm *i* is the acquirer in year t+1, and zero otherwise. *Corporate Cultural* $Orientation_{ij,t}$ are discussed in Section IV.5. *Firm Characteristics*$_{ij,t}$ follow prior literature, see, for example, Maksimovic and Phillips (2001), Moeller, Schlingemann, and Stulz (2004), and Gaspar, Massa, and Matos (2005), and are defined in Appendix 1.We present different fixed effect models with either Industry-year or Industry-year and State-year fixed effects. Notably, we also control for the natural logarithm of the total number of words in the 10-K that we use as a measure of 10-K readability. Loughran and McDonald (2014) show that the size of the 10-K can be used as a proxy of its readability and may be an important predictor of a firm's performance. Hence, this control variable ensures that our results are not driven by a potential correlation between our corporate culture score and the 10-K readability.

In the second step, we examine the effect of corporate culture on different merger outcomes. Specifically, we estimate the effect of cultural orientation on announcement returns:

$$CAR(-1,+1)_{ij\,t} = \alpha + \beta_1 Cultural\ Orientation_{ij,t-1} + Firm\ Characteristic_{i,t-1} + Deal\ Characteristic_{i,t} + I_{j,t} + e_{ij,t} \quad (5)$$

[5] We use linear probability models to allow a large number of fixed effects. We also estimate our deal origination equations without fixed effects with a logit model and our models with industry-year fixed effects with conditional logit models; the results were qualitatively unaffected.

and the effect of cultural orientation on acquirers' profitability in the years immediately after the merger (Hoberg and Phillips 2010).

$$\text{ROA (k)}_{ij\,t} = \alpha + \beta_1 Cultural\ Orientation_{ij,t-1} + Firm\ Characteristic_{i,t-1} + Deal\ Characteristic_{i,t} + I_{j,t} + e_{ij,t} \quad (6)$$

where ROA(k) is the difference between the performance of the acquiring company one year before the announcement and k (1 or 2) years following the merger completion. We present all our estimates with different sets of fixed effects to rule out the possibility that our results may be driven by transitory shocks at industry or state level. Specifically, we augment our regression models with industry-year or industry-year and state-year fixed effects. These fixed effects improve the reliability of our estimates, but do not help to exclude the possibility that transitory shocks at company level affect our estimates. We then employ the exogenous shift in corporate culture generated by the activation of paid family leave programs to rule out any concern of omitted variable and reverse causality in our analysis.

V. Results

V.1. Which firms are the acquirer firms?

Table 4 presents coefficient estimates from the linear probability models in Equation (4) to predict acquirers. Column (1) presents the specification where we regress an indicator variable identifying each acquirer on the internal-external and flexibility-stability cultural variables and some control variables at company level including a measure of 10-K readability. Consistently with our first research hypothesis, we find that firms oriented toward the internal dimensions of the CVF are less likely to become acquirers. Our results also indicate that a cultural orientation toward flexibility has a negative effect on the probability of being involved as an acquirer in a

merger deal. In columns (3) and (4) we then investigate whether the effect is driven by shocks- at industry or at state level - which may be potentially correlated with our cultural variables. Our coefficients are largely unaffected by fixed effects suggesting that our findings are not driven by time-varying heterogeneity at industry or state level.

<<< INSERT TABLE 4 >>>

Our results show that a standard deviation increase in the cultural orientation toward internal decrease the probability of being involved in a merger deal as an acquirer by 6%[6] of our sample average. Contrarily, a cultural orientation toward flexibility decreases the probability of becoming an acquirer by 9%. Other findings not directly related to corporate culture are nonetheless consistent with prior work in M&As (see, for example, Moeller et al., 2004, Gaspar et al. 2005, and Bena and Li 2014). In particular, we show that larger firms, and firms with better operating performance, lower leverage and higher Tobin Q values are more likely to be acquirers.

In the first panel of Table 4 we use a different sets of fixed effects to rule out the possibility that our results are driven by transitory shocks at industry or state level. However, given the high persistency of our measures of corporate culture, we could not use firm fixed effects in our regression models. To rule out any remaining concern related to omitted variable or reverse causality, in panel B of Table 4 we then benefit from the exogenous shift in the cultural orientation of companies in our sample generated by the activation of paid family leave programs in California, New Jersey and Rhode Island: we also augment our regression models with firm fixed effects. As shown in panel D of Table 2, the activation of paid family leave programs significantly shifted the cultural orientation of affected companies toward the internal

[6] This is calculated as 0.0201, the coefficient in the fourth column for internal-external multiplied by 0.3418, the standard deviation of our variable internal-external and divided by 0.1187, the average of our variable acquirer.

dimensions of the CVF. The results reported in panel B of Table 4 also show that paid family leave programs significantly decrease the probability of being involved in a merger deal as an acquirer. This finding is in line with the results reported in the first panel of Table 4 and shows how a shift in the cultural orientation toward the internal dimensions of the CVF decreases the probability of being involved in a merger as an acquirer.

V.2 Corporate culture and announcement returns

Table 5 presents coefficient estimates from OLS and fixed effect models where the dependent variable is the abnormal return over the deal announcement. Specifically, we use a market model to construct the cumulative abnormal return over the three days (-1,+1) around the deal announcement. In the first three models, we use our corporate culture measures resulting from text analysis while in the last two models we benefit from the exogenous shift to corporate culture generated by the approval of paid family leave programs.

