NBER WORKING PAPER SERIES

CROSS-BORDER ACQUISITIONS AND LABOR REGULATIONS

Ross Levine
Chen Lin
Beibei Shen

Working Paper 21245
http://www.nber.org/papers/w21245

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
June 2015

We received helpful comments from Douglas Arner, Florencio Lopez-de-Silanes, Yona Rubinstein, David Sraer, Bernard Yeung and seminar and conference participants at the University of California, Berkeley, the HKIMR-HKU International Conference on Finance, Institutions and Economic Growth and the 2015 CEIBS finance conference in Shanghai. We thank the Clausen Center for International Business and Policy at the University of California, Berkeley, for financial support. The views expressed herein are those of the authors and do not necessarily reflect the views of the National Bureau of Economic Research.

Cross-border Acquisitions and Labor Regulations
Ross Levine, Chen Lin, and Beibei Shen
NBER Working Paper No. 21245
June 2015
JEL No. F2,G34,G38,J6,J8

ABSTRACT

Do labor regulations influence the reaction of stock markets and firm profitability to cross-border acquisitions? We discover that acquiring firms enjoy smaller abnormal stock returns and profits when targets are in countries with stronger labor protection regulations, i.e., in countries where laws, regulations, and policies increase the costs to firms of adjusting their workforces. These effects are especially pronounced when the target is in a labor-intensive or high labor-volatility industry. Consistent with labor regulations shaping the success of cross-border deals, we find that firms make fewer and smaller cross-border acquisitions into countries with strong labor regulations.

Ross Levine
Haas School of Business
University of California at Berkeley
545 Student Services Building, #1900 (F685)
Berkeley, CA 94720-1900
and NBER
Ross_levine@haas.berkeley.edu

Beibei Shen
Chinese University of Hong Kong
Hong Kong
beibei@baf.cuhk.edu.hk

Chen Lin
Faculty of Business and Economics
The University of Hong Kong
chenlin1@hku.hk

1. Introduction

Cross-border acquisitions account for a large and growing proportion of all acquisitions. The dollar value of cross-border acquisitions rose from an average of $300 billion per annum during the 1990s to an average of almost $800 billion per annum since 2000. Furthermore, the proportion of all acquisitions, domestic and international, accounted for by cross-border deals rose from 24% to 39%. Firms increasing look beyond national borders in conducting mergers and acquisitions.

Researchers have focused on the financial and corporate governance determinants of cross-border acquisitions. Erel et al. (2012) show that exchange rate changes and changes in relative stock market valuations influence the incidence and direction of international deals. Rossi and Volpin (2004), Bris and Cabolis (2008), and Chari et al. (2009) demonstrate that firms in countries with stronger corporate governance systems have a higher likelihood of purchasing firms in other countries. The nationalities of owners and directors matter too. Ferreira et al. (2010) find that foreign institutional owners facilitate cross-border acquisitions, and Masulis et al. (2012) find that firms with foreign independent directors make better cross-border acquisitions when the target firms are from the directors' home economies.

But, researchers have not yet studied how the broad set of laws, regulations, and policies that shape labor markets—"labor regulations"— influence cross-border acquisitions. Researchers have dissected the impact of offshoring and multinational firms on wages and employment (e.g., Revenga 1992; Grossman and Rossi-Hansberg 2008; Desai et al. 2009; and Harrison and McMillan 2011). But, they have not evaluated whether differences in the degree to which countries protect the employed and assist the unemployed influence cross-border acquisitions.

This is surprising. Besides influencing a large corporate expense—expenditures on wages and benefits, labor regulations shape the costs of hiring, firing, and adjusting the hours of workers, with potentially large effects on firm performance (Botero et al., 2004). Labor market flexibility could be especially important for the success of acquisitions since acquiring firms often restructure targets to minimize labor costs and maximize synergies. Thus, cross-country

differences in labor markets might influence cross-border acquisitions and the profitability of those deals.

In this paper, we provide the first assessment of the relationship between cross-country differences in labor regulations and cross-border mergers and acquisitions. Specifically, we address the following questions: Are cross-country differences in labor regulations associated with (1) how an acquiring firm's stock price responds to a cross-border acquisition and (2) how an acquiring firm's profits change after a cross-border deal?

To address these questions, we use a sample of cross-border transactions in the Securities Data Company database across 50 countries over the period from 1991 through 2012. This includes transactions between 2,450 (=50× 49) country-pairs. We examine individual deals. We assess the cumulative abnormal stock returns (CARs) and the abnormal return on assets (ROAs) of acquiring firms following cross-border acquisitions. To calculate CARs, we follow Bris and Cabolis (2008) and use a two-factor international market model in which one factor is the local market returns and the second factor is the world market return. To compute abnormal ROA, we follow Lin et al. (2011) and Harford et al. (2012) and adjust the firm's ROAs by median industry ROAs. Before the cross-border deal, we calculate the abnormal ROAs of the (artificially) combined firm based on the relative sizes and industrial compositions of the two firms. After the acquisition, we use the acquiring firm's abnormal ROA.

We use three measures of labor regulations. First, Botero et al. (2004) provide cross-country measures of the degree to which laws impede employers from firing workers, increasing work hours, or using part-time workers. Such interventions increase the costs to employers of adjusting their workforces. Second, the OECD provides panel measures of the strictness of regulations on dismissals, including procedural inconveniences, notice and severance pay, and the difficulty of firing workers. Third, Aleksynska and Schindler (2011) provide panel data on the proportion of the unemployed covered by unemployment benefits. More generous unemployment benefits might increase labor costs by boosting the reservation wages of the unemployed. For brevity, we use the phrases "stronger" and "weaker" labor regulations to

describe the degree to which laws and policies protect the employed and aid the unemployed.

With these data, we evaluate how an acquiring firm's CAR and abnormal ROAs respond to a cross-border acquisition. The key explanatory variable is the difference in labor regulations between the countries of the target and acquirer. The regressions control for acquirer country, target country, year, and acquirer industry fixed effects, and in those specifications where it is feasible, we also include acquirer-target pair effects to control for all country-pair traits. We control for deal-specific traits, geographic distance between the acquirer and target, as well as time-varying country characteristics, such as Gross Domestic Product (GDP) per capita.

We find a strong empirical connection between labor regulations and both abnormal stock returns and profits. An acquirer's CARs and abnormal ROAs respond more positively when the target is in a country with weaker labor regulations than those of the acquiring firm. The abnormal ROAs results are robust across the different measures of labor regulations and specifications. The results on the relationship between CARs and the labor protection law index are more fragile. As we now discuss, this fragility reflects weakness in precisely identifying those target firms within a country that are likely to be most influenced by labor regulations and those that are likely to be influenced least.

We extend these analyses by recognizing that labor regulations might differentially affect firms. In particular, the success of firms in some industries might depend more on labor market flexibility than the success of firms in other industries. If this is the case, then the stock market's reaction to a firm acquiring a target will be more sensitive to labor regulations when the target is in an industry that relies heavily on labor market flexibility. Failure to account for these differences might hinder the identification of the impact of differences in labor regulations on acquirer CARs and abnormal ROAs.

Thus, we examine the relationship between labor regulations and changes in an acquiring firm's CAR and abnormal ROAs while differentiating by the degree to which the target is in a "labor dependent industry," an industry in which firm performance depends heavily on labor markets. We use U.S. data to create two benchmark measures of the degree to which a firm is in

a labor dependent industry: (1) "labor intensity" equals labor and pension expenses relative to sales and (2) "labor volatility" equals the volatility of employment relative to assets. We then redo the analyses of how an acquiring firm's stock returns and profits respond to a cross-border acquisition while further differentiating by the degree to which the target firm's industry depends on labor markets, as measured by labor intensity and labor volatility.

We find that the CARs and abnormal ROAs of acquiring firms respond most positively to cross-border acquisitions of targets in countries with comparatively weak labor regulations when the target is in a labor dependent industry. In turn, when the target is in an industry in which labor regulations are unlikely to influence firm profitability, the stock market and profits do not respond much to cross-border differences in labor regulations. The relationship between cross-border differences in regulation and acquirer CARs and abnormal ROAs is especially large when theory suggests those differences should matter most—when the performance of the target industry depends heavily on labor market flexibility.

We also extend these analyses by assessing the relationship between differences in labor regulations and the number and value of cross-border acquisitions. If labor regulations shape the stock price reaction to cross-border acquisitions and profitability of such deals, then this should be reflected the incidence and size of cross-border acquisitions when differentiating by country-pairs. To check the consistency of our deal level analyses with firm-level decisions to engage in cross-border mergers and acquisitions, we regress the number, value, and deal size of cross-border acquisitions on the difference between labor regulations in the target and acquirer countries. Besides conditioning on acquirer country, target country, and acquirer industry fixed effects, we control for acquirer and target country characteristics, such as gross domestic product (GDP) per capita and population, as well as acquirer-target traits, such as geographic distance and whether they have the same major language and religion.

We find that a country's firms acquire more firms and spend more on each acquisition in a country if that target country has weaker labor regulations than the regulations in the acquirer country. That is, firms find targets in countries with weaker labor regulations more appealing

than similar targets in countries with comparatively strong labor regulations. For example, when the target country has one-standard deviation lower labor protection laws than the median country, our estimates suggest that the volume of cross border acquisitions will be almost 60% higher. As another example, consider China, which has labor protections that are average in our sample. About 67% of its cross-border acquisitions flow to countries with weak labor protection laws (below the 25th percentile of the employment law distribution), while only 9% flow to countries with strong labor protection laws (above the 75 percentile of the distribution). These results are consistent with this paper's core findings: acquiring firms enjoy larger CARs and abnormal ROAs after a cross-border acquisition if the target is in a country with weaker labor regulations than the acquirer country's labor regulations.

It is important to be clear about what our analyses show and do not show. We do not, and do not seek to, evaluate the impact of a random firm acquiring another random firm in a different country in a random year on the CARs and abnormal ROAs of the acquiring firm. These acquisition choices are anything but random. Rather, we evaluate what happens to CARs and abnormal ROAs when a firm chooses to acquire another firm and whether this relationship differs by the comparative labor regulations in the two countries and by the degree to which the target firm is in an industry that requires flexible labor markets. We find that labor regulations are powerfully associated with (a) stock price reactions to cross-border acquisitions, (b) the abnormal ROAs of such deals, and (c) the degree to which firms in one country acquire firms in other countries.

Our work relates to research on the role of labor in corporate decisions. Considerable work shows that as labor and labor unions become more powerful, this influences corporate cash holdings (Klasa et al., 2009), capital structure (Matsa 2010), tax aggressiveness (Chyz et al., 2013), firm investments (Agrawal 2012, and Faleye, et al., 2006), and managerial performance (Atanassov and Kim, 2009). Rather than focusing on how a firm's labor unions alter its behavior, we examine the association between cross-country differences in labor regulations and cross-border acquisition activity, the stock market response to such deals, and changes in the

profitability of the acquiring firm after it makes the purchase. A notable paper is John, Knyazeva, and Knyazeva (2014). Using a sample of U.S. publicly listed firms, they find that acquirers from the states with strong labor rights experience on average 0.5% lower acquisition announcement returns (i.e. 5 day CARs), which suggest the stakeholder-shareholder conflict of interest in acquisition decision making. Moreover, they find that the acquirers from the strong labor rights states are more likely to bid for targets in the strong labor rights states and with high labor costs. In contrast, using a comprehensive sample of international data, we find that acquirers from countries with strong labor regulations are more likely to acquire a target in a weak labor regulation country. Moreover, we find that an acquirer's CARs and abnormal ROAs respond more positively when the target is in a country with weaker labor regulations than those of the acquiring firm. These international evidence complements the U.S. evidence documented by John et al., (2014).

The remainder of the paper is organized as follows. In section 2, we describe the data. We present the empirical analyses in section 3 and conclude in section 4.

2. Data, Summary Statistics, and Preliminaries

2.1 Labor regulations

We use three measures of the degree to which labor market laws, regulations, and policies protect workers and aid the unemployed. First, *Employment law* measures the degree to which laws, regulations, and policies impede employers from firing workers, increasing work hours, or using part-time workers. *Employment law* was constructed by Botero et al. (2004) to reflect the incremental cost to employers of deviating from a hypothetical rigid contract, in which the conditions of employment are specified for all employees and no employee can be fired. More specifically, *Employment law* is larger when it is more costly for employers to (1) use alternative employment contracts, such as part-time employment, to avoid limits on terminating workers or providing mandatory benefits; (2) increase the number of hours worked, either because of limits on hours worked or because of mandatory overtime premia; and (3) to

fire workers, where the costs reflect the notice period, severance pay, and any mandatory penalties, as well as the costs associated with following the procedures associated with dismissing workers. Thus, besides providing information on the degree to which laws protect employees, *Employment law* is an index of the costs to firms of adjusting their labor forces.

Our second measure of labor protection is the *employment protection law* index (*EPL*), which measures the costs and impediments to dismissing workers. *EPL* was compiled by the OECD and incorporates three aspects of dismissal protection:[1] (1) procedural impediments that employers face when starting to fire workers, such as notification procedures and consultation requirements; (2) the length of the notice period and the generosity of severance pay, which vary by the tenure of workers; and (3) the difficulty of dismissal, as determined by the circumstances in which it is possible to fire workers and the compensation and reinstatement possibilities following unfair dismissal. This *EPL* index is measured annually, so it captures country-level changes in employment protection. This allows us to control for acquirer-target fixed effects.

Third, *Unemployment coverage* equals the ratio of the number of recipients of unemployment benefits to the number of unemployed and is from Aleksynska and Schindler (2011). *Unemployment coverage* provides information on the generosity of unemployment benefits. To the extent that such benefits increase the reservation wages of unemployed workers and reduce the rate at which unemployed workers accept job offers, *Unemployment coverage* provides information on the costs to firms of hiring workers. Since *Unemployment coverage* is measured annually, we use it along with *EPL* to assess the time-series relationship between labor protection policies and cross-border acquisitions. A disadvantage of *Unemployment coverage* is that it only measures the proportion of unemployed workers who receive benefits; it does not measure other factors that alter the costs to firms of changing labor contracts.

Panel B of Table 1 presents summary statistics of country and country-pair characteristics. *Unemployment coverage* is 0.38, indicating that across all country-year observations

[1] The OECD employment protection data can be downloaded on the website: http://www.oecd.org/employment/protection.

unemployment insurance recipients represent 38% of the unemployed. The average level of *Employment law* and *EPL* is 0.48 and 2.19, respectively. Appendix 2 provides the values of *Employment law*, *EPL*, and *Unemployment coverage* across countries.

2.2 Cross-Border acquisitions and firm performance

The Securities Data Company (SDC) database provides information on cross-border acquisitions. Cross-border acquisitions include deals both announced and completed from 1991 through 2012, in which the acquirer and target firm can be publicly listed, privately owned, or a subsidiary. Following Erel, Liao, and Weisbach (2012), we exclude leveraged buyouts, spinoffs, recapitalizations, repurchases, self-tenders, exchange offers, privatizations, and transactions that do not disclose the value of the deal.

