

# Corporate Governance and International Trade

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We investigate how corporate governance affects the ability of firms to compete in international markets. Our empirical analysis draws on a variety of methods, including instrumental variable regressions, natural experiments and event studies. We find that firms subject to worse corporate governance are hurt more by the increase in foreign competition, especially so if they are less productive, located closer to foreign competitors, and face higher financial constraints.

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## **1. Introduction**

A long-running literature has explored the relationship between corporate governance and product market competition (Hart 1983; Scharfstein 1988; Hermalin 1992, 1994; Schmidt 1997; Raith 2003). If corporate governance and competition substitute each other and competition itself acts as a disciplining device, we expect that when a firm's rivals become stronger, the performance of worse governed firms should deteriorate less than the performance of better governed firms. Alternatively, if corporate governance and competition are complements, worse governed firms should experience a larger drop in profits as they are less prepared to respond to competitive pressures.

Recent empirical works have made significant attempts towards understanding how corporate governance and competition interact (Karuna 2007, Giroud and Mueller 2010, Kadyrzhanova and Rhodes-Kropf 2011, Chhaochharia et al. 2013); however, addressing the endogeneity of corporate governance and market structure remains an empirical challenge.

Using a sample of publicly traded U.S. firms over 1976-95, we apply a number of empirical approaches to investigate the relationship between corporate governance and foreign competition.

We start by exploiting changes in foreign competition provided by the disappearing restrictions on international trade following the Canada-U.S. Free Trade Agreement (FTA) of 1989. Empirically, the FTA passage fends off possible biases from the endogeneity of product market competition, which has concerned a vast body of empirical research (e.g. Guadalupe and Perez-Gonzalez 2011; Cuñat and Guadalupe 2005, 2009; Frésard and Valta 2014; Aghion et al. 2005). Indeed, the FTA was largely unanticipated and was not accompanied by any other significant economic reform; nor was it a response to prevailing economic conditions (Trefler

2004; Breinlich and Cuñat 2014). As Canada and the U.S. are main trading partners, the FTA had significant economic effects on the U.S. economy.<sup>1</sup> Furthermore, since the agreement consisted mainly of abolishing existing import tariffs that differed across industries, the increase in competition following the FTA had measurable cross-sectional variations.

Our first corporate governance variable comes from the passage of antitakeover legislation (business combination; BC laws) between 1985 and 1991, which restricted certain transactions (e.g. mergers and asset sales) between firms and their large shareholders for a period of three to five years after the large shareholder's stake passed a pre-specified threshold. This moratorium had the effect of hindering acquirers' access to target firms' assets and thus limiting the former's ability to pay down acquisition debt. By making hostile takeovers more difficult, BC laws weakened the overall quality of corporate governance (Bertrand and Mullainathan 2003).

Consistent with the notion that BC laws increased managerial slack, we find that the adoption of BC laws had a significant negative impact on the operating performance (measured by return on assets, or ROA) of firms incorporated in that state: on average, ROA dropped by 1.9% for these firms. The FTA, too, had a negative impact on operating performance in line with the idea of increased competition: the ROA of firms subject to the average tariff cut declined by 1.1% after the trade agreement. Examining the combined effect of the two policies, we find that stronger competition acted as a complementary force to worsening corporate governance: the interaction between BC laws and lower import tariffs is also negative and statistically significant, and its total effect corresponds to a decline of 3.1% in ROA.

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<sup>1</sup> Clausing (2001) finds that a 1% reduction in post-FTA import tariffs was associated with a 10-11% increase in U.S. imports from Canada. She also estimates that the FTA raised annual Canadian exports to the U.S. by \$23 billion. Since Canada was the main U.S. trading partner (accounting for about one fifth of total imports) and since there was no trade diversion, the effect of the FTA was substantial for the U.S. economy.

To overcome the potential limitations with the use of BC laws in empirical tests (Karpoff and Wittry 2015), we provide evidence from a different approach. In particular, we follow recent works (e.g. Aghion et al. 2015) and proxy corporate governance quality with the share of institutional investor ownership. Moreover, we use import penetration to measure competitive pressures, and we adopt an instrumental variable based on real exchange rates to mitigate endogeneity concerns (Bertrand 2004). Evidence from this alternative estimation confirms our result that corporate governance significantly shapes the corporate response to competition.

Next, going beyond accounting performance, we explore stock market returns with an event study. The trade agreement encountered substantial opposition in Canada, and its fate was determined by a narrow victory of the Progressive Conservative Party in the federal election of November 1988. Thus, the election date offers a good setting for assessing the stock market reaction to the FTA (Morck et al. 2000; Breinlich 2014). We examine abnormal returns for U.S. firms on the trading days following the election. Expanding the recent insights from Breinlich (2014), our findings indicate that over a 6-day period stock prices dropped by 1.88% more for firms subject to BC laws than for other firms. Finally, we confirm our results in terms of market-to-book ratios.