<<< INSERT TABLE 5>>>

The results reported in Table 5 show that an internally-oriented corporate culture has a positive impact on announcement returns. Specifically, the link between our corporate culture orientation variables and the acquirers' announcement return is positive and statistically significant in the first two models, indicating that internally-oriented firms create more value with their acquisitions than companies oriented toward the external dimensions of the CVF. However, the effect of corporate culture on announcement returns turn out to be non-statistically distinguishable from zero in the last three columns of Table 5. Therefore, the results reported in Table 5 show mixed evidence on the value created by companies with an internal corporate culture with their merger deals. While the results in the first two columns are in line with our

second research hypothesis (H2) this evidence is not entirely supported by our natural experiment. It is worth noting that announcement returns may not be the most appropriate measure to capture the effect of corporate culture on merger outcome. The failure of the reorganization process following a merger deal may be partly unexpected at the time of the announcement and may realize its effect over a relatively long time horizon. We report the effect on CARs mainly for completeness, but in the next section we turn our attention to the long run performance of merging companies. This measure is in our view more appropriate as it captures the effect of a merger over a relatively long time horizon when corporate culture is more likely to affect the performance of the company resulting from a merger deal.

V.3 Corporate culture and deal performance

To further investigate whether companies with an internal corporate culture create more value with their merger deals, we examine the post-merger operating performance of the acquirers in the years following the deal completion. Specifically, in Table 6 we use as a dependent variable the difference between the acquirer operating performance one year before the deal announcement and one or two years after the deal completion.

<<< INSERT TABLE 6 >>>

Table 6 presents coefficient estimates from a fixed effect model where the dependent variable is the difference in the acquirer's profitability before and after the deal completion. We find robust evidence that cultural orientation toward the internal dimensions of the CVF increases the post-merger operating performance of the acquiring company. The decrease is consistent across our fixed effects models and across two different measures of post-merger

operating performance calculated as the difference in ROA one year before the deal announcement and one or two years after the deal completion

In panel B of Table 6 we also use an exogenous shift in corporate culture to identify the effect of corporate culture on deal performance. The evidence reported in panel B is consistent with the evidence reported in panel A and shows that shifting the cultural orientation of listed companies toward the internal dimensions of the CVF has a positive effect on deal performance. All in all, our evidence suggests that companies with an internal oriented culture tend to plan and execute their merger more carefully. They participate less to the merger market but obtain better results from their acquisitions.

VII. Conclusions

What role does corporate culture play in merger success? Our paper provides empirical evidence that corporate culture does have an impact on merger success.

By using a large sample of mergers in the US between 1995 and 2015, we show that companies with an internally-oriented corporate culture are less likely to become acquirers than companies with an externally-oriented culture. We also show that an internally-oriented culture has a positive effect on the merger outcome. Specifically, our results indicate that such culture is positively connected to announcement returns and to the profitability of the acquiring companies in the years immediately after the deal completion. Overall, our results show that companies with an internal focus plan more carefully their acquisition to ensure a smooth continuation of the company's activities. As a result, internally oriented companies participate less often to the merger market but obtain better results from the deals they conclude.

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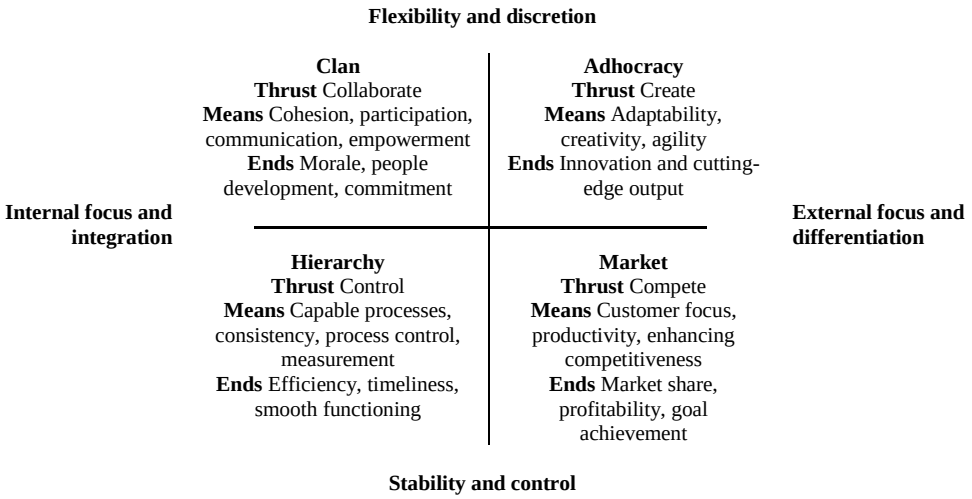
Table 1:
Introduction to the Competing Values Framework

This table provides an introduction to the Competing Values Framework originated in Quinn and Rohrbaugh (1983) and further developed in Cameron et al. (2006), the theoretical framework for the corporate cultural dimensions employed in this paper. Panel A presents the Competing Values Framework (CVF). Panel B defines Cameron et al.'s (2006) four cultural dimensions built on the CVF framework. Panel C reports the bag of words used in text analysis to capture each cultural dimension. The bag of words is obtained in two steps. First, we consider the synonyms suggested by Cameron et al. (2006) to identify each cultural dimension. Second, we further search additional synonyms of the words obtained in the first step in the Harvard IV-4 Psychosocial Dictionary. All words with the identified prefixes are part of the bag of words to measure corporate cultural dimensions. In this way, we are able to include as many words as possible with close meaning without reporting all of them.