After merging the SDC with the other data sources discussed below, we have a maximum of 11,485 cross border deals in our regression analyses. There are 3,008 acquirers that make only one cross-border acquisition during our sample period. There are 1,658 acquirers that make 2-4 cross-border deals and 509 acquirers that make five or more cross-border acquisitions.

2.2.1 Acquirer CARs

We use deal-level data to assess the cumulative abnormal returns (CARs) and abnormal returns on assets (ROAs) of acquiring firms following cross-border acquisitions. Based on Masulis, et al. (2007) and Ishii and Xuan (2014), we further restrict our definition of a cross-border acquisition in four ways. First, the cross-border deal must involve a publicly listed acquirer. Second, we only examine cases in which the acquirer obtains full control (100% ownership of the target) and was not a majority stakeholder before the acquisition. Third, we eliminate small deals (less than $1 million), since these might differ materially from the bulk of

the sample. Fourth, we focus only on nonfinancial firms since financial firms are subject to a wide array of regulatory restrictions on cross-border acquisitions.[2]

To calculate acquirer CARs around the acquisition announcement dates, we start with stock price data from Datastream for non-U.S. firms and from CRSP for U.S. companies. We use international exchange rates from Datastream to compute all returns in U.S. dollars. Thus, the dollar-denominated daily return for firm *i* in country *j* on day *t* is

$$R_{i,j,t} = \frac{\left[P_{i,j,t} X\left(\frac{\$}{j}\right)_t\right]}{\left[P_{i,j,t-1} X\left(\frac{\$}{j}\right)_{t-1}\right]} - 1, \tag{1}$$

where $P_{i,j,t}$ is the local currency stock price of firm *i*, in country *j*, on day *t*, and $X(\$/j)_t$ is the spot exchange rate (dollars per local currency) on day *t*.

We then estimate CARs using the two-factor international market model, as in Bris and Cabolis (2008). The two factors are the local market return and the world market return, where these returns are computed in U.S. dollars. We use the broadest equity market index available for each country to proxy for the local market return and the MSCI world index to proxy for the world market return. Thus, we run the following regression:

$$R_{ijt} = \alpha_i + \beta_i^m R_{mjt} + \beta_i^w R_{wt} + \varepsilon_{it}, \tag{2}$$

where R_{ijt} is the dollar-denominated daily stock return for firm *i* in country *j*, R_{mjt} is the local market return in country *j,* and R_{wt} is the world market return. We estimate the model using 200 trading days from event day -210 to event day -11 and compute five-day CARs from the ε's during the event window (−2, +2), where event day 0 is the acquisition announcement date. Thus, there is one CAR for each deal.

[2] The deal-level results are quite robust to alterations in these criteria. First, the results are robust to including financial industry firms. Second, the results hold when defining an acquisition as obtaining a majority stake, rather than defining an acquisition as when the acquiring firms holds 100% of the target's shares after the transaction.

2.2.2 Acquire abnormal ROA

To measure the change in a firm's performance when it acquires another firm, we construct a measure of abnormal operating performance based each firm's ROAs, which equals net income divided by the book value of total assets at the beginning of the fiscal year. We then calculate abnormal operating performance (industry-median-adjusted ROAs) before and after a cross-border acquisition. The two-digit SIC industry codes are based on the self-reported main industry classification of the firm. In pre-merger years, industry-median-adjusted ROAs equal the weighted average of the acquirer and target's ROAs minus the weighted average of their respective industry-median ROAs. The weights are based on the market values of each firm in the year before the acquisition (year -1). The industry classification is based on two-digit SIC codes. In post-merger years (years +1, +2 and +3), industry-median-adjusted ROAs are the merged firm's ROAs minus the weighted average of the acquirer's and targets industry-median ROAs.

Specifically, pre-acquisition industry-median-adjusted ROA equals

$$(ROA_a * w_a + ROA_t * w_t) - \left(ROA_{a_{ind}} * w_a + ROA_{t_{ind}} * w_t\right), \quad (3)$$

while post-acquisition industry-median-adjusted ROA equals

$$ROA_{firm} - \left(ROA_{a_{ind}} * w_a + ROA_{t_{ind}} * w_t\right). \quad (4)$$

The terms are defined as follows: ROA_a is the acquirer's ROAs; ROA_t is the target's ROAs; ROA_{a_ind} is the acquirer's industry-median ROAs; ROA_{t_ind} is the target's industry-median ROAs; ROA_{firm} is the merged firm's ROAs; w_a is the weight of the acquirer firm; and w_t is the weight of the target firm. The weights are the respective market value of the firm relative to the market value of the combined firms in the year before the acquisition (year -1). Since (a) we only

have ROA for publicly-traded acquirers and targets and (b) the analyses of abnormal ROAs require three years of data following the acquisition, the sample size drops appreciably from that in the CAR analyses.

2.2.3 Deal-level and firm-level characteristics

The deal-level analyses control for firm-level and deal-level characteristics that past researchers have used to explain firm performance and CARs (e.g., Masulis, et al. 2007). First, we control for acquiring firm traits, such as firm size, cash flow, Tobin's Q, and leverage, which are obtained from Worldscope and Compustat. Second, we control for the acquiring firm's pre-announcement stock price run-up, which is measured as the acquirer's market-adjusted buy-and-hold return during the 200-day window from 210 days before the acquisition through 11 days before the acquisition [-210, -11]. Third, we control for deal-level traits provided by SDC: relative deal size equals the ratio of transaction value to the acquirer's book value of total assets in the fiscal year prior to the announcement date; industry relatedness equals one if the acquirer and the target share a two-digit SIC industry classification; public target dummy, private target dummy, and subsidiary target dummy equal one if the target is respectively a publicly-traded parent company, privately-owned parent company, or a subsidiary firm; and, similarly, all cash deal, friendly deal, and tender deal equal one respectively if the purchase is an all-cash deal, if the target company's board recommends the offer, and if the takeover bid is a public offer to acquire a public firm's shares made to equity holders during a specified time.

Panel A of Table 1 presents summary statistics for the 11,485 cross-border deals. The five-day CAR is 1.31% across all cross-border acquisitions, suggesting that on average cross-border acquisitions enhance acquirer value. The average transaction value is 31.8% of the acquiring firm's total assets. The acquirer and target have different two-digit SIC industry codes in 43% of the deals, which is reflected in the dummy variable *Unrelated deal*, and which is about the same ratio as in domestic acquisitions. Publicly traded target firms account for about 10% of

deals; thus, 90% of targets are privately held firms or subsidiaries of firms. We "winsorize" continuous variables at the 1st and 99th percentiles. Furthermore, when we restrict the sample to firms that do not conduct cross-border and domestic acquisitions within ten days of each other, the results hold, yielding results that are similar both in terms of statistical significance and economic magnitudes. Appendix 1 provides variable definitions. And Appendix 3 provides information on the total number of cross-border deals for each acquirer country and target country in our sample.

2.3 Cross-border acquisition activity and country and country-pair control variables

In extensions of our deal-level analyses of CARs and abnormal ROAs, we examine three indicators of cross-border acquisition activity. Cross-border dollar volume measures the dollar value of transactions and equals *Log(1+ Value (a,t))*, where *Value (a,t)* is the total dollar value of all cross-border mergers during the sample period for acquirer firm *a*, with a target from country *t*. Cross-border number measures the number of transactions and equals *Log(1+ Number (a,t))*, where *Number (a,t)* is the total number of all cross-border mergers during the sample period for acquirer firm *a*, with a target from country *t*. Cross-border deal size measures the average size of transactions and equals *Log(1+ Deal size (a,t))*, where *Deal size (a,t)* is the average dollar value of all cross-border deals during the sample period for acquirer firm *a*, with a target from country *t*.

Figures 1 – 4 provide illustrative patterns. Cross-border acquisitions are large, growing, and represent an increasing proportion of the value of all mergers and acquisitions. As shown in Figure 2, during the early part of the sample (1991-1997), cross-border acquisitions were typically less than $300 billion per annum, but this rose to about $800 billion per annum after the early 2000s. Furthermore, Figure 1 shows that the value of cross-border deals rose from about 25% of all acquisitions during the early part of the sample (1991-1997) to around 35% since then. Figure 3 documents the value of acquisitions for the eleven largest countries in terms of the total value of cross-border acquisitions over the period from 1991 through 2012. The U.S. and U.K.

are the largest acquirers, with total values of over $2 trillion. Figure 4 shows that a larger volume of acquisitions involves targets in countries with weaker labor regulations than targets in countries with stronger labor regulations than the acquirer country.

We also include data on country traits that have been used to explore the determinants of cross-border acquisitions. First, considerable research indicates that geographic and cultural proximity facilitate communication, deal-making, and hence cross-border acquisitions, as shown in Erel et al. 2012. Consequently, we include three variables to capture these traits: (a) the natural logarithm of the distance between the capitals of the acquirer and target countries, *Log[Geographic distance]*; (b) an indicator variable that equals one if the acquirer and the target have the same primary language (*Same language*); and (c) an indicator variable that equals one if they have the same primary religion (*Same religion*). Second, we include *Log[GDP per capita]* and *Log[Population]* to measure the level of economic development and size of the population respectively. Third, since other country traits might influence the costs and benefits of cross-border transactions, we include acquirer and target country fixed effects, and in some analyses, we include acquirer-target fixed effects. In Panel B of Table 1, we observe that 4% of country-pairs share the same language and about 20% of country-pairs share the same religion.

2.4 Preliminaries: Do cross-border acquisitions predict changes in labor regulations?

In this research, we seek to assess (1) whether the stock market response to a firm making a cross-border acquisition differs depending on the comparative strength of labor regulations between the acquiring and target countries, and (2) whether the change in the operating performance of the acquiring firm depends on the differences in labor regulations in the acquiring and target countries. If acquisition activity triggers changes in labor regulations, however, this would complicate our ability to draw confident inferences about the impact of comparative labor regulations on cross-border deals.

Thus, we assess the degree to which acquisition activity forecasts changes in labor regulations. We regress changes in *Unemployment coverage* (Δ*Unemployment coverage*) and

changes in *EPL* (Δ*EPL*) between period *t-1* and *t* on the average value of cross-border acquisitions between period *t-4* and *t-1* (*Cross-border dollar volume_3y*). We also control for lagged values of *Unemployment coverage (EPL)*, measures of economic and institutional development, as well as year fixed effects. Data permitting, the regressions include 50 countries over the period from 1993 to 2012.

As shown in Table 2, there is no evidence that cross-border acquisition activity accounts for changes in labor regulations. Indeed, the t-statistics on cross-border volume during the previous three years are less than one in the regressions. The weakness of this relationship holds when altering the conditioning information set. For example, the t-statistics remain less than one when omitting the lagged labor regulation regressors or when omitting GDP growth. While these results do not establish that labor regulations are exogenous, they do indicate that the value of cross-border acquisitions is not strongly related to future changes in labor laws.

3. Empirical results

This section examines the relationship between labor regulations and (1) acquirer CARs around the announcement of an acquisition and (2) acquirer abnormal ROAs following cross-border acquisitions. In these analyses, we also test whether comparative labor regulations exert a particularly pronounced effect on acquirer CARs and abnormal ROAs when the target firm is in an industry in which labor flexibility is relatively important. If labor flexibility is especially important for the success of some firms and stronger labor protection laws impede labor flexibility, then an acquirer's CARs and abnormal ROAs should be more sensitive to the target country's labor protection laws when the target is in an industry that relies heavily on labor flexibility. In turn, if labor flexibility is relatively unimportant for a target firm's success, then labor regulations should be comparatively less important in shaping the acquirer's CARs and abnormal ROAs. We begin with baseline regressions that do not distinguish targets by industry and then differentiate firms by their dependence on labor flexibility.

3.1. Labor regulations and CARs: Baseline Assessments

In Table 3, we use the following specification:

$$CAR_d = \beta_0 + \beta_1 Labor\ Regulation[t\text{-}a]_d + \beta_2 D_d + \beta_3 A_d + \beta_4 C_d + \\ + \delta_a + \delta_t + \delta_y\ (+ \delta_{at}) + u_d, \quad (5)$$

where CAR_d is, for deal d, the acquirer's five-day CAR (-2, +2) surrounding the cross-border acquisition announcement, $Labor\ Regulation[t\text{-}a]_d$ is the difference between in labor regulations (*Unemployment coverage*, *Employment law,* or *EPL*) between the target and acquiring firm countries, D_d, A_d, and C_d are deal, acquiring firm, and country characteristics for countries of the acquiring and target firms respectively, δ_a, δ_t, δ_y, and δ_{at} are fixed effects for the country of the acquiring firm (a), the country of the target firm (t), the year (y), and acquirer-target country fixed effects (at), and u_d is the error term for deal d. To isolate the relationship between CAR and labor regulation differences, we control for deal (D_d), acquirer (A_d), and country traits (C_d) that past researchers have shown help explain acquisition announcement returns (e.g. Fuller, Netter and Stegemoller, 2002; Masulis, Wang, and Xie, 2007). These controls were discussed in Section 2 and are more completely defined in Appendix 1. We can control for acquirer-target country fixed effects (δ_{at}), and therefore control for all country-pair traits, when (a) firms from the acquiring country acquire firms from the target country in different years and (b) *Labor Regulation[t-a]* varies over time.

The results in Table 3 indicate that cumulative abnormal returns are materially smaller when an acquiring firm announces the purchase of a target firm in a country with more generous labor policies, as measured by *Unemployment coverage*, than the acquirer's home country. That is, the market tends to respond more favorably when a firm acquires a target in an economy in which unemployment benefits cover a smaller proportion of uninsured workers. More specifically, column (1) includes all of the control variables except country-level fixed effects; column (4) also includes acquirer and target country effects; and column (7) includes acquirer-

target fixed. *Unemployment coverage* enters all regressions negatively and significantly at the five percent level. In terms of economic size, the estimate in column (7) suggests that when an acquirer purchases a target in an economy with a one standard deviation larger value of *Unemployment coverage* (0.42) than the value of its home country, its CAR will be about 0.34 (=0.42*(-0.804)) smaller than if the target is in a country with the same *Unemployment coverage*. Figures 5a and 5b illustrate these findings: CARs tend to be larger when the target is in a country with weaker labor regulations than the labor regulations in the acquiring firm's home country.

The control variables enter the CARs regressions in a manner that is consistent with previous studies of cross-border acquisitions. For example, we find that large acquirers have lower abnormal returns and acquisitions involving large targets (relative deal size) have higher abnormal returns. We also confirm that announcement returns are significantly lower for acquirers that experience a rapid pre-announcement rise in stock prices (Stock runup). In addition, we find that acquisitions of private or subsidiary targets are associated with higher announcement returns, while acquisitions of public targets are associated with lower announcement returns.