Taken together, our findings suggest that corporate governance was a crucial factor determining which firms lose more profits after foreign competition intensified. One potential explanation for this finding is that, if worse governed firms do not face immediate threat of liquidation (e.g. due to customer inertia, partially differentiated products or cash reserves), then corporate governance becomes complementary to intensified competition as it contributes to determining which firms expand to take a greater market share and eventually survive. By highlighting that corporate governance influences the corporate response to foreign competition,

our results thus contribute to the literature on the winners and losers of trade liberalization (Pavcnik 2002; Melitz 2003).

Our work is also related to a literature on how market structure affects business operations and organization. It has been shown that more competition leads to outsourcing (Grossman and Helpman 2004), to flatter and more decentralized organizations (Bloom et al. 2010; Guadalupe and Wulf 2010), to greater pay-for-performance sensitivity (Cuñat and Guadalupe 2005, 2009), and to upgrading of technology (Bustos 2011). Bringing agency considerations into the debate on the determinants of firms' responses to trade liberalization, our results suggest that the misalignment of incentives between managers and shareholders limits the readiness of firms to face changes in the competitive environment. Along this line, our work also expands previous studies such as Khanna and Tice (2000), who find that supermarkets with higher inside ownership respond less aggressively to the new entry, and Morck et al. (2000), who find that the Canadian firms affected most by the FTA were heir-managed family firms.

## **2. Empirical approaches**

Because product market competition and the managerial incentives are jointly determined as part of the industry equilibrium (Golan et al. 2014), establishing the empirical relationship between them is a challenging task. We deal with this challenge by exploiting exogenous variations in both the quality of corporate governance and the intensity of foreign competition.

Our proposed methodologies have several advantages. First, addressing the combined impact of competition and corporate governance on firms solely by means of their cross-sectional measures would leave the analysis open to omitted factor bias (e.g. because some unobservable factors such as industry productivity might be increasing the extent of competition

while also cementing the link between corporate governance and performance). Adopting shocks to competition and governance provides a more tractable way to mitigate this concern than controlling for all potentially omitted variables.

Second, one could argue that corporate governance has an effect on the firm's strategy in the product market, and hence on the industrial composition. For instance, in the industries where good corporate governance becomes increasingly more important for performance, competition could endogenously intensify. In such a scenario, firms could improve managerial incentives as the means to increase performance and thus could end up competing more aggressively. It is therefore empirically difficult to interpret the interaction of corporate governance competition if competition itself changes in response to corporate governance. Our approaches address this concern because corporate governance changes should not have induced immediate systematic increases in import tariffs, which are decided at the international level.

## 2.1. Anti-takeover law and free-trade agreement shocks

We start by proposing a combination of natural experiments regarding corporate governance and foreign competition. We first employ the passage of second-generation anti-takeover statutes in the U.S. A first generation of anti-takeover statutes was passed by some states in the 1970s. The Supreme Court deemed these statutes unconstitutional in 1982, primarily because states exceeded their jurisdictional reach in applying them to firms incorporated outside their state. The mid-1980s saw states introducing anti-takeover legislations aimed at firms incorporated in the legislating state, and the practice spread across the country after the Supreme Court declared Indiana's new law constitutional in 1987. Existing works (e.g. Bertrand and Mullainathan 1999; Armstrong et al. 2012) suggest that BC laws, one specific type of second-generation anti-

takeover laws, made hostile takeovers more difficult by restricting an acquirer's access to the target firm's assets for a period of three to five years, thus limiting the ability to use debt to finance the acquisition. BC laws were introduced in various U.S. states at different times. We exploit the staggered passage of BC laws in the states of incorporation (Bertrand and Mullainathan 2003; Giroud and Mueller 2010; Armstrong et al. 2012).

Second, we employ the passage of the FTA as exogenous variation in the competitive environment. The FTA abolished existing trade duties between U.S. and Canada. Because these tariffs differed across industries, we can quantify how the FTA influenced foreign competition for U.S. firms by using the tariffs on imports from Canada that applied to a given industry *before* the implementation of the FTA. As shown by Clausing (2001) and Guadalupe and Wulf (2010), the larger were the import tariffs in place in a given industry, the greater was the competitive shock.

We use each firm's primary four-digit SIC code to identify its industry and thus the relevant tariffs. We extract tariff data from the Center for International Data at UC Davis. We start by computing average tariffs in the industry by summing the customs value of imports and duties paid across all sub-industries of each four-digit SIC industry in each year before 1989. We then divide the total duties paid by the total customs value of imports and use this as our proxy for the import tariffs from Canada that each four-digit SIC industry faced in a particular year. The main treatment in our specification is the change from the average import tariffs in the pre-FTA period, computed over the three years prior to the implementation of the FTA (1986-88), to zero tariffs in the post-FTA period (from 1989 onwards). Table 1 lists the twenty industries with the highest tariffs on Canadian imports. Import tariffs cut ranged between 0% and 36% and the median cut was 3.3% (with indistinguishable differences for BC and non-BC states).