Panel A: The Competing Values Framework



Source: Hartnell et al. (2011, p.679), Figure 1, which is adapted from Figure 3.1 in Cameron et al. (2006)

Panel B: The four cultural dimensions based on the CVF

Cultural dimensions	Assumptions	Beliefs	Values	Artefacts (behaviours)	Effectiveness criteria
Adhocracy	Change	People behave appropriately when they understand the importance and impact of the task.	Growth, stimulation, variety, autonomy, and attention to detail	Risk-taking, creativity, and adaptability	Innovation
Market	Achievement	People behave appropriately when they have clear objectives and are rewarded based on their achievements	Communication, competition, competence, and achievement	Gathering customer and competitor information, goal-setting, planning, task focus, competitiveness, and aggressiveness	Increased market share, profit, product quality, and productivity
Hierarchy	Stability	People behave appropriately when they have clear roles and procedures are formally defined by rules and regulation	Communication, routinisation, formalisation, and consistency	Conformity and predictability	Efficiency, timeliness and smooth functioning
Clan	Human affiliation	People behave appropriately when they have trust in, loyalty to, and membership in the organisation	Attachment, affiliation, collaboration, trust, and support	Teamwork, participation, employee involvement, and open communication	Employee satisfaction and commitment

Source: adapted from Hartnell et al. (2011, p.679), Figure 2

Panel C: Bag of words (semantic fields) to measure corporate cultural dimensions

Cultural dimensions	**Synonyms**
Adhocracy	adapt*, begin*, chang*, creat*, discontin*, dream*, elabor*, entrepre*, envis*, experim*, fantas*, freedom*, futuri*, idea*, init*, innovat*, intellec*, learn*, new*, origin*, pioneer*, predict*, radic*, risk*, start*, thought*, trend*, unafra*, ventur*, vision*
Market	achiev*, aggress*, agreem*, attack*, budget*, challeng*, charg*, client*, compet*, customer*, deliver*, direct*, driv*, excellen*, expand*, fast*, goal*, growth*, hard*, initiat*, invest*, market*, monit*, mov*, outsourc*, performanc*, position*, pressur*, profit*, rapid*, reputation, result*, revenue*, satisf*, scan*, share*, signal*, speed*, strong, superior, target*, win*
Hierarchy	boss*, bureaucr* cautio*, certain*, chief*, conservat*, control*, detail*, document*, efficien*, error*, fail*, inform*, logic*, method*, outcom*, predictab*, procedur*, productiv*, qualit*, regular*, solv*, standard*, uniform*
Clan	capab*, co-*, cohes*, collab*, collectiv*, commit*, competenc*, conflict*, consens*, cooperat*, coordin*, cultur*, decentr*, employ*, empower*, engag*, expectat*, facilitator*, help*, hir*, human*, interpers*, involv*, life*, long-term*, loyal*, mentor*, mutual*, norm*, parent*, partic*, partner*, people*, relation*, retain*, reten*, skill*, social*, team*, teamwork*, tension*, train*, value*, work group*

Source: Fiordelisi and Ricci. (2014, page 68), Figure 1

Table 2:
Corporate culture dimension estimates

Panel A reports the descriptive statics for the four cultural dimensions by Cameron et al. (2006) investigated in our study. This table shows the raw count of words resulting from the analysis of the 10-Ks before they are scaled using Equation (1). We drop from the sample all 10-ks with less than 2,000 uncommon words. The final sample contains 136,931 10-ks, all values are expressed in percentage. Panel B reports the rank of companies included in the S&P large-cap index based on the four Cameron et al., (2006) cultural dimensions investigated in our study. The rank is reported for three years 2000, 2005 and 2010. Panel C shows the persistency of our scaled corporate culture measures. Specifically, column (1) shows the portion of variance explained by firm fixed effects for each cultural dimension scaled using equation (1). Column (2) reports the F-test for joint significance of all firm fixed effects in a regression model including only firm fixed effects and a constant. In panel D, we show the effect of the approval of paid family leave on corporate culture. The variable Cultural Shock is an indicator variable, which takes the value of one after the approval of paid family leave in California, New Jersey and Rhode Island. The variable Shock minus (1,4) takes the value of one in the four years before the approval of paid family leave in each state. Definitions of the variables are provided in Appendix 1. All specifications include Industry (3-digit SIC codes), State and year fixed effects. All variables are winsorized at 1% level. Control variables are lagged by one year. Robust standard errors (clustered at industry and state level) are reported in parentheses. Superscripts *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Panel A - Raw Scores descriptive statistics