The baseline results on *Employment law* and *EPL* are not as strong. In particular, while *Employment law* enters the CARs regression significantly at the one percent level when we do not include country fixed effects (column 2), the estimate becomes insignificant when including dummy variables for the acquiring and target countries in column (4). With respect to *EPL*, Table 3 indicates that coefficient estimate on *EPL* is negative and statistically significant at the 1% level when we include all of the control variables except country fixed effects. However, the estimate becomes insignificant when we include country-level fixed effects. Since the *EPL* measure captures some country-level changes in dismissal protection, we include the country-pair fixed effects in column (8) and find that *EPL* enters the CAR regression significantly at the ten percent level.

One possible explanation for the weaker results on *Employment law* and *EPL* is that labor protection laws primarily influence the CARs of the acquirer when the target's profitability relies

heavily on the flexibility of labor markets. Perhaps, by failing to distinguish target firms by the degree to which they benefit from the flexibility of labor markets, we have not identified the key mechanism linking the stock market's response to cross-border acquisitions and labor regulations.

3.2. Labor regulations and CARs: The target's labor intensity and volatility

We now reassess the relationship between acquirer firm CARs and labor regulations while differentiating by the degree to which the target firm is in an industry whose performance is likely to depend heavily on labor regulations. To measure the degree to which an industry (3-digit SIC code) is likely to depend heavily on labor regulations, we construct and use two benchmark indicators of labor dependence based on U.S. data: (1) *Labor intensity* equals one if the target industry's average ratio of labor and pension expenses to sales is greater than the sample median and zero otherwise; and (2) *Labor volatility* equals one if the target industry's average ratio of the standard deviation of the number of employees relative to the value of PPE assets (plant, property, and equipment) is greater than the sample median and zero otherwise. That is, using the U.S. economy to benchmark industries, we construct these two proxies of the degree to which the performance of firms in a particular industry depends heavily on labor market flexibility. If the difference in labor regulations between acquirer and target countries materially influences the stock market's reaction to a cross-border acquisitions, then we should discover that acquirer CARs are particularly responsive when the target is in a labor intensive industry or an industry that has comparatively volatile demand for labor.

More specifically, we modify equation (5) to allow for the relationship between CARs and labor regulation differences to vary with the degree to which the target is in a labor dependent industry:

$$CAR_d = \beta_0 + \beta_1 Labor\ Regulation[t\text{-}a]_d + \beta_2 Labor\ Regulation[t\text{-}a]_d * Labor\ Dependence[t]_d + \\ + \beta_3 D_d + \beta_4 A_d + \beta_5 C_d + \delta_a + \delta_t + \delta_y\ (+ \delta_{at}) + u_d, \quad (6)$$

where *Labor Dependence[t]*$_d$ is one of the proxies—*Labor intensive* or *high labor volatility*—of the degree to which the industry of the target firm depends on labor market flexibility for its success and the other variables are the same as those used in equation (5). In Table 4, Panel A presents the results when interacting *Labor intensive* with *Unemployment coverage, Employment law* and *EPL* respectively, while Panel B presents the results when interacting *High labor volatility* with *Unemployment coverage, Employment law* and *EPL* respectively.

We find that the sensitivity of acquirer announcement returns to differences in labor regulations is much larger for targets in labor dependent industries. Consider first the *Unemployment coverage* results, which Table 4 provides in columns (1) and (4) in both Panel A and B. The difference between *Unemployment coverage* in the target and acquirer country enters negatively and significantly in both the *Labor intensive* and *high labor volatility* regressions. Moreover, the coefficients on the interaction terms enter negatively and significantly, at the 10% level for the interaction between *Unemployment coverage* and *Labor intensive* (column 1, panel A) and at the 1% level for the interaction between *Unemployment coverage* and *High labor volatility* (Column 1, Panel B). After controlling for the country pair fixed effects, we continue to find a 1% significance level for the interaction between Unemployment coverage and High labor volatility (Column 4, Panel B).

The economic impact is large: the estimated increase in an acquirer's CARs for purchasing a target in an economy with lower *Unemployment coverage* than its home country is twice as large when the target is in a comparatively high volatility industry than when the target is in a low volatility industry in the same target country. For example, consider a Swedish firm (Sweden has an average value of Unemployment coverage of 0.796) acquiring a target firm in the United States (which has an average value of Unemployment coverage of 0.362). The estimates from Table 4 indicate that if the target is in the computer programming service industry (SIC 737), which is a comparatively high labor-volatility industry, the additional increase in the acquiring firm's CAR (above the average increase) will be 0.61% (=(0.796-0.362) * (0.660+0.757)). However, if the target is in the dairy products industry (SIC 202), which is a low

labor-volatility industry, the corresponding additional boost in CAR (above the average increase associated with an acquisition) will be 0.29% (=(0.796-0.362)*0.660). Given that the average CAR is 1.3%, the difference is economically significant.

In assessing the relationship between the CAR of cross-border acquisitions and labor regulations, we find that it is especially important to differentiate targets in high and low labor dependent industries when considering the *Employment law* and *EPL* proxies of labor regulations. As shown in Table 4, the interaction terms between *Employment law* and both *labor intensive* and high *labor volatility* enter negatively and significantly. The stock market responds positively when an acquiring firm purchases a target in an economy with weaker labor protection laws when the target firm is in an industry in which labor protection laws are likely to exert a pronounced effect on its performance. For *EPL*, the interaction terms between *EPL* and both *labor intensive* and high *labor volatility* enter negatively and significantly (at the 1% level and 5% level, respectively). After controlling for country pair fixed effects, we continue to find significant interaction terms between EPL and both labor intensive and high labor volatility (column 5, Panel A and B). Overall, these results indicate that the sensitivities of CARs to differences in labor regulations are larger for targets in labor dependent industries.

That is, the CARs of acquiring firms respond most strongly to cross-border acquisitions when the target is in an industry and a country in which theories focusing on the importance of labor regulations predict markets will be most sensitive. The economic impact is large. For example, consider a firm in Germany (which has a value of Employment law of 0.702) acquiring a target in Malaysia (which has a value of Employment law of 0.189). The estimates suggest that acquirer CARs will rise by 0.44% (= (0.702-0.189)*0.864) more if the target firm is in a high-volatility industry than if the same acquirer purchases a target in Malaysia but in a low-volatility industry.

3.3. Labor market regulations and ROA: Simple comparisons

Having shown that stock prices respond more favorably to the cross-border acquisition of

firms in target countries with weak labor protection laws, especially if those firms are in labor intensive industries or industries with high labor volatility, we now examine firm performance. We examine whether the abnormal ROAs of an acquiring firm varies negatively with the comparative strength of labor regulations in the target and acquiring countries. Furthermore, we assess whether the relationship between acquiring firm abnormal ROAs and the target-acquirer difference in the strength of labor regulations varies by the industry of the target firm.

We use two methods to evaluate whether acquiring firm performance following a cross-border acquisition depends on the comparative strength of labor regulations in the target and acquiring country. The first method simply examines changes in the abnormal ROAs of the acquiring firm around cross-border acquisitions. In particular, we partition the sample into "T < A" and "T > A" groups, where "T < A" means that the target country has weaker labor regulations than the acquirer's country, and "T > A" means that the target country has stronger labor regulations than the acquirer's country. We continue to use three measures of labor regulations: *Unemployment coverage*, *Employment law* and *EPL*. We then compute for each of these measures of labor regulations the change in abnormal ROA of the acquiring firm following the acquisition announcement. We first present and discuss the results using this first method and then describe the second method for examining abnormal ROAs and present those findings.

As shown in Table 5, abnormal firm performance— the average industry-median-adjusted ROAs—for the "T > A" group drops significantly after cross-border acquisitions, but abnormal firm performance does not drop for the "T < A" group. The post-acquisition 3-year median abnormal ROAs is significantly below the year -1 abnormal ROA for cross-border deals involving targets from countries with relatively protective labor regulations and unemployment benefits that cover a large proportion of the unemployed. In contrast, there is no significant change in abnormal operating performance for deals in the "T < A" group. The tests of significance for the post-acquisition 3-year median abnormal ROAs are conducted using a null

hypothesis of zero change in abnormal ROA.[3] These results are consistent with the view that stronger labor regulations in the target country make post-merger integration more costly and reduce the manifestation of synergies in the acquirer's ROAs. For instance, if a firm from the U.S. (which has weak labor regulations) acquires a firm in France (which has strong labor regulations), then "T>A" for Employment law. The regression estimates then predict a decrease in abnormal ROA of 0.0255 from the pre-acquisition period to the post-acquisition 3-year median abnormal ROA. The estimate suggests that the post-acquisition abnormal ROA is 26.8% (=100*0.0255/0.0953) lower than its pre-acquisition value average.

Table 6 extends these analyses by further differentiating by the industry of the target firm. In addition to examining abnormal firm performance when differentiating between cross-border acquisitions when the target country has stronger labor regulations than the acquiring country (T > A) or weaker labor regulations (T < A), we now differentiate by whether the target firm is in a labor dependent industry as measured by *labor intensity* or *labor volatility*. As in the analyses of acquirer CARs, this further cutting of the data provides a precise identification of whether cross-country differences in labor regulations influence an acquiring firm's performance in manner that is consistent with the predictions emerging from several theories discussed in the Introduction.

As shown in Table 6, the abnormal ROAs of the acquiring firm perform much worse when the target is in a country with stronger labor protection laws and more expansive unemployment benefits than those in acquiring firm's home country, and these findings are driven by target firms in labor intensive industries or industries with high labor volatility. In particular, Table 6 shows that when either *Unemployment coverage*, *Employment law*, and *EPL* are greater for the target country than the acquirer, abnormal ROAs of the acquirer are significantly smaller when the target is in either a labor intensive industry or an high labor volatility industry than when the target is in the same country but is not in a labor intensive or

[3] When we test the differences between the T>A and T<A groups, we find that abnormal operating performance are not significantly different for the *Unemployment coverage* analyses, but are significantly different at the 10% level for the *Employment law* and *EPL* analyses. As shown in Table 6, these differences become more distinct when differentiating by the labor dependence of the target firm.

high labor volatility industry. It is the combination of target country's labor regulations/policies and the degree to which the target firm is in a labor intensive or high labor volatility industry that drives the acquiring firm's response, as measured by abnormal ROAs, to the cross-border deal.

3.4. Labor market regulations and ROA: Regression analyses

The second method for assessing abnormal operating performance employs a regression framework based on Healy, Palepu and Ruback (1992) and controls for deal and firm characteristics. The dependent variable is the abnormal ROAs of the acquiring firm during the three years following the acquisition, so that there is one observation per deal. Following Healy, Palepu and Ruback (1992), the regression controls for the combined acquirer-target abnormal ROAs in the year before the acquisition, i.e., pre-acquisition industry-median-adjusted ROA defined in equation (3) above. The regression also controls for *Log [Total Assets]*, which is the natural logarithm of the book value of the assets of the acquiring firm (in millions of U.S. dollars) in the year before the acquisition, *Tobin's Q*, which is the market value of total assets divided by the book value of total assets of the acquiring firm in the year before the acquisition; and two dummy variables defining the nature of the acquisition *Unrelated deal*, which indicates whether the deal involves distinct industries, and *Friendly deal*, which indicates whether the acquisition is friendly.

The estimated coefficient on the intercept represents the conditional average change in abnormal operating performance following cross-border mergers. We provide these regressions separately for targets from countries with higher labor regulation (*Unemployment coverage*, *Employment law*, and *EPL*) values than those in acquirer countries and targets from countries with less protective labor regulations than those in acquirer countries.

The regression results from this second method indicate that acquirers that purchase targets in countries with stronger labor protection regulations than their own country's labor regulations tend to suffer worse performance following the deal. The results in Table 7 indicate that acquirer abnormal ROA falls when the target is in a country with more protective labor laws

and more expansive unemployment benefits coverage. As shown, the estimated intercept is negative and statistically significant for all the "T > A" groups and insignificant for all the "T < A" groups. These results imply that acquirers from countries with weaker labor regulations experience significantly worse operating performance following cross-border acquisitions, while acquirers from countries with stronger labor regulations do not. Firm performance tends to drop following cross-border deals in which the target is in a country with more generous unemployment benefits and stronger employment laws.

In Table 8, we extend these results and further differentiate by deals by whether the target is in a labor dependent industry. The results are again striking. All of the estimated reduction in abnormal ROAs from the acquisition of a firm in a country with strong labor protection policies emerges from the purchase of firms in labor intensive and high labor volatility industries. Put differently, the positive synergies from the cross-border acquisition of a firm in a country with weaker labor protection laws and less expansive unemployment benefits are largely due to the purchase of target firms in industries that rely heavily on flexible labor markets, such as labor intensive industries and industries in which labor fluctuates relatively severely.

3.5. A check: The number, volume, and size of cross-border acquisitions

We now check whether our findings on CARs and ROAs are consistent with a firm's decisions regarding whether and where to engage in cross-border acquisitions. If labor regulations shape the stock price reaction to cross-border acquisitions and profitability of such deals, then this should be reflected the incidence and size of cross-border acquisitions when differentiating country-pairs by labor regulations. To check the consistency of our deal level analyses with firm-level decisions to undertake cross-border mergers and acquisitions, we regress the number, value, and deal size of cross-border acquisitions on the difference between labor regulations in the target and acquirer countries, while controlling for an assortment of firms, country, and country-pair characteristics.

We augment the standard gravity model of cross-border mergers and acquisition activity to assess the relationship between labor market regulations and the number, volume, and size of cross-border acquisitions. Our sample consists of public acquirers that consummate at least five cross-border deals during our sample period. We consider every possible target country into which these acquiring firms might choose to make an acquisition. Thus, the unit of analysis is an acquiring firm (*a*) and its (potential) acquisition of firms in each target country (*t*). If a firm does not acquire a target in a specific country, we assign a zero for number and value in acquisitions to that country.

We estimate the following equation

$$y_{at} = \beta_0 + \beta_1 Labor\ Regulation[t\text{-}a]_{at} + \beta_3 D_{at} + \beta_4 A_a + \delta_a + \delta_t + \delta_i + e_{at}, \quad (7)$$

where the dependent variable, y_{at}, is either *Log(1+ Number (a,t)), Log(1+ Value (a,t)),* or *Log(1+ Deal (a,t))*; where *Number (a,t), Value (a,t),* and *Deal (a,t)* equal total number, total dollar value, and average deal size of cross-border deals between acquiring firm *a* and firms in a target country (*t*); $Labor\ Regulation[t\text{-}a]_{at}$ is the difference in labor regulations between the countries of the target and acquiring firms (*Unemployment coverage*, *Employment law,* and *EPL*); A_{at} represents information about the acquiring firms, such as firm size; and δ_a, δ_t, and δ_i are fixed effects for the acquiring country, the target country, and the industry of the acquiring firm respectively. For each acquiring firm, we use the average annual values for the full sample period (1991-2012) for all time-variant variables.