**[[ INSERT Table 1 about Here ]]**

Because of its bilateral nature, the FTA also improved export opportunities to Canada. To separate this effect from the increase in foreign competition, we use export tariffs data from Trefler (2004) and construct a variable similar to our variable for the import tariffs. Again, we measure the reduction in export tariffs to Canada at the level of U.S. four-digit SIC industry.

Although we consider import and export tariffs to be zero for all industries after 1989, in some industries the tariffs reductions were phased out over periods as long as ten years following the FTA's passage.<sup>2</sup> Nevertheless, we treat all industries equally regardless of their phase-out schedule. Thus, we implicitly assume that (i) firms started adjusting to the new competitive situation immediately following the FTA's passage, and (ii) phase-outs served only to maintain temporary profits. As discussed in Guadalupe and Wulf (2010), this has the advantage of mitigating the potential endogeneity of the phase-out schedule. We control for existing domestic concentration with the Herfindahl-Hirschman index (HHI) based on the sales distribution of publicly listed firms in each three-digit SIC industry.

In our sample, 33.1% of the firms were actually incorporated in their state of location.<sup>3</sup> Twenty states, which account for 15.7% of firm-year observations, never passed a BC law. Most of the firms (79.1%) are incorporated in a state that passed a BC law in or before 1989 (the year of the FTA).<sup>4</sup>

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<sup>2</sup> Annex 401 of the FTA prescribes the actual phase-out schedules. However, there is anecdotal evidence that many industries lobbied to hasten the phase-out with the first review of the initial schedule adopted just a year after the FTA (see, e.g., "Canadian Trade Pact Accelerated", *New York Times*, March 14, 1989).

<sup>3</sup> Given that firms are affected by BC laws in their state of incorporation, a potential for misclassification arises because Compustat only reports the state of incorporation for the latest year available. However, re-incorporation during the period considered was rare (Romano 1993).

<sup>4</sup> We check that there was no particular geographic clustering of the states (in particular, in terms of closeness to Canada) with and without BC laws. This evidence reduces the concern that the timing of BC law passages was affected by the FTA implementation.



## 2.2. Event-study approach

We perform an event study to test whether the FTA's adoption had a different impact on the stock prices of U.S. firms incorporated in states with and without BC laws. This test also helps us mitigate the concerns of the endogeneity of the phase-out schedules of tariffs.

Morck et al. (2000) and Breinlich (2014) summarize the political events around the implementation of the FTA. Contrary to the political process in the U.S., the debate about the adoption of the FTA was very contentious in Canada. After the agreement was signed between U.S. and Canada in October 1988, the legislation to implement it stalled in Canada's Senate. Brian Mulroney, Prime Minister at the time, called federal election for November 21, 1988. The FTA was the main issue in the election and the outcome of the election was highly uncertain. Although Progressive Conservatives won the majority, a Gallup poll published two weeks before the election still showed a 12% lead in favor of the Liberal Party, which opposed the implementation of the FTA.

The uncertainty surrounding this election thus offers an ideal context for conducting an event study that examines the U.S. stock market reaction to the FTA depending on whether or not companies were incorporated in states subject to BC laws.

## 2.3. Institutional ownership and import tariffs

Going beyond the BC law approach, we employ a firm-specific proxy for the quality of corporate governance. Hartzell and Starks (2003) find that institutional ownership concentration is associated with greater pay-for-performance sensitivity and lower executive compensation, both of which reduce agency problems between shareholders and management. Furthermore, Ferreira and Matos (2008) show that institutional investors are more likely to invest in better-governed

firms. Nikolov and Whited (2013) further claim that, given the measurement problems associated with other proxies, institutional ownership should be the preferred proxy for firm-level corporate governance.

Following these and other recent studies (e.g. Aghion et al. 2013), we adopt the fraction of institutional ownership in the firm as a proxy for the quality of its corporate governance.<sup>5</sup> We draw the annual data on institutional investor holdings from SEC 13 filings recorded in the Thompson Financial CDA/Spectrum database.

We then adopt the industry-level import penetration as an alternative measure of foreign competition. An industry import penetration is defined as the dollar value of imports divided by the sum of dollar value of imports and dollar value of domestic production. Because import penetration can be endogenous to industry's profitability, we follow Bertrand (2004) and instrument it using the weighted average of the real exchange rates of the importing countries. In particular, the weights for each industry are the shares of each foreign country's imports in the total imports of that industry; thus, the instrument varies both by time and industry.

### **3. Sample and Summary Statistics**

Our data set consists of publicly listed firms located and incorporated in the U.S. We restrict our analysis primarily to manufacturing firms (SIC codes up to 4000) because the FTA directly affected only the tradable sector (Guadalupe and Wulf 2010). We draw accounting data from the Compustat dataset. We exclude the firms for which net sales or book value of assets are either

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<sup>5</sup> Standard corporate governance indices, such as those constructed by Gompers et al. (2003) and Bebchuk et al. (2009), are unavailable for the period we study. Moreover, Nikolov and Whited (2013) claim that those indices fail to capture latent poison pills, which can be introduced without shareholder consent. Hence they suggest that institutional investor ownership is a better proxy for corporate governance. Indeed, Chung and Zhang (2011) explore the relationship between corporate governance and institutional investor investment, and find that the fraction of company's shares that are held by institutional investors increases with the quality of corporate governance.

missing or negative, as well as firms in the industries for which we have no data on tariffs. Our sample period ranges from 1976 through 1995 and consists of 3,567 unique firms and 34,279 firm-year observations, although the presence of missing values for control variables reduces the number of observations used in the various regressions.