Collaborate/Clan (COL)	Mean	1.1571
	Standard Deviation	0.4294
	Min	0.5200
	Max	3.1700
Compete/Market (COM)	Mean	3.7982
	Standard Deviation	0.9258
	Min	1.7400
	Max	6.2300
Control/Hierarchy (CON)	Mean	2.5055
	Standard Deviation	0.5235
	Min	1.2900
	Max	4.1200
Create/ Adhocracy (CRE)	Mean	1.2319
	Standard Deviation	0.5110
	Min	0.3700
	Max	2.8500

Panel B - Companies rank based on the four Cameron et al., (2006) cultural dimensions

Clan	Adhocracy	Hierarchy	Market
2000			
Eastman Kodak	Primary	Thermo Fisher Scientific	Convergys
Paychex	Exxon Mobil	Intel	Siebel Systems
Automatic Data Processing	Microsoft	Kla-Tencor	Xerox
Convergys	Dow Jones &Inc	Emerson Electric	Qlogic
Progress Energy	Knight-Ridder	Bmc Software	Citrix Systems
Broadvision	Lilly (Eli)	Vitesse Semiconductor	Sapient
Sapient	Veritas Software	Tellabs	Lexmark Intl
El Paso	Avon Products	Xerox	Netapp
Yum Brands	Steel Excel	Burlington Resources	Emc/Ma
Pall	Enterasys Networks	Raytheon	Broadcom
2005			
L-3 Communications	Gannett	Intl Business Machines	Convergys
Convergys	Newmont Mining	Northrop Grumman	Xerox
Automatic Data Processing	Knight-Ridder	Fiserv	Microsoft
Freescale Semiconductor	Applied Biosystems	Sungard Data Systems	Qlogic
Lowe's Companies	Tribune Media	Parker-Hannifin	Texas Instruments
Paychex	Dow Jones	Meadwestvaco	Omnicom Group
Robert Half Intl	Twenty-First Century Fox	Gap	Netapp
Pepsico	Ew Scripps	Praxair	Mercury Interactive
Meadwestvaco	Adobe Systems	Unisys	Sungard Data Systems
Intel	Pfizer	Lockheed Martin	Cisco Systems
2010			
Oneok	New York Times	Cintas	Windstream Holdings
Paychex	Adobe Systems	Total System Services	Western Digital
L-3 Communications	Gannett	Cameron International	Omnicom Group
Leucadia National	Sigma-Aldrich	Emerson Electric	Cognizant Tech Solutions
Cisco Systems	Pfizer	Northrop Grumman	Xerox
Lowe's Companies	Newmont Mining	Wal-Mart Stores	Texas Instruments
Intl Business Machines	Bristol-Myers Squibb	American Electric Power	Verizon Communications
C H Robinson Worldwide	Twenty-First Century Fox	Lockheed Martin	Cisco Systems
Cognizant Tech Solutions	Biogen	Flir Systems	Microsoft
Scripps Networks Interactive	Microsoft	First Solar	Interpublic Group

Panel C - the persistency of our scaled corporate culture measures

	Portion of variance explained by Firm Fixed effects	Joint significance (F-test) of Firm Fixed effects
Clan	0.5801	11.90227
Adhocracy	0.5855	12.15026
Hierarchy	0.5701	11.46567
Market	0.6123	13.46359

Panel D - The effect of the approval of paid family leave on corporate culture.

	Internal-External	**Internal-External**	**Internal-External**	**Flexibility-Stability**	**Flexibility-Stability**	**Flexibility-Stability**
	(1)	(2)	(3)	(4)	(5)	(6)
Cultural Shock	0.0249***	0.0395**	0.0472***	0.0162*	0.0128	0.00963
	(0.00656)	(0.0185)	(0.00988)	(0.00950)	(0.0190)	(0.0354)
Shock minus(1, 4)		0.0184	0.0112		-0.00431	-0.00746
		(0.0245)	(0.00925)		(0.0144)	(0.0227)
Company FE	Yes	Yes	No	Yes	Yes	No
State FE	No	No	Yes	No	No	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	44,654	44,654	44,654	44,654	44,654	44,654

Table 3:

Summary statistics

This table presents summary statistics. The sample period is 1995 to 2015. Panel A reports descriptive statistics of the entire Compustat sample of non-financial companies. Panel B reports descriptive statistics of the sample of 8,566 acquirers. Definitions of the variables are provided in Appendix 1.

Panel A: Compustat Universe with non-missing culture

	Mean (1)	Median (2)	SD (3)	Minimum (4)	Maximum (5)
Acquirers	0.1187	0.0000	0.3235	0.0000	1.0000
Clan	0.3413	0.2800	0.2647	0.0000	1.0000
Adhocracy	0.4280	0.3900	0.2746	0.0000	1.0000
Hierarchy	0.4580	0.4300	0.2669	0.0000	1.0000
Market	0.5039	0.5000	0.2735	0.0000	1.0000
Internal-External	0.0729	0.1000	0.3418	-1.0000	1.0000
Flexibility-Stability	-0.1184	-0.1463	0.3434	-1.0000	1.0000
10K readability	9.6590	9.7291	0.5540	7.9356	10.7881
Total assets	5.9547	5.8595	2.0129	-1.4271	10.6867
ROA	-0.0755	0.0282	0.4381	-8.7500	0.3267
Leverage	0.5083	0.4842	0.3497	0.0448	10.9630
Cash holdings	0.1479	0.0872	0.1711	0.0000	0.9008
Tobin Q	2.0044	1.4574	1.6381	0.5557	10.7620