As shown in Table 9, a country's firms acquire more firms and spend more on acquisitions in another country if that target country's labor regulations are relatively less protective of labor. In particular, the first three columns present OLS regressions in which the dependent variable is *Log(1+ Number (a,t))*, the next three present regressions in which the dependent variable is *Log(1+ Value (a,t))*, and the final three present regressions in which the dependent variable is *Log(1+ Deal (a,t))*. Across all nine specifications, the estimated

coefficients on labor market regulation differences are negative and statistically significant. These results imply that, the number and volume of cross-border acquisitions are lower when targets are in countries with greater *Unemployment coverage*, *Employment law,* and *EPL* values than the regulations in the acquirer country. Consistent with our findings that stock returns and profits rise more when the acquiring firm's country has more protective labor regulations than the target's country, we also find that comparative labor regulations are closely linked with cross-border acquisition activity.

The relationship between labor regulation differences and cross-border acquisition flows is economically large. Two examples illustrate the economic magnitudes from estimates in Table 9. First, consider a target country that has a one standard deviation lower value of *Employment law* than the acquirer (0.18). The estimates indicate that *Value (a,t))* will be about 69% (=0.18*3.82) larger than when the two economies have the same labor protection laws. Second, consider France, which is at the 90th percentile of the *Employment law* distribution (e.g., France's Employment law index equals 0.744). From the regression estimates in Table 9, we can compute the drop in foreign firm acquisitions of French companies due to its comparatively strong labor protection laws, where the average country has an employment law index of 0.478. The estimates suggest that relative to an average country, France is associated with 102% (= (0.744-0.478)*3.82 lower foreign capital inflows from cross-border acquisitions due to its comparatively strong labor regulations. For countries at the 75th percentile of the *Employment law* distribution (e.g., Italy, has an employment law index of 0.65), they are associated with 66% (= (0.65-0.478)*3.82) less foreign capital inflows from cross-border acquisitions due to their labor regulations.

We also explore whether differences in labor regulation between acquirer country and target country operate at the intensive margin, the extensive margin, or both. That is, we examine whether differences in labor regulations shape average deal size. As shown in the last three columns of Table 9, labor regulations operate on both margins. The average deal size of cross-border acquisitions tends to be smaller when targets are in countries with stronger labor

protection laws than the regulations in the acquirer country. Stronger labor regulations in a country reduce the dollar value, the number, and the average size of acquisitions by foreign firms in that country.

5. Conclusion

Using a comprehensive sample of cross-border acquisitions from 50 countries occurring from 1991 through 2012, we discover that cross-country differences in labor market regulations help account for (1) the stock price response of the acquiring firm to a cross-border deal and (2) the change in the operating performance of the acquiring firm after it makes a cross-border acquisition. Specifically, the abnormal stock returns and profits of acquiring firms increase more when the target country has weaker labor protection laws.

These effects are more pronounced when the target firm is in an industry that relies heavily on flexible labor markets for its performance. In particular, when the target firm is in an industry in which labor costs account for a large fraction of total costs or an industry in which the volatility of employment is relatively high, the results suggest that the impact of comparative labor regulations on both abnormal stock returns and profits is much larger. The results are consistent with the view the broad array of labor laws, regulations, and policies that shape the operation of labor markets materially shape the direction, performance, and synergies of cross-border acquisitions. As a check, we also find that the number, volume, and deal size of cross-border acquisitions are significantly lower when target countries have stronger labor regulations.

References

Agrawal, A., 2012. Corporate governance objectives of labor union shareholders: Evidence from proxy voting. Review of Financial Studies 25, 187–226.

Aleksynska, M., Schindler, M., 2011. Labor market regulations in low-, middle- and high-income countries: A new panel database. IMF working paper No. 11/154.

Atanassov, J., Kim, E.H., 2009. Labor and corporate governance: international evidence from restructuring decisions. Journal of Finance 64, 341-374.

Botero, J., Djankov, S., La Porta, R., Lopez-De-Silanes, F., Shleifer, A., 2004. The regulation of labor. Quarterly Journal of Economics 119, 1339–1382.

Bris, A., Cabolis, C., 2008. The value of investor protection: Firm evidence from cross-border mergers. Review of Financial Studies 21, 605-648.

Chari, A., Ouimet, P., Tesar, L., 2009. The value of control in emerging markets. Review of Financial Studies 23, 1741–1770.

Chyz, J.A., Leung, W.S.C., Li, O.Z., Rui, O.M., 2013. Labor unions and tax aggressiveness. Journal of Financial Economics 108, 675–698.

Faleye, O., Mehrotra, V., Morck, R., 2006. When labor has a voice in corporate governance. Journal of Financial and Quantitative Analysis 41, 489-510.

Desai, M.A., Foley, C.F., Hines, J.R., 2009. Domestic Effects of the Foreign Activities of US Multinationals. American Economic Journal: Economic Policy 1, 181-203.

Djankov, S., La Porta, R., Lopez-de-Silanes, F., Shleifer, A., 2008. The law and economics of self-dealing. Journal of Financial Economics 88, 430–465.

Djankov, S., McLeish, C., Shleifer, A., 2007. Private credit in 129 countries. Journal of Financial Economics 84, 299–329.

Erel, I., Liao, R., Weisbach, M., 2012. Determinants of cross-border mergers and acquisitions. Journal of Finance 67, 1031–1043.

Ferreira, M., Massa, M., Matos, P., 2010. Shareholders at the gate? Institutional investors and cross-border mergers and acquisitions. Review of Financial Studies 23, 601–644.

Fuller, K., Netter, J., Stegemoller, M., 2002. What do returns to acquiring firms tell us? Evidence from firms that make many acquisitions. Journal of Finance 57, 1763–1794.

Grossman, G., Rossi-Hansberg, E., 2008. Trading Tasks: A Simple Theory of Offshoring. American Economic Review 98, 1978-1997.

Harford, J., Humphery, M., Powell, R., 2012. The sources of value destruction in acquisitions by entrenched managers. Journal of Financial Economics 106, 247-261.

Harrison, A., McMillan, M., 2011. Offshoring Jobs? Multinationals and U.S. Manufacturing Employment. Review of Economics and Statistics 93, 857-875.

Healy, P., Palepu, K., Ruback, R., 1992. Does corporate performance improve after mergers? Journal of Financial Economics 31, 135-175.

Ishii, J., Xuan, Y., 2014. Acquirer-target social ties and merger outcomes. Journal of Financial Economics 112, 344–363.

John, K., Knyazeva, A., Knyazeva, D., 2014. Employee rights and acquisitions. Journal of Financial Economics, forthcoming.

Kaufmann, D., Kraay, A., Mastruzzi, M., 2009. Governance Matters VIII: Aggregate and Individual Governance Indicators 1996-2008. Unpublished Working Paper, World Bank.

Klasa, S., Maxwell, W.F., Ortiz-Molina, H., 2009. The strategic use of corporate cash holdings in collective bargaining with labor unions. Journal of Financial Economics 92, 421-442.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R., 1998. Law and finance. Journal of Political Economy 106, 1113–1155.

Lin, C., Officer, M., Zou, H., 2011. Directors' and officers' liability insurance and acquisition outcomes. Journal of Financial Economics 102, 507-525.

Masulis, R., Wang, C., Xie, F., 2007. Corporate governance and acquirer returns. Journal of Finance 62, 1851-1889.

Masulis, R., Wang, C., Xie, F., 2012. Globalizing the boardroom— the effects of foreign directors on corporate governance and firm performance. Journal of Accounting and Economics 53, 527-554.

Matsa, D., 2010. Capital structure as a strategic variable: Evidence from collective bargaining. Journal of Finance 65, 1197–1232.

Revenga, A. 1992. Exporting jobs? The impact of import competition on employment and wages in U.S. manufacturing. Quarterly Journal of Economics 107, 255–284.

Rossi, S., Volpin, P.F., 2004. Cross-country determinants of mergers and acquisitions. Journal of Financial Economics 74, 277–304.

Table 1

Summary statistics

This table presents summary statistics for each variable. In Panel A, the sample contains all completed cross-border acquisitions from SDC between 1991 and 2012. In Panel B, the sample contains relevant country-level or country-pair level data.

Variable	N	Mean	Std. dev.	P25	Median	P75
Panel A: Deal- / firm- level variables						
CAR(-2,+2) (%percentage)	11485	1.306	7.864	-2.351	0.564	4.209
Unemployment coverage_[t-a]	11485	0.001	0.444	-0.19	-0.004	0.19
Employment law_[t-a]	11480	-0.041	0.267	-0.191	-0.038	0.065
EPL_[t-a]	10044	-0.137	1.298	-1.032	-0.158	0.775
Log [Total Assets]	11485	6.444	2.228	4.918	6.425	7.983
Cash flow	11485	0.083	0.138	0.06	0.099	0.141
Tobin's Q	11485	2.407	2.329	1.28	1.696	2.544
Leverage	11485	0.199	0.164	0.051	0.184	0.303
Stock runup	11485	0.145	0.613	-0.153	0.031	0.257
Relative size	11485	0.318	1.038	0.016	0.056	0.193
Unrelated deal	11485	0.432	0.495	0	0	1
Private target dummy	11485	0.494	0.5	0	0	1
Subsidiary target dummy	11485	0.408	0.491	0	0	1
Public target dummy	11485	0.099	0.298	0	0	0
All cash deal	11485	0.328	0.47	0	0	1
Friendly deal	11485	0.994	0.077	1	1	1
Tender offer	11485	0.051	0.22	0	0	0
Panel B: Country-pair / country-level variables						
Unemployment coverage	1087	0.382	0.422	0	0.346	0.594
Employment law	49	0.479	0.186	0.343	0.468	0.65
EPL	618	2.192	0.839	1.595	2.23	2.75
Log [GDP per capita]	1087	9.059	1.343	8.024	9.367	10.177
Log [Population]	1087	17.034	1.343	15.939	17.077	17.915

Log [Geographic distance]	2450	8.611	0.96	7.95	8.989	9.266
Same language	2450	0.04	0.196	0	0	0
Same religion	2450	0.193	0.395	0	0	0
Log(1+ Value (a,t))	26068	0.389	1.393	0	0	0
Log(1+ Number (a,t))	26068	0.082	0.295	0	0	0
Log(1+ Deal size (a,t))	26068	0.355	1.273	0	0	0

Table 2

The validity test: impact of historical cross-border acquisition volume on labor regulation change

This table reports the validity test of using labor market regulations to explain cross-border acquisition volume. Specifically, we examine the effect of cross-border acquisition volume on the change of labor regulations for target countries during our sample period. The dependent variables are unemployment benefits coverage change (ΔUnemployment coverage) in Columns (1)-(3) and EPL change (ΔEPL) in Columns (4)-(6). Cross-border dollar volume_3y is the annual average dollar volume of cross-border acquisitions that occurred in the target country during the past three years. Heteroskedasticity-consistent standard errors are reported in brackets. The coefficient on the constant is suppressed for brevity. *, **, and *** represent statistical significance at the 10%, 5%, and 1% level, respectively.

Dependent variable:	ΔUnemployment coverage			ΔEPL		
	(1)	(2)	(3)	(4)	(5)	(6)
Cross-border dollar volume_3y	0.002	-0.000	-0.001	0.002	0.003	0.002
	[0.001]	[0.002]	[0.002]	[0.004]	[0.005]	[0.005]
Lagged Unemployment coverage	-0.018	-0.020	-0.020			
	[0.013]	[0.014]	[0.015]			
Lagged EPL				-0.016**	-0.017**	-0.017**
				[0.007]	[0.007]	[0.007]
Log [GDP per capita]		0.004	0.004		-0.004	-0.004
		[0.003]	[0.004]		[0.005]	[0.008]
Log [Population]		0.002	0.003		0.001	0.001
		[0.002]	[0.002]		[0.004]	[0.005]
GDP growth			0.001			0.003
			[0.001]			[0.002]
WGI			0.000			0.001
			[0.001]			[0.002]
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	988	988	988	570	570	570
R-squared	0.034	0.036	0.039	0.050	0.052	0.057

Table 3

The effect of labor protection on acquirer announcement returns

This table reports the results of OLS regressions of the effect of labor protection on acquirer abnormal announcement returns. The dependent variable is the acquirer's five-day CAR (-2, +2). Unemployment coverage is unemployment benefits coverage, which is calculated as the ratio of the number of UI (unemployment insurance) benefit recipients to the number of unemployed. Unemployment coverage_[t-a] is the difference between the unemployment benefits coverage for the target and acquirer countries. Employment law is employment laws index, which measures the protection of the individual employment contract (Botero et al., 2004). Employment law_[t-a] is the difference between the employment laws index for the target and acquirer countries. EPL is employment protection laws index, which measures the strictness of employment protection against individual dismissal (compiled by the OECD). EPL_[t-a] is the difference between the OECD employment protection index for the target and acquirer countries. All variables are defined in the Appendix. Heteroskedasticity-consistent standard errors clustered at the acquirer country level are reported in brackets. The coefficient on the constant is suppressed for brevity. *, **, and *** represent statistical significance at the 10%, 5%, and 1% level, respectively.