Our main measure of operating performance is the return on assets, computed as earnings before interest, taxes, depreciation, and amortization (EBITDA) divided by the beginning-of-year book value of assets. To mitigate concerns about outliers, we drop 1% of the firm-year observations from each tail of the ROA distribution, although this procedure does not affect our results. We report summary statistics for the main variables of interest in Table 2. Appendix 1 describes all the variables used.

**[[ INSERT Table 2 about Here ]]**

## **4. Results**

### **4.1. Findings from the BC law-FTA Identification**

We start by providing univariate evidence. To this end, for every firm in our sample we identify another firm in the same SIC three-digit industry and with the headquarters located in the same state. These firm pairs are exposed to the same economic conditions and should be similarly affected by the FTA. However, importantly, although they are headquartered in the same state, these pairs differ in that one firm is incorporated in a state with BC law in 1989 while the other is in a state without BC law.<sup>6</sup> We are able to form 218 unique pairs by matching without replacement. We then estimate the three-year average ROA before and after the adoption of the FTA and find that ROA dropped 4% more ( $t=2.4$ ) for firms incorporated in BC law states, compared to their matched firms in the states without BC laws. This evidence, albeit based on a

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<sup>6</sup> In case multiple candidate firms exist, we pick the one closest in size.

small sample, suggests that BC laws were instrumental in the firms' heterogeneous response to the FTA.

We generalize the above evidence by estimating the following regression:

$$ROA_{ijkt} = \alpha_i + \alpha_t + \beta_1 Import\ Tariff\ cuts_{jt} + \beta_2 Export\ Tariff\ cuts_{jt} + \beta_3 BC_{kt} + \beta_4 BC_{kt} \times Import\ Tariff\ cuts_{jt} + \gamma' X_{ijkt} + e_{ijkt} \quad (1)$$

where  $i$  indexes firms,  $j$  indexes four-digit SIC industries,  $k$  indexes states of incorporation, and  $t$  indexes time. The dependent variable  $ROA_{ijkt}$  is the return on assets.  $Import\ tariff\ cuts_{jt}$  measures the average level of tariffs on imports from Canada in the industry  $j$  before the passage of the FTA, interacted with a dummy, set equal to 1, for the post-FTA period, i.e.  $Import\ tariff\ cuts_{jt}$  is equal to 0 before 1989 and to a positive value after 1989.  $Export\ tariff\ cuts_{jt}$  is the corresponding measure for tariffs on exports to Canada in the industry  $j$ . The coefficient of  $Import\ tariff\ cuts_{jt}$  measures how ROA changed for firms that were exposed to greater foreign competition due to the FTA.  $BC_{kt}$  is a dummy, set equal to 1 if the firm's state of incorporation  $k$  has BC laws in year  $t$  (and to 0 otherwise). If BC laws do have a negative effect on corporate governance that translates into lower operating returns, then we expect  $\beta_3$  to be negative. The coefficient of the interaction  $BC_{kt} \times Import\ tariff\ cuts_{jt}$  measures how the negative effect of the cut in import tariffs varies as a function of the exposure to BC laws. The null hypothesis for  $\beta_4$  is that an increase in foreign competition affects firms' returns uniformly, regardless of their governance, i.e.  $\beta_4 = 0$ . We expect a negative  $\beta_4$  if worse governance makes firms respond inadequately to increases in competition, and a positive  $\beta_4$  if corporate governance becomes less important when competition intensifies.

Our specification also includes year dummies,  $\alpha_t$ , and firm fixed effects,  $\alpha_i$ . In addition, the vector  $X_{ijkt}$  includes firm size, its squared term and firm age, as well as the one-year lagged HHI to account for the domestic industry concentration. Finally, we control for general conditions at

the industry level and economic conditions in the states where firms operate by including state and industry linear trends (computed as time-varying averages of the ROA of firms in certain state of location or industry, excluding the firm in question).

We cluster the standard errors by the state of incorporation, which accounts for arbitrary correlations of residuals across different firms in a given year and state of incorporation, across different firms in a given state of incorporation over time, as well as over different years for a given firm.

Table 3 illustrates the results. First, in Column (1) we show that BC laws negatively affected operating returns,(in line with Bertrand and Mullainathan 2003). Meanwhile, consistent with the prediction that the FTA increased foreign competition for U.S. firms, we find that the coefficient for reduced import tariffs is negative and significant; firms exposed to the average (3.3%) tariff reduction saw their ROA decline by 1.1% (the median ROA in our sample is 11.8%). These findings remain unchanged after controlling for the industry HHI (Column 2).