Panel B: Sample of Acquirer Companies

	Mean (1)	Median (2)	SD (3)	Minimum (4)	Maximum (5)
CAR-1+1	0.0090	0.0040	0.0787	-0.2161	0.3511
All cash	0.3562	0.0000	0.4789	0.0000	1.0000
Same industry	0.6445	1.0000	0.4787	0.0000	1.0000
All stock	0.1021	0.0000	0.3029	0.0000	1.0000
private	0.5249	1.0000	0.4994	0.0000	1.0000
Relative size	0.3361	0.1019	1.8029	0.0100	128.1208
ROA1y	-0.0390	-0.0100	0.2646	-4.3551	2.3040
ROA3y	-0.0370	-0.0140	0.2501	-3.7722	2.1737

Table 4

Which firms are the acquirers?

Panel A reports coefficient estimates from linear probability models. The dependent variable, Acquirer, is an indicator variable taking the value of one if the firm is an acquirer in year t+1, and zero otherwise. Models (1) and (2) include a constant, while models (3) and (4) do not. Singletons are excluded from regression models (3) and (4), which are estimated by using the estimator presented in Correia (2016) to accommodate for multiple fixed effects. Fixed effects vary across models and are specified below each column. Definitions of the variables are provided in Appendix 1. All control variables are winsorized at 1% level. Robust standard errors (clustered at State level) are reported in parentheses. Superscripts *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively. In Panel B**,** we report coefficient estimates from linear probability models. The dependent variable, Acquirer, is an indicator variable taking the value of one if the firm is an acquirer in year t+1, and zero otherwise. The variable Cultural Shock is an indicator variable taking the value of 1 if a company is headquartered in a State with an active paid family leave program. The variable Cultural Shock minus (1,4) takes the value of one in the four years before the approval of paid family leave in each state. Fixed effects vary across models and are specified below each column. Definitions of the variables are provided in Appendix 1. All control variables are winsorized at 1% level. Robust standard errors (clustered at State level) are reported in parentheses. Superscripts *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Panel A

	Linear Probability model	Linear Probability model	Linear Probability model	Linear Probability model
	(1)	(2)	(3)	(4)
	Acquirer	Acquirer	Acquirer	Acquirer
Internal-External	-0.0181**	-0.0266***	-0.0201***	-0.0197***
	(0.00753)	(0.00851)	(0.00633)	(0.00660)
Flexibility-Stability	-0.0410***	-0.0385***	-0.0300***	-0.0281***
	(0.00556)	(0.00535)	(0.00664)	(0.00643)
10K readability		-0.0001	0.0152***	0.0136**
		(0.00531)	(0.00568)	(0.00508)
Log(Total assets)		0.0158***	0.0226***	0.0227***
		(0.00242)	(0.00246)	(0.00251)
ROA		0.0234***	0.0161**	0.0170**
		(0.00526)	(0.00659)	(0.00681)
Leverage		-0.0469***	-0.0397***	-0.0390***
		(0.00675)	(0.00434)	(0.00417)
Cash holdings		0.0274***	0.00484	0.00294
		(0.0102)	(0.0103)	(0.0105)
Tobin Q		0.00788***	0.00491***	0.00498***
		(0.00155)	(0.00151)	(0.00145)
Industry×Year FEs	No	No	Yes	Yes
State×Year FEs	No	No	No	Yes
Observations	44,654	44,654	44,654	44,604

Panel B

	Linear Probability model	Linear Probability model	Linear Probability model	Linear Probability model
	(1)	(2)	(3)	(4)
	Acquirer	Acquirer	Acquirer	Acquirer
Cultural Shock	-0.0287***	-0.0353***	-0.0146**	-0.0207*
	(0.00507)	(0.00743)	(0.00723)	(0.0117)
Shock minus (1,4)		-0.00829		-0.00840
		(0.00753)		(0.00839)
10K readability	-0.0214**	-0.0213**	0.0110**	0.0111**
	(0.00914)	(0.00917)	(0.00546)	(0.00547)
Log(Total assets)	-0.0224***	-0.0223***	0.0224***	0.0224***
	(0.00682)	(0.00683)	(0.00305)	(0.00304)
ROA	0.0321***	0.0320***	0.0163**	0.0163**
	(0.00787)	(0.00792)	(0.00785)	(0.00784)
Leverage	-0.0353***	-0.0353***	-0.0398***	-0.0398***
	(0.0122)	(0.0123)	(0.00924)	(0.00925)
Cash holdings	0.127***	0.127***	0.000889	0.000711
	(0.0327)	(0.0327)	(0.00954)	(0.00948)
Tobin Q	0.00613**	0.00614**	0.00474**	0.00476**
	(0.00234)	(0.00236)	(0.00192)	(0.00192)
Industry×Year FEs	Yes	Yes	Yes	Yes
State FEs	No	No	Yes	Yes
Company FEs	Yes	Yes	No	No
Observations	44,654	44,654	44,654	44,654