Dependent variable:	CAR(-2,+2)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Unemployment coverage_[t-a]	-0.593***			-1.003***			-0.804**	
	[0.113]			[0.299]			[0.331]	
Employment law_[t-a]		-0.862***			-2.711			
		[0.195]			[2.118]			
EPL_[t-a]			-0.230***			-0.363		-0.617*
			[0.048]			[0.371]		[0.358]
Log [Total Assets]	-0.382***	-0.386***	-0.353***	-0.378***	-0.379***	-0.351***	-0.381***	-0.356***
	[0.062]	[0.064]	[0.059]	[0.061]	[0.060]	[0.054]	[0.062]	[0.054]
Cash flow	-1.210**	-1.148*	-1.020*	-1.122**	-1.097**	-0.979*	-1.151**	-1.066*
	[0.566]	[0.571]	[0.588]	[0.523]	[0.525]	[0.545]	[0.549]	[0.582]
Tobin's Q	-0.133*	-0.131*	-0.093*	-0.132*	-0.133*	-0.098**	-0.108*	-0.083*
	[0.070]	[0.067]	[0.051]	[0.067]	[0.066]	[0.048]	[0.058]	[0.046]
Leverage	0.042	0.009	-0.221	-0.085	-0.087	-0.294	-0.189	-0.407
	[0.584]	[0.574]	[0.674]	[0.584]	[0.587]	[0.674]	[0.592]	[0.658]

Relative size	0.634**	0.630**	0.622*	0.609**	0.610**	0.594*	0.588**	0.578*
	[0.252]	[0.253]	[0.317]	[0.245]	[0.246]	[0.308]	[0.257]	[0.314]
Unrelated deal	-0.117	-0.115	-0.146	-0.094	-0.094	-0.110	-0.110	-0.136
	[0.142]	[0.140]	[0.128]	[0.149]	[0.149]	[0.139]	[0.161]	[0.154]
Private target dummy	1.713***	1.760***	1.896***	1.674***	1.671***	1.762***	1.617***	1.738***
	[0.520]	[0.511]	[0.550]	[0.512]	[0.510]	[0.550]	[0.553]	[0.582]
Subsidiary target dummy	2.317***	2.364***	2.612***	2.262***	2.264***	2.464***	2.187***	2.392***
	[0.438]	[0.432]	[0.489]	[0.432]	[0.432]	[0.487]	[0.479]	[0.528]
All cash deal	-0.018	-0.004	-0.012	0.029	0.028	0.023	0.080	0.110
	[0.132]	[0.133]	[0.137]	[0.141]	[0.140]	[0.144]	[0.138]	[0.149]
Friendly deal	-0.440	-0.442	-0.090	-0.557	-0.542	-0.225	-0.508	-0.084
	[0.746]	[0.763]	[0.686]	[0.731]	[0.728]	[0.652]	[0.806]	[0.767]
Tender offer	0.956**	0.937**	1.214**	0.979**	0.984**	1.117**	0.876*	1.005*
	[0.451]	[0.448]	[0.478]	[0.427]	[0.425]	[0.456]	[0.453]	[0.497]
Log [GDP per capita]_acquirer	0.025	0.160	0.665**	-0.719	-0.474	0.207	-0.617	0.431
	[0.149]	[0.157]	[0.274]	[0.619]	[0.565]	[0.538]	[0.640]	[0.627]
Log [GDP per capita]_target	0.246**	0.152*	0.125	-0.279	-0.388	0.357	-0.075	0.706
	[0.091]	[0.085]	[0.144]	[0.451]	[0.458]	[0.465]	[0.573]	[0.596]
Log [Geographic distance]	0.045	0.037	0.018	-0.001	0.001	0.049		
	[0.052]	[0.050]	[0.040]	[0.068]	[0.067]	[0.069]		
Acquirer country dummies	No	No	No	Yes	Yes	Yes	No	No
Target country dummies	No	No	No	Yes	Yes	Yes	No	No
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country pair dummies	No	No	No	No	No	No	Yes	Yes
Observations	11,485	11,480	10,044	11,485	11,480	10,044	11,485	10,044
Adjusted R^2	0.0448	0.0447	0.0407	0.0494	0.0491	0.0424	0.0471	0.0369

Table 4

The effect of labor protection on acquirer announcement returns: labor intensity and labor volatility

This table reports the results of OLS regressions of the effect of labor protection on acquirer abnormal announcement returns. The dependent variable is the acquirer's five-day CAR (-2, +2). Unemployment coverage is unemployment benefits coverage, which is calculated as the ratio of the number of UI (unemployment insurance) benefit recipients to the number of unemployed. Unemployment coverage_[t-a] is the difference between the unemployment benefits coverage for the target and acquirer countries. Employment law is employment laws index, which measures the protection of the individual employment contract (Botero et al., 2004). Employment law_[t-a] is the difference between the employment laws index for the target and acquirer countries. EPL is employment protection laws index, which measures the strictness of employment protection against individual dismissal (compiled by the OECD). EPL_[t-a] is the difference between the OECD employment protection index for the target and acquirer countries. Labor intensive is an indicator variable that equals one if target industry's average labor intensity is above sample median. We calculate labor intensity as the ratio of labor and pension expenses to sales. Labor volatility is defined as the standard deviation of the number of employees scaled by PPE (plant, property, and equipment). High labor volatility is an indicator variable that equals one if target industry's average labor volatility is above sample median. All variables are defined in the Appendix. Heteroskedasticity-consistent standard errors clustered at the acquirer country level are reported in brackets. The coefficient on the constant is suppressed for brevity. *, **, and *** represent statistical significance at the 10%, 5%, and 1% level, respectively.

Panel A: labor intensity

Dependent variable:	CAR(-2,+2)				
	(1)	(2)	(3)	(4)	(5)
Unemployment coverage_[t-a]	-0.698**			-0.592*	
	[0.321]			[0.332]	
Employment law_[t-a]		-3.066			
		[1.986]			
EPL_[t-a]			-0.753		-0.998**
			[0.451]		[0.424]
Unemployment coverage_[t-a] * Labor intensive	-0.471*			-0.423	
	[0.238]			[0.257]	
Employment law_[t-a] * Labor intensive		-0.787**			
		[0.384]			
EPL_[t-a]* Labor intensive			-0.206***		-0.207***
			[0.067]		[0.076]

Labor intensive	0.057	0.098	0.109	0.053	0.085
	[0.120]	[0.121]	[0.131]	[0.134]	[0.139]
Log [Total Assets]	-0.362***	-0.362***	-0.343***	-0.365***	-0.342***
	[0.065]	[0.064]	[0.060]	[0.066]	[0.060]
Cash flow	-1.433**	-1.411**	-1.010	-1.528**	-1.104
	[0.574]	[0.578]	[0.599]	[0.609]	[0.666]
Tobin's Q	-0.121*	-0.123*	-0.092	-0.090	-0.077
	[0.069]	[0.069]	[0.058]	[0.063]	[0.060]
Leverage	-0.017	-0.009	-0.116	-0.110	-0.251
	[0.773]	[0.778]	[0.900]	[0.825]	[0.923]
Stock runup	-1.790***	-1.789***	-1.744***	-1.791***	-1.766***
	[0.165]	[0.164]	[0.122]	[0.170]	[0.122]
Relative size	0.640***	0.640***	0.680***	0.629***	0.672***
	[0.198]	[0.198]	[0.239]	[0.211]	[0.241]
Unrelated deal	-0.231	-0.234	-0.185	-0.268*	-0.219
	[0.139]	[0.141]	[0.143]	[0.143]	[0.150]
Private target dummy	1.926***	1.926***	2.137***	1.945***	2.146***
	[0.558]	[0.560]	[0.622]	[0.603]	[0.668]
Subsidiary target dummy	2.515***	2.517***	2.803***	2.505***	2.747***
	[0.479]	[0.482]	[0.567]	[0.537]	[0.636]
All cash deal	0.008	0.007	0.031	0.099	0.102
	[0.118]	[0.117]	[0.132]	[0.123]	[0.144]
Friendly deal	-0.526	-0.520	-0.157	-0.644	-0.154
	[0.947]	[0.943]	[0.923]	[1.070]	[1.042]
Tender offer	1.360***	1.385***	1.629***	1.320***	1.564***
	[0.442]	[0.442]	[0.486]	[0.431]	[0.498]
Log [GDP per capita]_acquirer	-0.555	-0.323	0.053	-0.611	0.371
	[0.669]	[0.610]	[0.584]	[0.672]	[0.645]
Log [GDP per capita]_target	-0.395	-0.498	0.669	-0.140	0.985
	[0.436]	[0.425]	[0.539]	[0.506]	[0.628]
Log [Geographic distance]	0.028	0.033	0.086		
	[0.068]	[0.068]	[0.073]		
Acquirer country dummies	Yes	Yes	Yes	No	No
Target country dummies	Yes	Yes	Yes	No	No
Year dummies	Yes	Yes	Yes	Yes	Yes

Industry dummies	Yes	Yes	Yes	Yes	Yes
Country pair dummies	No	No	No	Yes	Yes
Observations	10,114	10,110	8,884	10,114	8,884
Adjusted R^2	0.0520	0.0520	0.0470	0.0470	0.0425

Panel B: labor volatility

Dependent variable:	CAR(-2,+2)				
	(1)	(2)	(3)	(4)	(5)
Unemployment coverage_[t-a]	-0.660**			-0.513	
	[0.301]			[0.321]	
Employment law_[t-a]		-2.258			
		[1.925]			
EPL_[t-a]			-0.740*		-1.058**
			[0.419]		[0.406]
Unemployment coverage_[t-a] * High labor volatility	-0.757***			-0.763***	
	[0.224]			[0.243]	
Employment law_[t-a] * High labor volatility		-0.864**			
		[0.367]			
EPL_[t-a]* High labor volatility			-0.199**		-0.207**
			[0.075]		[0.086]
High labor volatility	-0.041	-0.007	-0.089	-0.065	-0.101
	[0.120]	[0.122]	[0.132]	[0.132]	[0.141]
Log [Total Assets]	-0.373***	-0.373***	-0.359***	-0.380***	-0.360***
	[0.067]	[0.066]	[0.061]	[0.068]	[0.060]
Cash flow	-1.372**	-1.342**	-0.978	-1.382**	-1.019
	[0.544]	[0.550]	[0.594]	[0.575]	[0.657]
Tobin's Q	-0.131*	-0.132*	-0.092	-0.106	-0.079
	[0.072]	[0.071]	[0.056]	[0.066]	[0.056]
Leverage	-0.146	-0.144	-0.302	-0.130	-0.385
	[0.727]	[0.731]	[0.851]	[0.765]	[0.864]
Stock runup	-1.772***	-1.769***	-1.718***	-1.771***	-1.742***
	[0.174]	[0.172]	[0.127]	[0.179]	[0.125]
Relative size	0.657***	0.656***	0.678***	0.648***	0.676***
	[0.194]	[0.194]	[0.231]	[0.206]	[0.233]

Unrelated deal	-0.172	-0.170	-0.148	-0.172	-0.165
	[0.160]	[0.162]	[0.151]	[0.173]	[0.163]
Private target dummy	1.779***	1.769***	1.919***	1.775***	1.935***
	[0.519]	[0.516]	[0.559]	[0.570]	[0.605]
Subsidiary target dummy	2.374***	2.364***	2.606***	2.330***	2.572***
	[0.442]	[0.441]	[0.504]	[0.500]	[0.567]
All cash deal	0.046	0.044	0.062	0.116	0.134
	[0.132]	[0.131]	[0.141]	[0.132]	[0.145]
Friendly deal	-0.530	-0.537	-0.162	-0.581	-0.092
	[0.827]	[0.844]	[0.783]	[0.917]	[0.888]
Tender offer	1.151***	1.171***	1.370***	1.077**	1.283**
	[0.419]	[0.414]	[0.448]	[0.433]	[0.486]
Log [GDP per capita]_acquirer	-0.683	-0.422	0.167	-0.706	0.486
	[0.669]	[0.609]	[0.545]	[0.679]	[0.645]
Log [GDP per capita]_target	-0.227	-0.341	0.769	0.019	1.070*
	[0.422]	[0.415]	[0.478]	[0.511]	[0.612]
Log [Geographic distance]	0.020	0.023	0.076		
	[0.070]	[0.070]	[0.069]		
Acquirer country dummies	Yes	Yes	Yes	No	No
Target country dummies	Yes	Yes	Yes	No	No
Year dummies	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes
Country pair dummies	No	No	No	Yes	Yes
Observations	10,765	10,761	9,439	10,765	9,439
Adjusted R^2	0.0519	0.0515	0.0459	0.0456	0.0408

Table 5

Pre- and post-acquisition abnormal operating performance

This table reports average industry-median-adjusted operating performance around cross-border mer for deals that the acquirer country labor protection is stronger than the target country and deals that t acquirer country labor protection is weaker than the target country (Panel A presents summary statis and Panel B presents industry-adjusted ROA for "T < A" and "T > A"). Year 0 is the year in which t acquisition is completed. ROA is net income divided by the book value of total assets at the beginnir the fiscal year. In pre-merger years, industry-median-adjusted ROA is calculated as the weighted ave of the acquirer's and target's operating performance minus the weighted average of the industry-mec operating performance using the acquirer's and target's industry. The weights are based on the mark value of total assets of each firm at the year -1. In post-merger years, industry-median-adjusted ROA the merged firm's operating performance minus the weighted average of the acquirer's and target's industry-median operating performance. Industry classification is based on two-digit SIC codes. Unemployment coverage is unemployment benefits coverage, which is calculated as the ratio of the number of UI (unemployment insurance) benefit recipients to the number of unemployed. Employm law is employment laws index, which measures the protection of the individual employment contrac (Botero et al., 2004). EPL is employment protection laws index, which measures the strictness of employment protection against individual dismissal (compiled by the OECD). *, **, and *** represe statistical significance at the 10%, 5%, and 1% level, respectively.

Panel A:

Variable	N	Mean	Std. dev.	P25	Median	P75
Industry-adjusted ROA (year +3)	360	0.056	0.118	-0.005	0.034	0.11
Industry-adjusted ROA (year +2)	360	0.058	0.128	-0.007	0.032	0.104
Industry-adjusted ROA (year +1)	360	0.067	0.154	-0.009	0.041	0.131
Industry-adjusted ROA (year -1)	360	0.068	0.151	-0.003	0.042	0.122

Panel B:

Industry-adjusted ROA	(1)	(2)	(3)	(4)	(5)	(6)
	Target country - Acquirer country					
	Unemployment coverage		Employment law		EPL	
Year	T < A	T > A	T < A	T > A	T < A	T > A
-1	0.0598	0.0833	0.0564	0.0953	0.0565	0.0909
1	0.0616	0.0757	0.0573	0.0880	0.0606	0.0753
2	0.0537	0.0664	0.0537	0.0687	0.0524	0.0611
3	0.0515	0.0647	0.0518	0.0665	0.0479	0.0664
Post 3-year median minus year -1	-0.0064	-0.0181**	-0.0040	-0.0255**	-0.0052	-0.0262**
Observations	230	130	250	110	231	103

Table 6

Pre- and post-acquisition abnormal operating performance: labor intensity and labor volatility

This table reports average industry-median-adjusted operating performance around cross-border mergers for deals that the acquirer country labor protection is weaker than the target country. Year 0 is the year in which the acquisition is completed. ROA is net income divided by the book value of total assets at the beginning of the fiscal year. In pre-merger years, industry-median-adjusted ROA is calculated as the weighted average of the acquirer's and target's operating performance minus the weighted average of the industry-median operating performance using the acquirer's and target's industry. The weights are based on the market value of total assets of each firm at the year -1. In post-merger years, industry-median-adjusted ROA is the merged firm's operating performance minus the weighted average of the acquirer's and target's industry-median operating performance. Industry classification is based on two-digit SIC codes. Unemployment coverage is unemployment benefits coverage, which is calculated as the ratio of the number of UI (unemployment insurance) benefit recipients to the number of unemployed. Employment law is employment laws index, which measures the protection of the individual employment contract (Botero et al., 2004). EPL is employment protection laws index, which measures the strictness of employment protection against individual dismissal (compiled by the OECD). Labor intensity is defined as the ratio of labor and pension expenses to sales. Labor volatility is defined as the standard deviation of the number of employees scaled by PPE (plant, property, and equipment). In Panel A, the subsamples are formed based on whether target industry's average labor intensity is above or below sample median. In Panel B, the subsamples are formed based on whether target industry's average labor volatility is above or below sample median. *, **, and *** represent statistical significance at the 10%, 5%, and 1% level, respectively.