In Columns (3) and (4) we include the interaction between BC laws and import tariff cuts. The coefficient for this interaction term is negative and statistically significant at the 5%, even though the cut in import tariffs by itself is not significant. The drop in ROA was 3.1% for firms incorporated in states with BC laws *and* exposed to the average cut in import tariffs. Thus, the increase in competition affected operating returns only for firms with recently worsened corporate governance.

In Columns (5) and (6), we add the variable measuring the reduction in export tariffs and its interaction with BC laws, thereby controlling for the fact that the FTA also reduced export tariffs to Canada. Our estimates indicate that the interaction between BC laws and the reduction in import tariffs remains negative and statistically significant, whereas the interaction between BC

laws and export tariffs cut is not significant. For the average firm, our findings are thus driven by the increase in foreign competition in U.S. domestic markets and not by the greater ease of exporting to Canada. We investigate this further in Section 4.1.3.

**[[ INSERT Table 3 about Here ]]**

#### 4.1.1. Robustness

In Table 4, we explore the robustness of our main results. We start by addressing the main concern in Karpoff and Wittry (2015) that the effect of BC laws on corporate outcomes is potentially biased by the presence of first-generation antitakeover laws, by the other second-generation antitakeover laws (i.e. fair price, control share acquisition and poison pill laws), or by firms that lobbied for takeover protection. In Row (1) we only employ sample years after 1982, in order to exclude the time period covered by first-generation antitakeover laws. Alternatively, in Row (2) we explicitly control for the presence of first-generation antitakeover laws. In Row (3) we control for the other second-generation antitakeover provisions adopted by US states. Finally, in Row (4) we exclude firms that lobbied for the passage of BC laws (taken from Karpoff and Wittry 2015).

Industries that are the least competitive globally might be protected by higher import tariffs, yet also be the most affected by worse corporate governance. We thus control for a time-invariant measure of the average import tariffs that a firm faced before the FTA. This variable is related to an industry's static characteristics such as its global competitiveness. A statistically significant coefficient for the interaction between BC laws and average import tariffs would suggest that the least efficient industries were the most affected by worsening corporate governance. We find that this coefficient is not statistically significant, but as reported in Row (5), the interaction between BC laws and the reduction in import tariffs remains significant.

Hence, the negative effect stemmed from changes in competition and not from static industry characteristics.

Next, we control for the interaction between BC laws and lagged HHI, to allow for the differing effects of BC laws on concentrated versus competitive industries (Giroud and Mueller 2010). In Row (6) we again find a negative and significant effect for the interaction between BC laws and the tariff cut. In Row (7) we also include a set of pre-FTA industry characteristics typically related to trade protection skill intensity, capital intensity, and TFP growth over 1986-89, as well as their interaction with the post-FTA dummy (Guadalupe and Wulf 2010). These controls allow us to further absorb the effect of observable industry differences potentially related to the magnitude of the tariffs cut. In Row (8) we include all controls separately used in Row (1)-(3) and again find a significant effect for our coefficient of interest. An additional concern with our specification is that the control variables (e.g. firm size) might themselves be responsive to the policy changes. In Row (9) we therefore provide the results obtained by only controlling for time and firm fixed effects.

Since many firms in our sample are incorporated in Delaware, our results could reflect some non-governance related changes in the legislature of Delaware-incorporated firms. Yet Row (10) shows that our findings are robust also to the exclusion of firms that were incorporated in Delaware. We also deal with the concern that, since we only use the primary segments reported in Compustat for each firm, the FTA treatment might suffer from measurement errors for firms active in multiple segments. To this end, in Row (11) we only employ single-segment firms, as inferred from the Compustat Segments database. Results broadly confirm our main results.

We proceed by exploring the timing of BC laws. Our baseline results estimate the interaction of an increase in competition with BC laws regardless of whether the BC laws were

passed before or after the FTA. Seventeen states (accounting for 79.1% of firm incorporations) passed BC laws before the FTA, eight states did so in 1989, and five states passed BC laws in 1990-91, after the FTA. Since we aim to identify how governance affects the response to a subsequent trade shock, we show that our results are robust to excluding firms incorporated in states that passed BC laws in 1990-91 (Row 12).