Table 5
Announcement Returns

This table presents coefficients estimates from OLS and fixed effect regression models. Model (1) and (4) also include a constant. Singletons are excluded from fixed effects models (Correia, 2016). Fixed effects vary across models and are specified below each column. Definitions of the variables are provided in Appendix 1. All control variables are winsorized at 1% level and taken one year before the announcement year. The variable Cultural Shock is an indicator variable taking the value of 1 if the company is headquartered in a State with an active paid family leave program at the date of the announcement. Robust standard errors (clustered at industry level) are reported in parentheses. Superscripts *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

	Acquirers CARs (-1, +1)				
	(1)	(2)	(3)	(4)	(5)
Internal-External	0.00701**	0.00762*	0.00765		
	(0.00298)	(0.00454)	(0.00467)		
Flexibility-Stability	0.000872	-0.00502	-0.00571		
	(0.00378)	(0.00438)	(0.00445)		
Cultural Shock				-0.00370	0.000212
				(0.00282)	(0.00509)
10K readability	0.000188	-0.000269	0.000405	-0.00193	-0.000664
	(0.00177)	(0.00218)	(0.00217)	(0.00225)	(0.00256)
Log(Total assets)	-0.00529***	-0.00553***	-0.00564***	-0.00532***	-0.00548***
	(0.000697)	(0.000895)	(0.000950)	(0.000788)	(0.000853)
ROA	-0.0119**	-0.00889	-0.00846	-0.0118**	-0.00833
	(0.00568)	(0.00754)	(0.00791)	(0.00559)	(0.00565)
Leverage	0.0188***	0.0109	0.0108	0.0164***	0.0114*
	(0.00532)	(0.00852)	(0.00821)	(0.00564)	(0.00671)
Cash holdings	-0.0300***	-0.0241***	-0.0263***	-0.0249***	-0.0273***
	(0.00630)	(0.00626)	(0.00664)	(0.00561)	(0.00694)
Tobin Q	-0.000627	0.000441	0.000574	0.000225	0.000484
	(0.000782)	(0.000825)	(0.000821)	(0.00104)	(0.000746)
All Cash	0.00533**	0.00743***	0.00703**	0.00497*	0.00715**
	(0.00221)	(0.00266)	(0.00277)	(0.00248)	(0.00293)
All Stock	0.00286	0.00555***	0.00565***	0.00500**	0.00555*
	(0.00184)	(0.00187)	(0.00195)	(0.00235)	(0.00324)
Same industry	-0.00948***	-0.00333	-0.00306	-0.00460	-0.00326
	(0.00334)	(0.00341)	(0.00343)	(0.00394)	(0.00396)
Private Target	0.00239	0.00363	0.00436	0.00358*	0.00419
	(0.00234)	(0.00309)	(0.00297)	(0.00194)	(0.00275)
Relative Size	-0.000542	-0.000493	-0.000472	-0.000445	-0.000457
	(0.000542)	(0.000491)	(0.000497)	(0.00104)	(0.000927)
Industry FEs	No	No	No	Yes	No
Industry ×Year FEs	No	Yes	Yes	No	Yes
State FEs	No	No	No	Yes	Yes
State ×Year FEs	No	No	Yes	No	No
Observations	6,687	5,960	5,959	6,673	5,959

Table 6
Long-run Performance

Panel A presents coefficients estimates from OLS and fixed effect models where the dependent variable is the post-merger operating performance of acquirers. Specifically, ROA1y stands for the difference between the return on assets of the acquiring company one year before the deal announcement and one year after the deal completion. ROA2y stands for the difference in the return on assets of the acquiring company one year before the deal announcement and two years after the deal completion. Model (1) and (4) also include a constant. Singletons are excluded from fixed effects models which are measured by the estimator proposed in Correia (2016) to accommodate for multiple sets of fixed effects. Fixed effects vary across models and are specified below each column. Definitions of the variables are provided in Appendix 1. All control variables are winsorized at 1% level and taken one year before the deal announcement. The variable Cultural Shock in panel B is an indicator variable taking the value of 1 if the company is headquartered in a State with an active paid family leave program in the completion year. Robust standard errors (clustered at industry level) are reported in parentheses. Superscripts *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively. In the Panel B, we present coefficients estimates from OLS and fixed effect regression models and we take advantage of the approval of paid family leave programs in different states to approximate an exogenous shock to corporate culture