Panel A:

Industry-adjusted ROA	(1)	(2)	(3)	(4)	(5)	(6)
	Target country > Acquirer country					
	Unemployment coverage		Employment law		EPL	
	Labor intensity					
Year	High	Low	High	Low	High	Low
-1	0.1254	0.0565	0.1442	0.0544	0.1513	0.0439
1	0.0899	0.0638	0.1229	0.0619	0.1102	0.0476
2	0.0922	0.0438	0.1037	0.0493	0.1027	0.0362
3	0.0987	0.0382	0.1129	0.0321	0.1153	0.0321
Post 3-year median minus year -1	-0.0383**	-0.0103	-0.0388**	-0.0085	-0.0486***	-0.005
Observations	54	64	40	64	42	54

Panel B:

Industry-adjusted ROA	(1)	(2)	(3)	(4)	(5)	(6)
	Target country > Acquirer country					
	Unemployment coverage		Employment law		EPL	
	Labor volatility					
Year	High	Low	High	Low	High	Low
-1	0.0919	0.0778	0.0937	0.0914	0.1032	0.0770
1	0.0643	0.0803	0.0688	0.1025	0.0689	0.0775
2	0.0737	0.0537	0.0718	0.0736	0.0776	0.0539
3	0.0583	0.0676	0.0560	0.0772	0.0637	0.0719
Post 3-year median minus year -1	-0.0274**	-0.0175	-0.0272**	-0.0159	-0.0315**	-0.0158
Observations	61	63	49	58	46	53

Table 7

The effect of labor protection on acquisition synergies

This table reports the results of Healy, Palepu and Ruback's (1992) regressions for measuring changes in operating performance around cross-border mergers for acquirers with stronger labor protection compared to targets and acquirers with weaker labor protection compared to targets, where post-merger 3-year median abnormal operating performance (ROA) is regressed on the combined acquirer-target industry-median-adjusted operating performance (ROA) in year -1. The intercept represents the average change in abnormal operating performance following cross-border mergers, controlling for pre-merger operating performance. Industry classification is based on two-digit SIC codes. Unemployment coverage is unemployment benefits coverage, which is calculated as the ratio of the number of UI (unemployment insurance) benefit recipients to the number of unemployed. Employment law is employment laws index, which measures the protection of the individual employment contract (Botero et al., 2004). EPL is employment protection laws index, which measures the strictness of employment protection against individual dismissal (compiled by the OECD). Heteroskedasticity-consistent standard errors clustered at the acquirer country level are reported in brackets. *, **, and *** represent statistical significance at the 10%, 5%, and 1% level, respectively.

Dependent variable: ROA_3y	(1)	(2)	(3)	(4)	(5)	(6)
	Target country - Acquirer country					
	Unemployment coverage		Employment law		EPL	
	T < A	T > A	T < A	T > A	T < A	T > A
Intercept	-0.014	-0.104***	-0.018	-0.087***	-0.036	-0.095***
	[0.040]	[0.036]	[0.034]	[0.014]	[0.030]	[0.027]
Industry-adjusted ROA in year -1	0.483***	0.537***	0.519***	0.496***	0.536***	0.486***
	[0.053]	[0.106]	[0.055]	[0.108]	[0.054]	[0.121]
Log [Total Assets]	0.003	0.009**	0.003	0.008***	0.004	0.008***
	[0.003]	[0.003]	[0.003]	[0.002]	[0.003]	[0.002]
Tobin's Q	0.001	0.015	0.003	0.008*	0.003	0.008*
	[0.006]	[0.010]	[0.007]	[0.004]	[0.007]	[0.004]
Unrelated deal	-0.012	-0.016	-0.008	-0.022**	-0.007	-0.020*
	[0.010]	[0.012]	[0.009]	[0.008]	[0.009]	[0.011]
Friendly deal	0.016	0.030**	0.011	0.036***	0.019	0.041**
	[0.017]	[0.013]	[0.015]	[0.011]	[0.015]	[0.019]
Observations	230	130	250	110	231	103
Adjusted R^2	0.411	0.474	0.401	0.484	0.447	0.473

Table 8

The effect of labor protection on acquisition synergies: labor intensity and labor volatility

This table reports the results of Healy, Palepu and Ruback's (1992) regressions for measuring changes in operating performance around cross-border mergers for acquirers with weaker labor protection compared to targets, where post-merger 3-year median abnormal operating performance (ROA) is regressed on the combined acquirer-target industry-median-adjusted operating performance (ROA) in year -1. The intercept represents the average change in abnormal operating performance following cross-border mergers, controlling for pre-merger operating performance. Industry classification is based on two-digit SIC codes. Unemployment coverage is unemployment benefits coverage, which is calculated as the ratio of the number of UI (unemployment insurance) benefit recipients to the number of unemployed. Employment law is employment laws index, which measures the protection of the individual employment contract (Botero et al., 2004). EPL is employment protection laws index, which measures the strictness of employment protection against individual dismissal (compiled by the OECD). Labor intensity is defined as the ratio of labor and pension expenses to sales. Labor volatility is defined as the standard deviation of the number of employees scaled by PPE (plant, property, and equipment). In Panel A, the subsamples are formed based on whether target industry's average labor intensity is above or below sample median. In Panel B, the subsamples are formed based on whether target industry's average labor volatility is above or below sample median. Heteroskedasticity-consistent standard errors clustered at the acquirer country level are reported in brackets. *, **, and *** represent statistical significance at the 10%, 5%, and 1% level, respectively.

Panel A:

Dependent variable: ROA_3y	(1)	(2)	(3)	(4)	(5)	(6)
	Target country > Acquirer country					
	Unemployment coverage		Employment law		EPL	
	Labor intensity					
	High	Low	High	Low	High	Low
Intercept	-0.143**	0.066	-0.095**	-0.061	-0.100**	-0.011
	[0.052]	[0.049]	[0.022]	[0.056]	[0.032]	[0.034]
Industry-adjusted ROA in year -1	0.625***	0.235**	0.640***	0.293**	0.668***	0.287**
	[0.134]	[0.097]	[0.123]	[0.118]	[0.121]	[0.112]
Log [Total Assets]	0.016**	-0.007	0.015***	0.003	0.013***	-0.003
	[0.007]	[0.005]	[0.002]	[0.004]	[0.003]	[0.002]
Tobin's Q	0.021	0.011*	0.013	0.009**	0.011	0.008
	[0.012]	[0.006]	[0.010]	[0.004]	[0.009]	[0.005]
Unrelated deal	-0.004	-0.034***	-0.017	-0.017	-0.007	-0.018
	[0.024]	[0.010]	[0.014]	[0.012]	[0.020]	[0.013]
Friendly deal	-0.023***	0.021	-0.032***	0.060**	-0.027**	0.056***
	[0.007]	[0.021]	[0.007]	[0.024]	[0.010]	[0.017]
Observations	54	64	40	64	42	54
Adjusted R^2	0.618	0.251	0.625	0.278	0.618	0.272

Panel B:

Dependent variable: ROA_3y	(1)	(2)	(3)	(4)	(5)	(6)
	Target country > Acquirer country					
	Unemployment coverage		Employment law		EPL	
	Labor volatility					
	High	Low	High	Low	High	Low
Intercept	-0.183***	-0.015	-0.148***	-0.002	-0.108**	-0.029
	[0.053]	[0.056]	[0.031]	[0.023]	[0.034]	[0.068]
Industry-adjusted ROA in year -1	0.521***	0.516***	0.589***	0.510***	0.609***	0.496***
	[0.135]	[0.138]	[0.026]	[0.123]	[0.031]	[0.132]
Log [Total Assets]	0.015**	0.000	0.014***	-0.002	0.010***	0.001
	[0.005]	[0.006]	[0.002]	[0.003]	[0.002]	[0.007]
Tobin's Q	0.019	0.011*	0.010*	0.003	0.008	0.002
	[0.012]	[0.006]	[0.005]	[0.002]	[0.004]	[0.004]
Unrelated deal	-0.020	-0.015	-0.022*	-0.013	-0.012	-0.017
	[0.021]	[0.015]	[0.011]	[0.013]	[0.013]	[0.017]
Friendly deal	0.039**	0.018	0.032***	0.047***	0.026**	0.053*
	[0.014]	[0.022]	[0.008]	[0.014]	[0.010]	[0.025]
Observations	61	63	49	58	46	53
Adjusted R^2	0.495	0.505	0.478	0.548	0.449	0.544

Table 9

The determinants of cross-border mergers: firm-level analysis

This table reports OLS analysis of the determinants of cross-border mergers and acquisitions. The sample includes public acquirer firms which consummate at least five cross-border deals during our sample period (1991-2012).The dependent variables are Log(1+ Number (a,t)) in Columns (1)-(3), Log(1+ Value (a,t)) in Columns (4)-(6) and Log(1+ Deal size (a,t)) in Columns (7)-(9). Number (a,t) is the total number of all cross-border mergers during the sample period for acquirer firm a, with the target from country t. Value (a,t) is the total dollar value of all cross-border mergers during the sample period for acquirer firm a, with the target from country t. Deal size (a,t) is the average dollar value of all cross-border deals during the sample period for acquirer firm a, with the target from country t. Unemployment coverage is unemployment benefits coverage, which is calculated as the ratio of the number of UI (unemployment insurance) benefit recipients to the number of unemployed. Unemployment coverage_[t-a] is the difference between the unemployment benefits coverage for the target and acquirer countries. Employment law is employment laws index, which measures the protection of the individual employment contract (Botero et al., 2004). Employment law_[t-a] is the difference between the employment laws index for the target and acquirer countries. EPL is employment protection laws index, which measures the strictness of employment protection against individual dismissal (compiled by the OECD). EPL_[t-a] is the difference between the OECD employment protection index for the target and acquirer countries. All variables are defined in the Appendix. Heteroskedasticity-consistent standard errors clustered at the acquirer country level are reported in brackets. The coefficient on the constant is suppressed for brevity. *, **, and *** represent statistical significance at the 10%, 5%, and 1% level, respectively.

Dependent variable:	Log(1+ Number (a,t))			Log(1+ Value (a,t))			Log(1+ Deal size (a,t))		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Unemployment coverage_[t-a]	-0.254***			-0.938***			-0.723***		
	[0.023]			[0.063]			[0.053]		
Employment law_[t-a]		-1.033***			-3.823***			-2.852***	
		[0.110]			[0.435]			[0.408]	
EPL_[t-a]			-0.150***			-0.607***			-0.487***
			[0.012]			[0.036]			[0.033]
Firm size_acquirer	0.008***	0.008***	0.010***	0.077***	0.078***	0.106***	0.074***	0.075***	0.102***
	[0.001]	[0.001]	[0.002]	[0.005]	[0.005]	[0.006]	[0.004]	[0.004]	[0.006]
Log [GDP per capita]_[t-a]	0.213***	0.124***	0.233***	0.825***	0.501***	0.915***	0.659***	0.422***	0.724***
	[0.017]	[0.014]	[0.018]	[0.031]	[0.049]	[0.053]	[0.030]	[0.045]	[0.051]
Log [Population]_[t-a]	0.195***	0.257***	0.101***	0.773***	0.992***	0.408***	0.616***	0.768***	0.333***
	[0.014]	[0.022]	[0.007]	[0.037]	[0.075]	[0.019]	[0.037]	[0.073]	[0.019]
Log [Geographic distance]	-0.038***	-0.039***	-0.044***	-0.143***	-0.147***	-0.159***	-0.123***	-0.127***	-0.136***
	[0.008]	[0.008]	[0.009]	[0.027]	[0.029]	[0.028]	[0.023]	[0.024]	[0.021]
Same language	0.126***	0.126***	0.142***	0.341**	0.341**	0.363**	0.249*	0.249*	0.254*
	[0.022]	[0.022]	[0.029]	[0.129]	[0.129]	[0.142]	[0.124]	[0.123]	[0.130]
Same religion	0.012*	0.013*	0.016*	0.115***	0.122***	0.133***	0.117***	0.124***	0.133***
	[0.007]	[0.007]	[0.008]	[0.038]	[0.041]	[0.042]	[0.037]	[0.040]	[0.040]
Acquirer country dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Target country dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	26,068	25,536	17,850	26,068	25,536	17,850	26,068	25,536	17,850
Adjusted R^2	0.391	0.391	0.389	0.318	0.318	0.317	0.276	0.275	0.274

Appendix 1: Variable definitions

Variables	Definitions
Cross-border flow	
Log(1+ Number (a,t))	Number (a,t) is the total number of all cross-border mergers during the sample period for acquirer firm a, with the target from country t.
Log(1+ Value (a,t))	Value (a,t) is the total dollar value of all cross-border mergers during the sample period for acquirer firm a, with the target from country t.
Log(1+ Deal size (a,t))	Deal size (a,t) is the average dollar value of all cross-border deals during the sample period for acquirer firm a, with the target from country t.
Labor protection measures	
Unemployment coverage	Unemployment benefits coverage, which is calculated as the ratio of the number of UI (unemployment insurance) benefit recipients to the number of unemployed
Employment law	Employment laws index, which measures the protection of the individual employment contract (Botero et al., 2004). Higher value indicates stronger employee protections.
EPL	Employment protection laws index, which measures the strictness of employment protection against individual dismissal. This index is compiled by the OECD. Higher value indicates stronger employment protections.
Country-level characteristics	
Log [GDP per capita]	The logarithm of annual Gross Domestic Product (in U.S. dollars) divided by the population
Log [Population]	The logarithm of population
Log [Geographic distance]	The logarithm of geographic distance between the capitals of the acquirer and the target countries. We obtain latitudes and longitudes of the capital cities and use the great circle formula to calculate the distance.
Same language	A dummy variable equal to one if the acquirer and the target have the same primary language
Same religion	A dummy variable equal to one if the acquirer and the target have the same primary religion
WGI	The sum of all six Kaufmann et al. (2009) worldwide governance indicators: voice and accountability; political stability and absence of violence/terrorism; government effectiveness; regulatory quality; rule of law, and control of corruption. Each index ranges from -2.5 to 2.5. Higher value indicates better country governance.
Voice and accountability	The extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media (Kaufmann et al., 2009).
Political stability and absence of violence	The likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically-motivated violence and terrorism (Kaufmann et al., 2009).

Rule of law	The extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence (Kaufmann et al., 2009).
Regulatory quality	The ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development (Kaufmann et al., 2009).
Control of corruption	The extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests (Kaufmann et al., 2009).
Government effectiveness	The quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies (Kaufmann et al., 2009).
Cumulative abnormal returns	
CAR(-2,+2) (%)	5-day cumulative abnormal returns (CARs) estimated using the market model over the period [-210,-11], where event day 0 is the acquisition announcement date
Firm-level (acquirer) characteristics	
Log [Total Assets]	The natural log of book value of total assets (in millions of U.S. dollars)
Cash flow	Funds from operations divided by total assets
Tobin's Q	Market value of total assets (total assets - book value of common equity + market value of common equity) divided by book value of total assets
Leverage	The ratio of total debt to total assets
Stock runup	Acquirer's buy-and-hold return during the [-210,-11] window minus the market buy-and-hold return over the same period
Deal-level characteristics	
Relative size	The ratio of SDC deal value to the acquirer’s book value of total assets at the fiscal year-end prior to the announcement date
Unrelated deal	A dummy variable equal to one for deals in which the acquirer and the target do not have the same two-digit SIC industry
Private target dummy	A dummy variable equal to one if the target is a private firm
Subsidiary target dummy	A dummy variable equal to one if the target is a subsidiary
Public target dummy	A dummy variable equal to one if the target is a publicly traded parent firm

All cash deal	A dummy variable equal to one if the deal is purely financed by cash
Friendly deal	A dummy variable equal to one if the deal is friendly
Tender offer	A dummy variable equal to one if the deal is a tender offer

Appendix 2: Labor regulation variables by country

For labor regulation variables with time-series variation, we report the annual average value during our sample period.