A possible source of selection bias is represented by firm entry and exit. New firms may choose where to incorporate depending on whether a BC law was present or not in their headquarter state. Similarly, worse-governed firms in states without a BC law may be more prone to exit from the sample. We reduce these concerns by estimating our baseline model only using firms present in the dataset from 1981 until 1995 (i.e. the last sample year). Results reported in Row (13) confirm our main finding. Finally, we verify that the interaction between BC laws and import tariff drops remains statistically significant if we compute standard errors in alternative ways, e.g. by clustering at the four-digit industry level (Row 14), or at the levels of industry and state of incorporation (Row 15).<sup>7</sup>

**[[ INSERT Table 4 about Here ]]**

#### 4.1.2. Firm and Industry Characteristics

In Table 5, we explore whether the economic magnitude of our estimates is larger for firms potentially more exposed to the FTA. First, we check whether less productive firms were hurt most. Models of trade integration with heterogeneous firms (e.g. Melitz 2003) suggest that only low-productivity firms are negatively affected by trade liberalization. Moreover, corporate

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<sup>7</sup> In untabulated regressions, we also cluster residuals by firm, state of location, or by block-bootstrap using 200 replications (Bertrand et al. 2004). We finally deal with possible outliers. In our baseline estimates, we trim 1% at each tail of the ROA distribution. We obtain similar results if we exclude firms with assets of less than \$1 million, if we trim 1% at each tail of the distribution of total assets, and if we estimate a median regression. Our results are also robust to using alternative measures of performance, such as sales divided by assets, EBITDA divided by sales, and EBITDA divided by book value of common equity.



finance research suggests that low-productivity firms are ex ante more likely to be taken over because of greater potential efficiency gains (Maksimovic and Phillips 2001). Hence, the passage of BC laws, which reduced the threat of takeover, should have affected them more negatively than high-productivity firms. We test whether the negative effect of the BC laws-FTA interaction on operating returns was mostly prevalent among low-productivity firms. We measure firm-level total factor productivity (TFP) by following the semi-parametric procedure developed in Olley and Pakes (1996). Then, we estimate separate regressions for subsamples of firms with lower and higher TFP than their industry peers in 1984, before the first BC law was passed (Panel A, Columns 1 and 2). The key interaction coefficient is negative in both subsamples, but the economic magnitude is more than twice as large for low-productivity firms. Our findings thus indicate that less productive firms suffered more from the FTA than the other firms did and especially so if they were subject to BC laws.

Next, we explore variations in the geographic proximity to the Canadian market. Gravity models of international trade imply that the intensity of trade decreases with the distance between the trading partners, and so we expect the FTA to have had a stronger effect on firms located closer to the Canadian border. As BC laws were introduced at the level of state of incorporation, we avoid spurious correlation between distance and the quality of governance. We measure proximity to Canada as the distance from the largest city in the firm's state of location to the closest U.S.-Canada border crossing. We then split the sample according to whether the firms were located closer to or farther from the median distance to Canada (300 miles) and analyze separately the effect of BC laws and reduced import tariffs for both subsamples (Panel A, Columns 3 and 4). We find that the combined effect of tariff drop and BC laws is statistically significant only for those firms close to the Canadian border.

We also explore whether less competitive industries were mainly affected by the trade shock. Since competitiveness of different industries varies in the U.S. and Canada, presumably the highest threat to U.S. industries happened in the cases when they were less competitive than their Canadian counterparts. Due to data limitations, we measure the competitiveness of a particular US industry relative to its Canadian equivalent using the difference in the import and export tariffs. Presumably, if export tariffs to Canada were low for a particular industry but import tariffs from Canada were high, the protection that this industry received in the U.S. meant that it feared competition from Canada more than Canadian industry feared competition from the U.S. We then split the sample according to whether pre-FTA import tariffs were higher than export tariffs for a particular U.S. industry (Panel A, Columns 5 and 6). We find that the combined effect of tariff reduction and BC laws was higher for firms in less competitive industries.

Because increased competition requires firms to reorganize their activities, access to capital may play an important role in adapting to the FTA. Indeed, it has been shown that greater credit constraints limit a firm's ability to react to trade liberalizations (Manova 2008). Yet the quality of corporate governance establishes the terms on which firms can raise external funds, as agency problems increase the cost of external finance. We explore this potential driver of heterogeneity by classifying (similar to Rajan and Zingales 1998) firms based on whether the industry in which they operated was above or below the across-industry median of the dollar value of external financial capital raised in 1984 (i.e. one year prior to the first BC law) normalized by the dollar value of industry assets. Results in Columns (1) and (2) of Table 6, Panel B, indicate that the negative effect on operating returns of reduced import tariffs was mainly concentrated among firms incorporated in states with BC laws *and* operating in industries that were highly dependent

on external finance. Second, we sort our sample by whether or not in 1985 the firms had been assigned a long-term bond rating by Standard & Poors (as reported in Compustat). A bond rating enables firms to access public debt markets and is therefore related to lower credit constraints (Kashyap et al. 1994; Faulkender and Petersen 2005). Results in Panel B, Columns (3) and (4), show that the combined negative effect of the FTA and worse corporate governance on operating returns was concentrated among firms that did not have credit rating, i.e. those that were ex ante more financially constrained. Third, we use firm size as an indirect measure of financial constraints. As discussed in Almeida et al. (2004), smaller/younger firms are more vulnerable to capital market imperfections. In Panel B, Columns (5) and (6), we estimate separate regressions for firms that were smaller or larger than their industry peers (i.e. below or above the industry median in 1984, one year before the first BC law). We find that the impact of BC laws was insignificant for large firms, perhaps because their size rendered takeovers less likely. In contrast, BC laws had a large and negative effect on the ROA of small firms. Although the coefficient for the interaction between BC laws and the FTA is negative and significant at conventional levels for both large and small firms, its economic magnitude is much greater for small firms.<sup>8</sup>