Panel A: Post merger estimation

	(1)	(2)	(3)	(4)	(5)	(6)
	ROA1y	ROA2y	ROA1y	ROA2y	ROA1y	ROA2y
Internal-External	0.0302**	0.0370**	0.0333***	0.0504**	0.0517**	0.0366*
	(0.0149)	(0.0163)	(0.0108)	(0.0224)	(0.0231)	(0.0185)
Flexibility-Stability	-0.00313	-0.0156	-0.0253	-0.00257	-0.0391	-0.0422*
	(0.00959)	(0.0140)	(0.0172)	(0.0190)	(0.0348)	(0.0253)
10K readability	-0.0162**	-0.0114*	-0.00676	-0.0162	-0.0210	-0.00440
	(0.00707)	(0.00612)	(0.00866)	(0.0149)	(0.0152)	(0.0124)
Log(Total assets)	0.00934***	0.0163***	0.0224***	0.0133***	0.0180***	0.0269***
	(0.00287)	(0.00475)	(0.00452)	(0.00446)	(0.00538)	(0.00550)
ROA	-0.664***	-0.766***	-0.756***	-0.662***	-0.748***	-0.778***
	(0.137)	(0.100)	(0.126)	(0.160)	(0.103)	(0.135)
Leverage	0.0172	0.0377**	0.00189	-0.0317	0.0385**	0.0103
	(0.0366)	(0.0148)	(0.0181)	(0.0548)	(0.0186)	(0.0196)
Cash holdings	-0.109***	-0.149***	-0.114**	-0.0869**	-0.168***	-0.146***
	(0.0402)	(0.0498)	(0.0508)	(0.0436)	(0.0405)	(0.0410)
Tobin Q	0.000660	-0.00256	-0.00396	0.0110	0.00453	0.00501
	(0.00374)	(0.00494)	(0.00642)	(0.00695)	(0.00415)	(0.00550)
All Cash	0.0184***	0.0152**	0.0169**	0.0122	0.0143*	0.00626
	(0.00667)	(0.00634)	(0.00673)	(0.00943)	(0.00833)	(0.00785)
All Stock	0.00582	0.0387*	0.0133	0.00537	0.0555*	0.0292*
	(0.00824)	(0.0198)	(0.0136)	(0.0149)	(0.0298)	(0.0164)
Same industry	-0.127***	-0.107***	-0.0636**	-0.0849***	-0.0573***	-0.0730***
	(0.0305)	(0.0317)	(0.0271)	(0.0165)	(0.0156)	(0.0186)
Private Target	-0.00802	-0.00194	0.00671	-0.0134	-0.00241	-0.0121
	(0.0101)	(0.00652)	(0.00685)	(0.0114)	(0.00707)	(0.00945)
Relative Size	-0.0454***	-0.0248***	-0.00343	-0.0384**	-0.0169***	0.00682***
	(0.0171)	(0.00788)	(0.00720)	(0.0152)	(0.00615)	(0.00193)
Industry ×Year FEs	No	No	Yes	Yes	Yes	Yes
State ×Year FEs	No	No	No	No	Yes	Yes
Observations	3,880	3,875	3,238	3,235	3,062	3,059

Panel B

	(1) ROA1y	(2) ROA2y	(3) ROA1y	(4) ROA2y
Cultural Shock	0.000407	0.0515***	-0.0435	0.0701**
	(0.0150)	(0.0181)	(0.0396)	(0.0281)
10K readability	-0.0189	-0.0199	-0.0207	-0.0145
	(0.0139)	(0.0123)	(0.0194)	(0.0144)
Log(Total assets)	0.0104**	0.0160***	0.0163***	0.0191***
	(0.00479)	(0.00575)	(0.00599)	(0.00656)
ROA	-0.683***	-0.751***	-0.691***	-0.739***
	(0.134)	(0.0794)	(0.149)	(0.0861)
Leverage	0.0156	0.0580	-0.0269	0.0347
	(0.0657)	(0.0364)	(0.0849)	(0.0404)
Cash holdings	-0.0759	-0.152***	-0.0768	-0.175***
	(0.0914)	(0.0112)	(0.107)	(0.0333)
Tobin Q	0.00566	0.000503	0.0103	0.00524
	(0.00637)	(0.00591)	(0.00848)	(0.00418)
All Cash	0.0115	0.0116**	0.00787	0.0138**
	(0.00735)	(0.00513)	(0.00693)	(0.00593)
All Stock	0.00761	0.0466*	0.00729	0.0610*
	(0.00925)	(0.0249)	(0.00973)	(0.0344)
Same industry	-0.0973***	-0.0760***	-0.0896***	-0.0492**
	(0.0213)	(0.0214)	(0.0202)	(0.0195)
Private Target	-0.00690	-0.00287	-0.0120	-0.00187
	(0.00788)	(0.00589)	(0.00990)	(0.00821)
Relative Size	-0.0415**	-0.0191	-0.0367**	-0.0147
	(0.0180)	(0.0115)	(0.0179)	(0.0134)
Industry ×Year FEs	No	No	Yes	Yes
State ×Year FEs	No	No	No	No
Observations	3,482	3,482	2,908	2,909

Appendix 1:
Variables Definition

All variables are measured at the fiscal year end prior to the bid announcement unless noted otherwise. All continuous variables are winsorized at the 1st and 99th percentiles.