Country	Unemployment coverage	Employment law	EPL
Argentina	0.052	0.344	.
Australia	0.536	0.352	1.326
Austria	0.903	0.501	2.594
Belgium	0.852	0.513	1.803
Brazil	0.706	0.568	1.433
Bulgaria	0.247	0.519	.
Canada	0.524	0.262	0.921
Chile	0.209	0.473	2.627
China	0.427	0.432	3.258
Colombia	0.000	0.344	.
Czech Republic	0.398	0.520	3.239
Denmark	0.844	0.573	2.149
Estonia	0.332	.	2.276
Finland	0.640	0.737	2.321
France	0.743	0.744	2.382
Germany	0.466	0.702	2.731
Greece	0.373	0.519	2.773
Hong Kong	0.110	0.170	.
Hungary	0.321	0.377	2.004
Indonesia	0.000	0.681	4.075
Ireland-Rep	0.439	0.343	1.391
Israel	0.389	0.289	2.036
Italy	0.492	0.650	2.762
Japan	0.306	0.164	1.626
Jordan	0.000	0.698	.
Kenya	0.000	0.369	.
Malaysia	0.000	0.189	.

Mexico	0.000	0.594	2.194
Morocco	0.000	0.262	.
Netherlands	0.668	0.726	2.897
New Zealand	0.949	0.161	1.402
Norway	0.614	0.685	2.333
Pakistan	0.000	0.343	.
Peru	0.000	0.463	.
Philippines	0.000	0.476	.
Poland	0.284	0.640	2.230
Portugal	0.596	0.809	4.519
Russian Fed	0.776	0.828	3.063
Singapore	0.000	0.312	.
South Africa	0.154	0.320	2.159
South Korea	0.311	0.446	2.612
Spain	0.541	0.745	2.621
Sri Lanka	0.000	0.468	.
Sweden	0.796	0.740	2.683
Switzerland	2.303	0.452	1.595
Thailand	0.000	0.410	.
Turkey	0.023	0.403	2.363
United Kingdom	0.452	0.282	1.123
United States	0.362	0.218	0.257
Venezuela	0.000	0.651	.

Appendix 3: Sample distribution in deal-level analysis

Country		Target																								
Acquirer		AR	AS	AU	BL	BR	BU	CA	CC	CE	CH	CO	DN	EA	FN	FR	GR	HK	HU	ID	IR	IS	IT	JO	JP	KE	MA
Argentina	AR											2															
Austria	AS			1		1	1		2							2					2		2				
Australia	AU	4			3	9		40	1	9	11	1	1		3	7	1	6		7	1	1	3		1		5
Belgium	BL			1		3		2					3			23	1	1			1		5		1		
Brazil	BR	9		3	1			4		1		3															
Bulgaria	BU																										
Canada	CA	11	1	59	8	23			1	10	10	11	4		7	18	1	2			6	5	4			1	
Czech Republic	CC																										
Chile	CE	1		2	1	12		1				1															
China	CH			7				4					1			1		23		1			1		4		1
Colombia	CO							2																			
Denmark	DN			1				5	1		2				2	4		2					2				
Estonia	EA															1											
Finland	FN		2	3	1	1	1	4	1		2		7	2		6		3	1				4				
France	FR	2	1	5	13	18		21		3	5		6		4		1	2	2			2	20		1		
Greece	GR				1		2	1															3		1		
Hong Kong	HK			9		5		6			56					2				2		1	3		2		1
Hungary	HU								1																		
Indonesia	ID			2							4							1									
Ireland-Rep	IR		1	8	1	3		5			2		4		1	3						3	1				
Israel	IS			1				5	1				1			4	1						5		2		
Italy	IT	1	2	2	4	4		3	1	3	6		1			25					3						
Jordan	JO																										
Japan	JP	1	3	16	9	9		6		1	5		1		3	11		3		3		1	4				5
Kenya	KE																										
Malaysia	MA			5				1			6		1					2		3			1				
Morocco	MR																										
Mexico	MX	2		2		14		1		1		2									1						1
Norway	NO		2	2	1	4		4					25		13	6							1				
Netherlands	NT		5	7	17	2	1	13	1	1	3		4		3	16	1		3		1		9		1		
New Zealand	NZ		1	26				3															1				
Peru	PE	1								2		1															
Philippines	PH			3							1							2							1		4
Pakistan	PK																										
Poland	PL		1					1	2										1				2				
Portugal	PO					9																					
Russian Fed	RU						1	5							2								1				
South Africa	SA		1	21	1	2		5	1				1		1	3							1			1	1
Singapore	SG			15	1			1			14		1		1	1		20		6		1					16
South Korea	SK			2				3	1		21					1		4		2			1		6		
Sri Lanka	SL																										
Spain	SP	7	1	2	2	18			1	8		2	1		1	10			2				16	1			
Sweden	SW	5	4	6	6	1	1	10	4		4		21	2	30	25		1	6	1	3	1	6				1
Switzerland	SZ	2	4	8	4	3		14	1	1		1			4	16		1			1	2	7				2
Thailand	TH			1							1					1		2		1							
Turkey	TK																		1			1					
United Kingdom	UK	10	11	139	45	16		104	13	5	14	4	41		15	198	3	15	3	9	97	4	66		6	2	9
United States	US	31	14	160	35	41	1	565	7	6	54	6	41		20	202	2	21	6	1	39	89	59		26		3
Venezuela	VE																										
Germany	WG		7	5	5	2	1	3	3		2		7		2	15			3		1	4	5				1
	Total	87	61	524	159	200	9	842	43	51	223	34	172	4	112	601	11	111	28	36	156	115	233	1	52	4	50

Appendix, continued.

Country		Target																								
Acquirer		MR	MX	NO	NT	NZ	PE	PH	PK	PL	PO	RU	SA	SG	SK	SL	SP	SW	SZ	TH	TK	UK	US	VE	WG	Total
Argentina	AR																						1			3
Austria	AS				4												2	4	2			6	7		13	49
Australia	AU			2	6	77	4	6			1		16	11	2		5	3	4	2		81	153		18	505
Belgium	BL			1	10		1				2		1		1		3	1	2	1	1	15	35		9	124
Brazil	BR		3	1	2																	2	11	1		41
Bulgaria	BU																									0
Canada	CA		39	8	12	6	13	1		1	1	1	5	1	1		6	13	6		3	91	704	7	22	1123
Czech Republic	CC																									0
Chile	CE		1		1		1																1			22
China	CH				2					1				4	2					1			14		3	70
Colombia	CO		1				1																5			9
Denmark	DN			5	7					4		1		1			2	11	5			11	22	1	5	94
Estonia	EA																									1
Finland	FN			14	9					1		5		2			1	29	3			14	37		28	181
France	FR	3	1	4	23	1				4	2		3	1	3		26	7	10	5	3	71	169	1	47	490
Greece	GR			1								2	2				1				1	3	6			24
Hong Kong	HK				3	2								3				3	1	1		8	16		2	126
Hungary	HU																		1			1			1	4
Indonesia	ID													1									1			9
Ireland-Rep	IR			1	13	1							1				1	3	2			123	77		7	261
Israel	IS				2	1				3		1	1				2		2			10	82		2	126
Italy	IT		1	3	7					1	2	2	1				13	2	6		3	25	31		17	169
Jordan	JO																									0
Japan	JP		1	1	5	1						2	6	7	4		2	4	8	2	1	34	136		10	305
Kenya	KE																									0
Malaysia	MA				2	2		2					1	21		1			2	3		2	3		2	60
Morocco	MR																									0
Mexico	MX						1										1				1		17	1		45
Norway	NO				5	1				1	1			2			4	45	2			25	28		10	182
Netherlands	NT			5		2				3		4	3	4	2		7	10	5		1	47	95		18	294
New Zealand	NZ		1		2																	3	10		1	48
Peru	PE																					1				5
Philippines	PH		2																	1			2			16
Pakistan	PK																									0
Poland	PL											1					1		1		1		1		2	14
Portugal	PO																6						2		2	19
Russian Fed	RU				1																1	2	6			19
South Africa	SA				3	2								1				1	1			22	16		1	86
Singapore	SG		1	1	2	2							1		1		1		3	8	1	11	19		3	131
South Korea	SK					1		1		1			1							1	1	2	17		4	70
Sri Lanka	SL																									0
Spain	SP		5	1	2		4	1		2	8							1				14	24	1	11	146
Sweden	SW		1	30	18	1				4	3	7	5	2	2		11		5	1		61	81		31	401
Switzerland	SZ			1	7	1	1					1	1		2		3	5				32	89		13	227
Thailand	TH													2								2	1			11
Turkey	TK											1	1										1			5
United Kingdom	UK	1	9	40	162	7	1	3	1	10	10	17	42	15	6		63	57	39	1	11		1233		206	2763
United States	US	1	38	41	113	22	3	3	1	7	2	9	10	23	23		33	78	71	3		752		4	259	2925
Venezuela	VE																									0
Germany	WG			5	18					3	1				2		9	8	12		3	57	98			282
	Total	5	104	165	441	130	30	17	2	46	33	54	101	101	51	1	203	285	193	30	32	1528	3251	16	747	11485

Figure 1: Cross-Border acquisitions as a percentage of total acquisitions

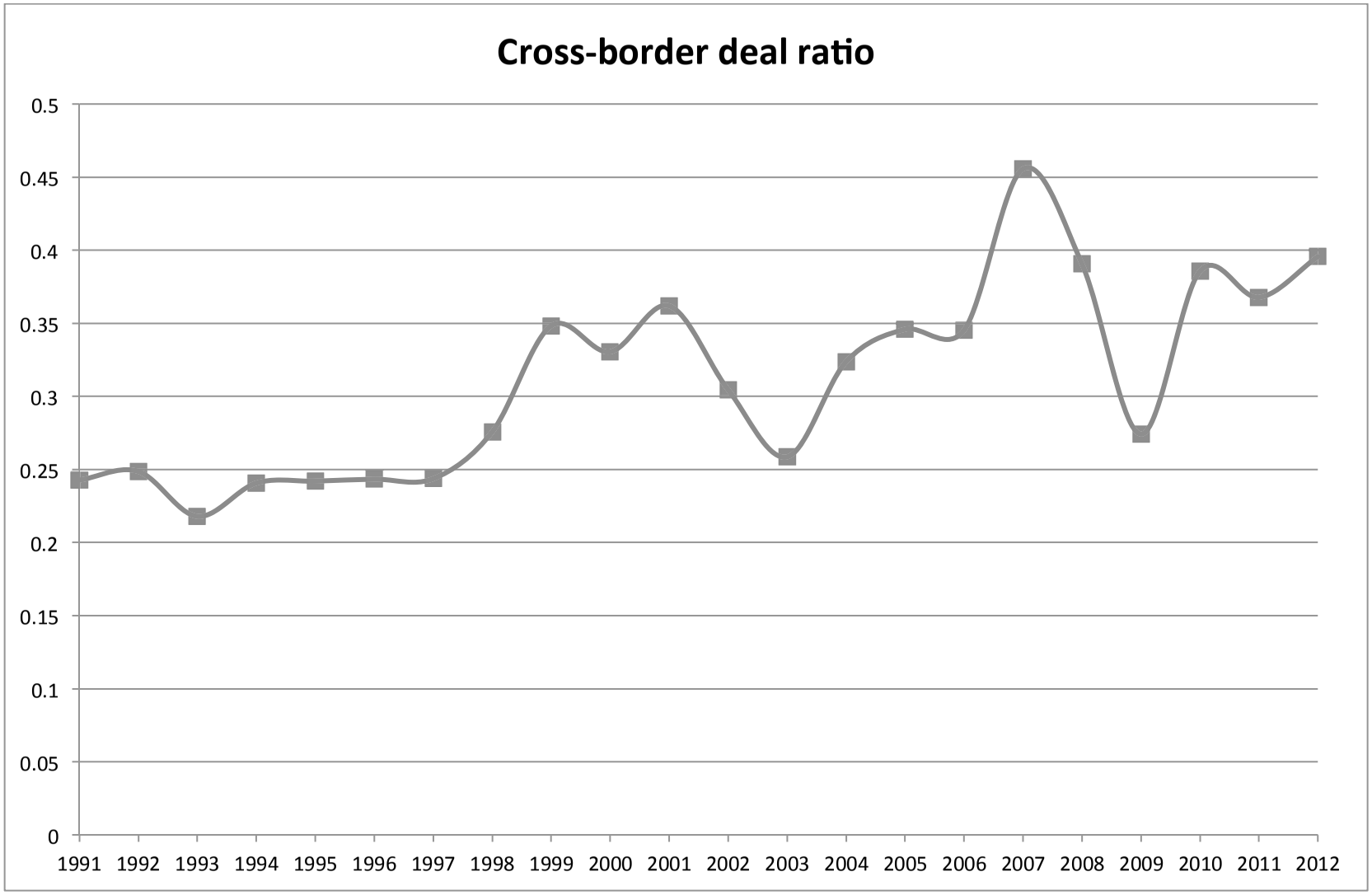

Figure 2: Total value of cross-border and domestic mergers (in Billions of U.S. Dollars) by year