**[[ INSERT Table 5 about Here ]]**

#### 4.1.3. Exporters

FTA affected both import and export side of trade. In this Section, we thus separately look into how firms were affected by the reduction in the export tariffs. We first distinguish between non-exporters and exporters (i.e. firms with exports that constitute at least 1% of their sales in the pre-FTA period). We expect the results for these two groups to differ for two reasons. First,

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<sup>8</sup> The results on young vs. old firms are virtually identical and not reported from brevity.

exporters might have benefited from the expanded business opportunities in Canada due to the reduction in export tariffs. Second, exporting firms are typically associated with a high level of productivity (e.g. Clerides et al. 1998, Delgado et al. 2002; Bernard and Jensen 2004), hence the effect of import tariffs should be lower for these firms.<sup>9</sup> To account for both effects, we estimate separate regressions for exporters and non-exporters, including the reduction of both import and export tariffs as well as their interactions with BC laws. It is important for our identification that the firms in our sample did not change their exporting status after 1988 – in other words, that there is no effect from the FTA on the extensive margin of export.

Results, reported in Table 6, Columns (1)-(3) show that our main findings on import tariff cuts are concentrated in the sample of non-exporters. The interaction between BC laws and import tariffs is both significant (at the 10% level) and economically large for this group of firms. On the contrary, neither export tariffs cut, nor its interaction with the BC laws are significant at conventional levels. Thus, non-exporting firms were negatively affected by the FTA mostly through the increase in competition, and this negative impact was especially strong in environments characterized with poor corporate governance.

**[[ INSERT Table 6 about Here ]]**

On the other hand, we find that for exporters the reduction in export tariffs was positive and significant. This result suggests that exporters were able to benefit from the cut in export tariffs to Canada (which likely expanded their product market). Moreover, we find that the interaction between export tariff drop and BC laws has a negative coefficient of almost similar size, indicating that even though exporters were positively affected by the FTA, worse governance impaired their ability to benefit from the increased opportunities for exporting to Canada.

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<sup>9</sup> Another reason why exporters might have been less affected by reduced import tariffs is that their production inputs are more likely to be imported (Bernard et al. 2009), which means that exporters are more likely to benefit from the reduction in import tariffs on their supplies.

Due to data limitations we are not able to identify whether the firm is in fact exporting to Canada or to other countries. However, we can look at how our results differ across industries. In particular, we exploit the fact that some industries have higher fraction of exports to Canada than other industries, and we sort exporting firms according to whether their industry mainly exports to Canada. We use data from Schott (2008) and consider industries to be prone to exports to Canada if their share of exports to Canada over all exports in 1985 was larger than 15% (approximately the sample median). When we split our sample of exporters, we indeed find that export tariff reduction had a positive effect for exporters that operated in the industries with large export share to Canada (Columns 4 and 5).

#### 4.2. Event-Study Evidence

As discussed in Section 2, we can exploit the high uncertainty in the fate of the FTA passage to conduct an event study the differential stock price response by whether or not firms were subject to BC laws. First, since all firms within the same industry are affected to a similar extent and since their abnormal returns are likely to be correlated (MacKinlay 1997), we form industry-level portfolios. Second, for each of these portfolios we estimate cumulative abnormal stock returns over several event periods surrounding the election date: [-20,-1], [-5,-1], [-1,0], [0,0], [0,1], [0,3], and [0,5], where [-1,0] for example, denotes a two-day event window. Cumulative abnormal returns (CARs) are calculated as the difference between actual returns and expected returns, where the latter are projected using a market model with the parameters estimated from 241 to 41 trading days prior to November 21, 1988. We then test whether the average CARs of these 326 industry portfolios are statistically different from zero for each event window.

The results are given in Table 7. Columns (2)-(4) confirm that a greater reduction in tariffs led to a decline in stock prices, a finding that validates our identification strategy. For instance,

the six day return was -1.25% for firms operating in industries subject to large tariffs reductions but was not significantly different from zero for the other firms.<sup>10</sup>

Finally, in the same manner as for the industry portfolios, we form portfolios at the level of state of incorporation, estimate cumulative abnormal stock returns over the same event windows and test for whether the average CARs of these state-level portfolios are statistically different from zero for each event window. In Columns (5)-(7), we document that firms incorporated in states with BC laws experienced a larger decline in stock prices. A six day return was -1.44% for firms subject to BC laws but not significantly different from zero for other firms. Overall, the event study evidence confirms our findings that firms subject to worse corporate governance were less prepared to face an increase in competitive pressures.