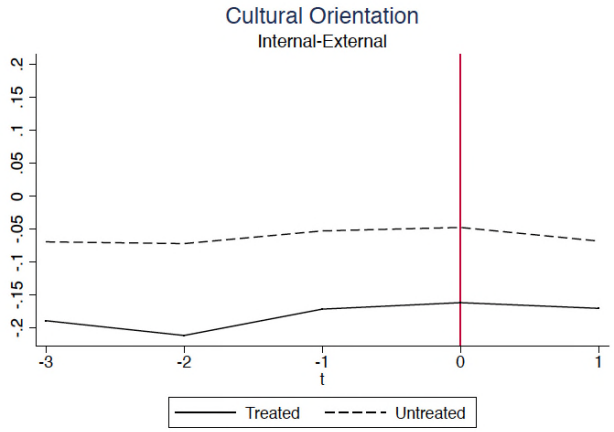
Variables	Definitions
Adhocracy	The number of times a firm uses the words contained in the bag of words for *Adhocracy* in its 10-K as a percentage of the total number of words in its 10-K and scaled on the industry-year distribution to range between 0 and 1. This measure for corporate cultural dimension is obtained through text analysis.
Market	The number of times a firm uses the words contained in the bag of words for *Market* in its 10-K as a percentage of the total number of words in its 10-K and scaled on the industry-year distribution to range between 0 and 1. This measure for corporate cultural dimension is obtained through text analysis.
Hierarchy	The number of times a firm uses the words contained in the bag of words for *Hierarchy* in its 10-K as a percentage of the total number of words in its 10-K and scaled on the industry-year distribution to range between 0 and 1. This measure for corporate cultural dimension is obtained through text analysis.
Clan	The number of times a firm uses the words contained in the bag of words for *Clan* in 10-K as a percentage of the total number of words in its 10-K and scaled on the industry-year distribution to range between 0 and 1. This measure for corporate cultural dimension is obtained through text analysis.
Internal	The variable *Hierarchy* plus the variable *Clan*.
External	The variable *Adhocracy* plus the variable *Market.*
Flexibility	The variable *Adhocracy* plus the variable *Clan.*
Stability	The variable *Hierarchy* plus the variable *Market*.
Internal-External	The ratio of our variables Internal minus External on Internal plus External.
Flexibility-Stability	The ratio of our variables Flexibility minus Stabilityon Flexibility plus Stability.
Cultural Shock	This variable is equal to one for companies headquartered in states with an active program for paid family leave. Specifically, this variable is one for companies located in California from 2004, in New Jersey from 2009 and in Rhode Island from 2014.
Shock minus (1,4)	This variable is equal to one in states that will activate a paid family leave program in the four years before the activation of the program.
10K readability	The natural logarithm of the words' count in the 10-K
Total assets	The book value of total assets.
ROA	The return on assets as the ratio of net income to total assets.
Leverage	The ratio of total liabilities to total assets.
Cash holdings	The ratio of cash holdings to total assets.
Tobin Q	The market value of equity plus total liabilities divided by book value of total assets.
All cash	An indicator variable taking the value of one if the transaction value is paid entirely in cash, and zero otherwise.

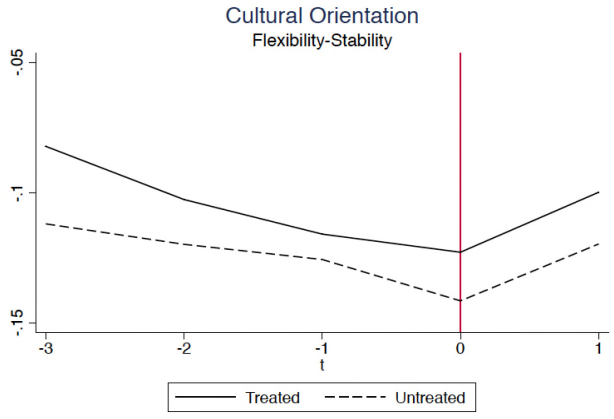
Same industry	An indicator variable taking the value of one if an acquirer is in the same industry as its target firm (industry measured at the two-digit SIC level), and zero otherwise.

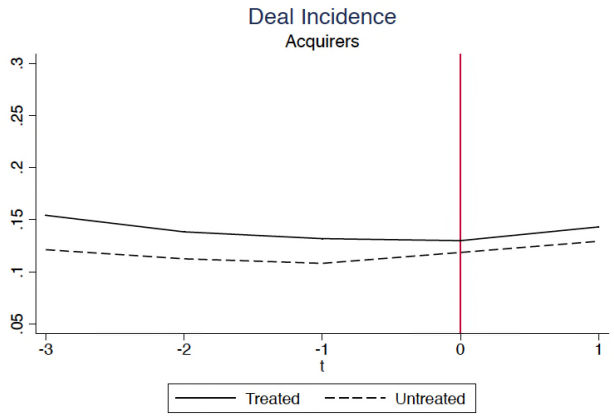
Variables	**Definitions**
All stock	An indicator variable taking the value of one if the transaction value is paid entirely in stock, and zero otherwise.
Private	An indicator variable taking the value of 1 if the target company ofacquisition is private
Relative size	The ratio of transaction value to book value of acquirer's total assets.
CAR11	The sum of the Acquirer and the Target's Cumulative Abnormal Return between t-1 and t+1 a as indicated in each table.
ROA 1, 2y	The difference between the Acquirer's return on assets one or three years after the deal completion and one year before the announcement.

Figure 1
Parallel trends for cultural orientations and merger participation

This figure compares the time trends of companies headquartered in States with paid family leave with companies headquartered in states without a paid family leave. Specifically, treated companies are located in California, New Jersey and Rhode Island. These states enacted paid family leave programs respectively in 2004, 2009 and 2014.







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