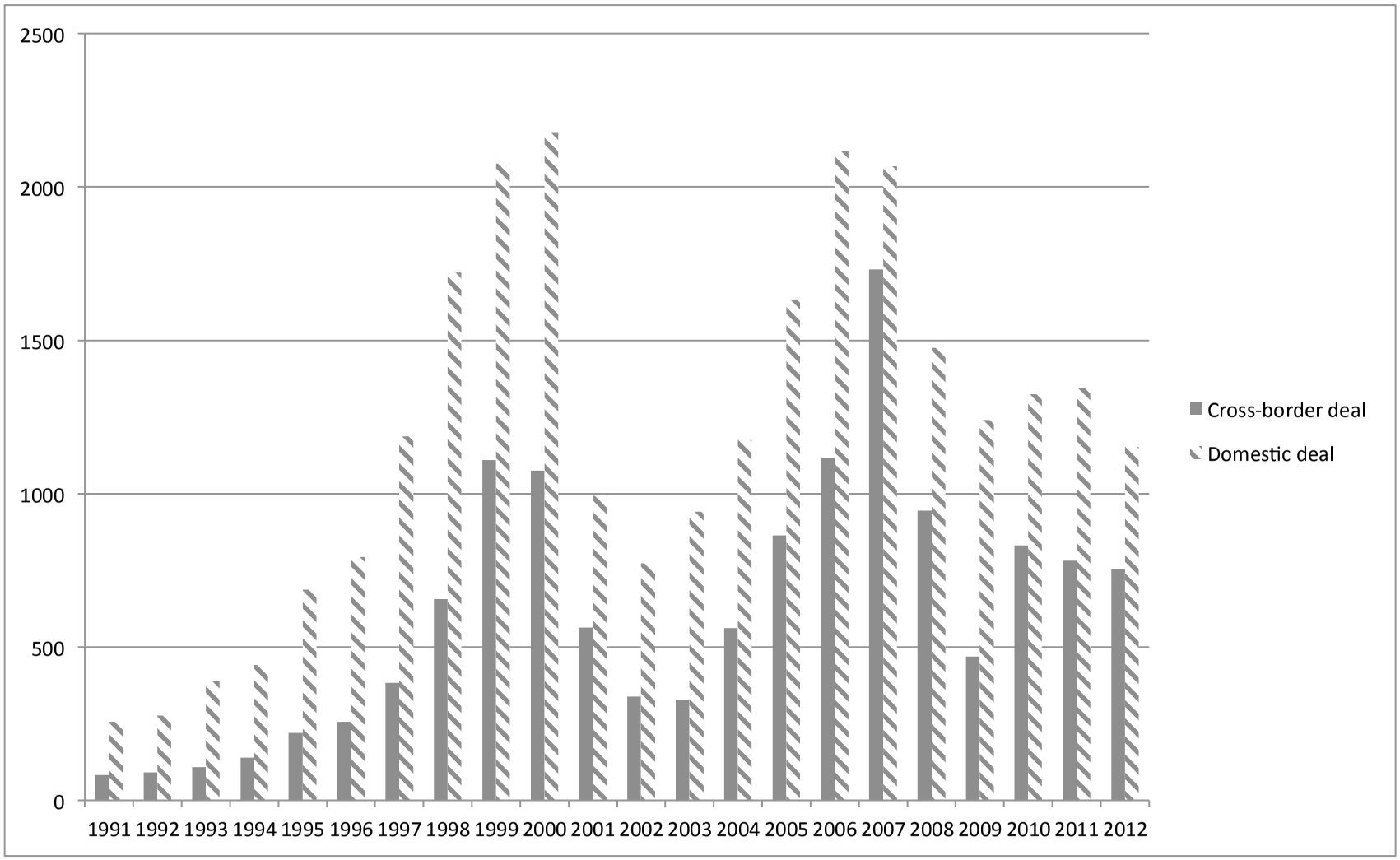

Figure 3: Total value of cross-border mergers by country (in Billions of U.S. Dollars)

This figure depicts information on cross-border acquisitions for the top eleven acquirer countries in terms of cross-border deal value over the entire sample period (1991-2012).

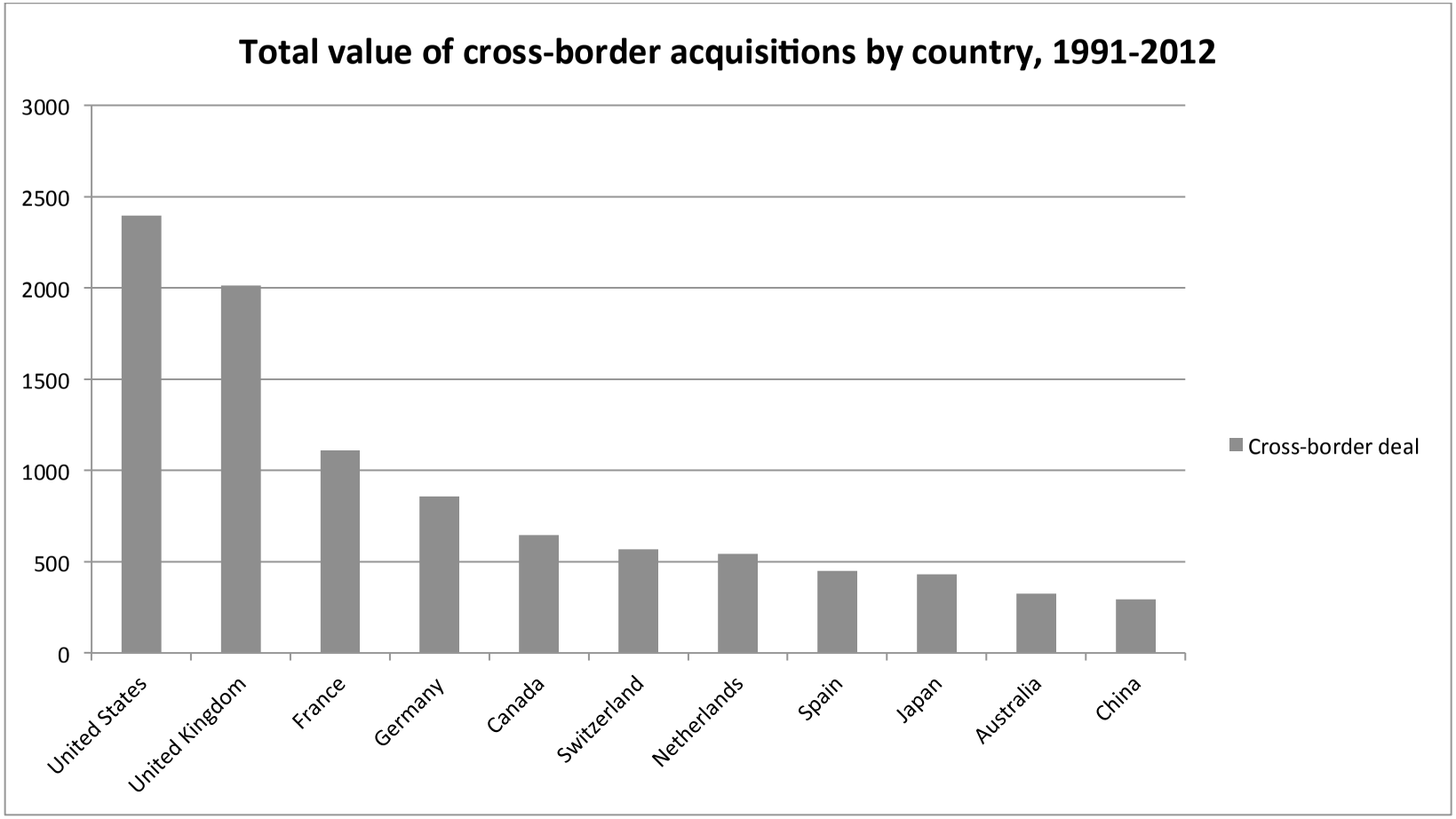

Figure 4: Top acquirer country cross-border acquisition flows

In this figure, weak labor protection laws represent countries with below the 25th percentile of the employment law distribution, and strong labor protection laws represent countries with above the 75th percentile of the employment law distribution. This figure illustrates this information for the top eleven acquirer countries in terms of cross-border deal value over the entire sample period (1991-2012).

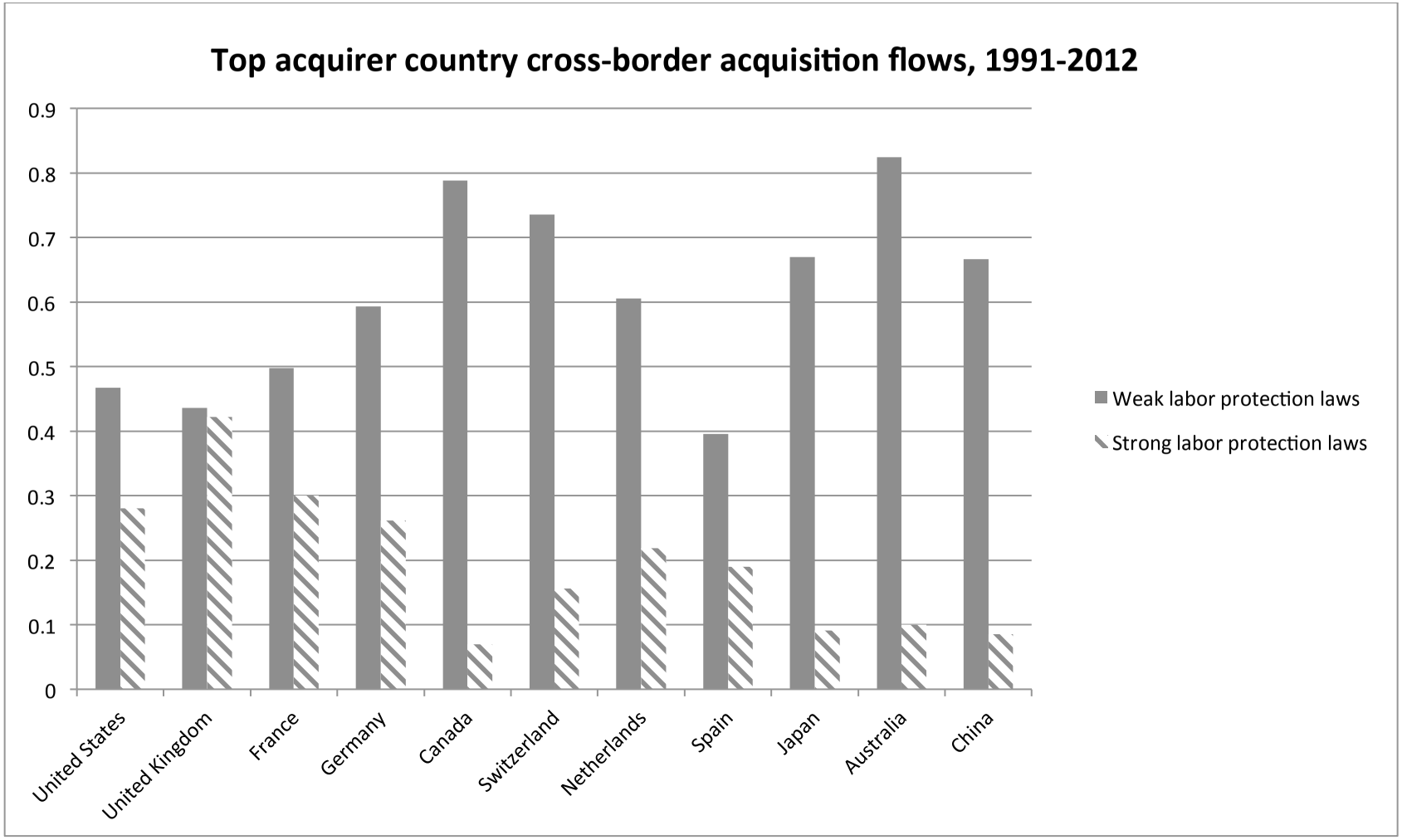

Figure 5a: Acquirer CARs around the acquisition announcement

This figure show the average acquirer cumulative abnormal returns (%) from day -2 to day +2 around the acquisition announcement (zero is the acquisition announcement date). A>T represents observations with relatively higher employment law for acquirer country, while A<T represents observations with relatively higher employment law for target country.

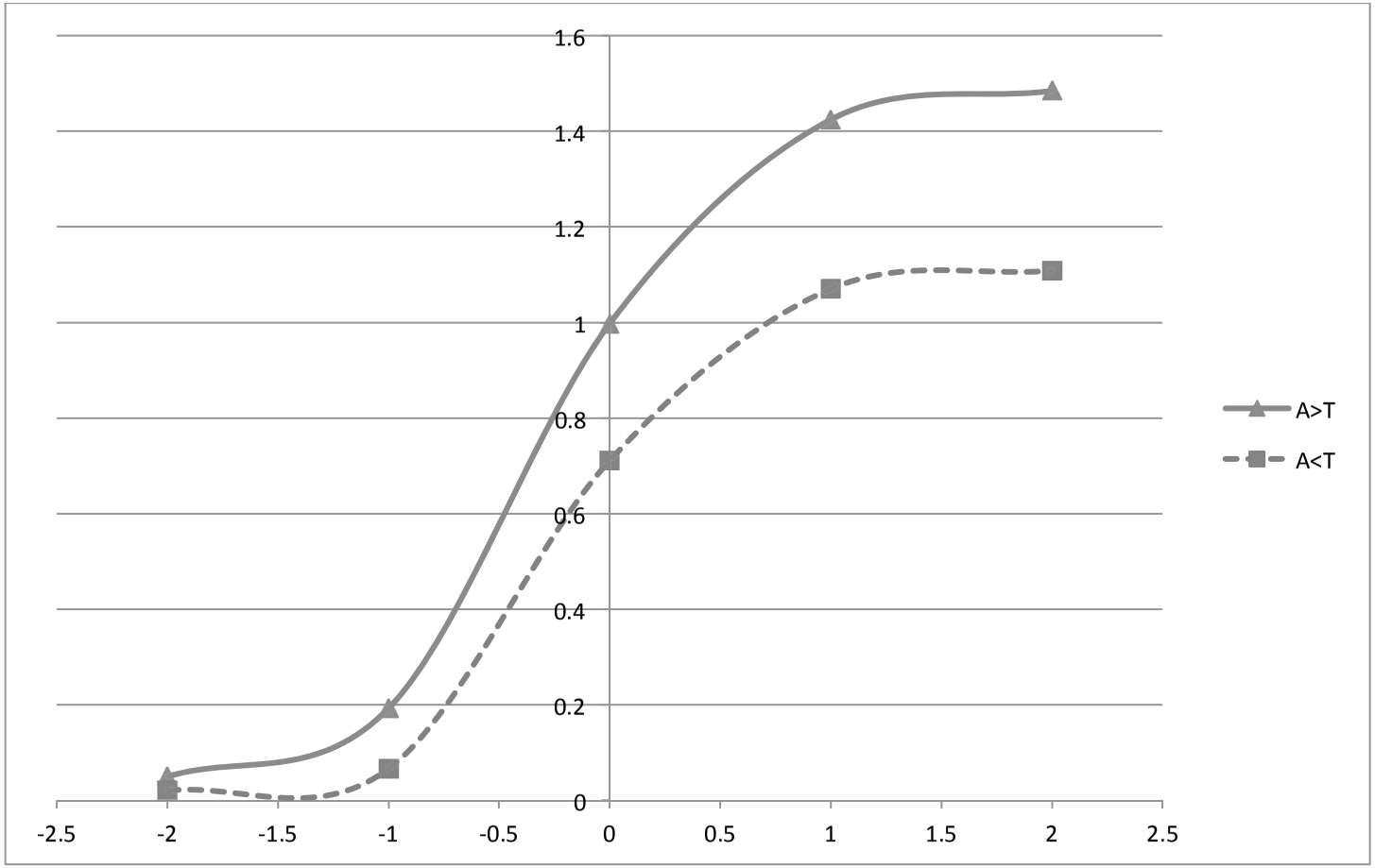

Figure 5b: Acquirer CAR residuals (CAR-R) around the acquisition announcement

This figure shows the average residuals of acquirer cumulative abnormal returns (%) from day -2 to day +2 around the acquisition announcement (zero is the acquisition announcement date). The residuals (CAR-R) are calculated from regression model (2) in Table 3, but exclude the labor regulation variables. A>T represents observations with relatively higher employment law for acquirer country, while A<T represents observations with relatively higher employment law for target country.