**[[ INSERT Table 7 about Here ]]**

#### 4.3. Evidence from Institutional Ownership and Import Penetration Data

In this section, we start by using an alternative measure of corporate governance at the firm level to show that the FTA had a more negative effect on worse governed firms. To this end, we estimate a model in which *Import tariff cuts<sub>ij</sub>* is interacted with the fraction of a firm's stocks owned by institutional investors. Additionally, the model includes all the firm-level controls and set of fixed effects of Table 3. Results are reported in Table 8, Column (1). As shown, we find a positive relation between profitability and ownership by institutional investors. Moreover, in support of our hypothesis, we find that the coefficient for *Import tariff cuts<sub>ij</sub>* is negative whereas the interaction term with institutional investor ownership is positive. Thus reduced tariffs had a

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<sup>10</sup> Note that in economic terms this effect corresponds to the update of the probability that the FTA is passed. For instance, if the market valued that the pre-election probability of Progressive Conservative victory was 50%, the event study results represent half of the actual economic effect.

negative effect only for the firms with a small institutional investor base, i.e. firms with worse corporate governance.

**[[ INSERT Table 8 about Here ]]**

We proceed by employing import penetration at the industry level, rather than the FTA shock, as an alternative measure of import competition. We measure import penetration as the ratio of imports to imports plus domestic production in a given industry and year.

Because import penetration can be endogenous to an industry's profitability, we follow Bertrand (2004) and instrument it with the weighted average of the real exchange rates of the importing countries. In particular, we construct the weights for each industry from the shares of each foreign country's imports in the total imports of that industry. As in Bertrand (2004), we fix these shares of foreign country's imports at their year 1981 levels. We then use both the current and one-year lagged weighted real exchange rates as instruments for import penetration and use the interaction of these exchange rates with BC laws as an instrument for the interaction of import penetration with BC laws.

The results reported in Column (2) show that greater foreign competition reduced profitability, though it mainly affected the profitability of firms subject to worse corporate governance.

## **5. Conclusion**

We investigate how corporate governance affected the ability of firms to face an increase in foreign competition. Our empirical approach exploits variations in corporate governance and foreign competition from: (1) the intersection of BC laws and the Canada-U.S. Free Trade Agreement in the U.S. at the end of the 1980s; (2) institutional ownership and import tariffs.

We find that an increase in foreign competition affects primarily companies subject to bad corporate governance, and that this effect is concentrated among non-exporters, low-productivity firms, firms located closer to the Canadian border, and more financially constrained firms.

Our findings suggest that managers in firms with worse governance were not undertaking actions needed to face an increase in competition, i.e. corporate governance and competition have complementary effects. Thus, our results show that corporate governance is rigid and does not adapt immediately after competitive pressures increase, while increased competition does not immediately drive worse-governed firms out of business.<sup>11</sup>

Our results can be explained in two ways. First, managers that are protected from hostile takeovers could have become entrenched and thus exerted less effort than is required by stronger competition to remain competitive in the market and sustain profits.

A second interpretation is that managers in firms with worse governance could have been more constrained in their actions (e.g. financially constrained) than those in better-governed firms what regards the actions that they can take. Thus, even though these managers were willing, they were unable to respond adequately to increased competition. In general, our results emphasize one particular cost of bad governance and highlight the importance of sound governance for firm's ability to successfully compete in global markets.

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<sup>11</sup> In fact, after the passage of the FTA we observe somewhat more bankruptcy filings in the states with BC laws. According to the data from BankruptcyData.com and the UCLA-LoPucki's Bankruptcy Research Database, there were 8 filings for Chapter 11 by our sample firms incorporated in states with BC laws (0.24% of the sample firms) versus 20 filings in states without BC laws (0.14%) over 1983-88. However, for 1989-93 there were 94 Chapter 11 filings in states with BC laws (0.70%, an increase by 2.9 times) versus 9 such filings in states without BC laws (0.37%, an increase by 2.6 times).



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**Table 1. Industries with the highest tariffs on imports from Canada**

This table lists the 20 U.S. industries (at the 4-digit level, as of 1987) for which the FTA reduced tariffs by the greatest amount.

<b>SIC</b>	<b>Industry</b>	<b>Import tariff cut</b>
3021	Rubber and plastics footwear	36.06%
2326	Men's and boys' work clothing	28.88%
3253	Ceramic wall and floor tile	20.00%
2111	Cigarettes	19.33%
2221	Broadwoven fabric mills, manmade fiber and silk	14.53%
2037	Frozen fruits, fruit juices, and vegetables	11.85%
2821	Plastics materials, synthetic resins, and nonvulcanizable elastomers	11.26%
3671	Electron tubes	11.06%
2022	Natural, processed, and imitation cheese	10.46%
3144	Women's footwear, except athletic	10.01%
3171	Women's handbags and purses	9.73%
3229	Pressed and blown glass and glassware, not elsewhere classified	9.31%
2824	Manmade organic fibers, except cellulosic	8.83%
2211	Broadwoven fabric mills, cotton	8.81%
3143	Men's footwear, except athletic	8.55%
3824	Totalizing fluid meters and counting devices	8.06%
2084	Wines, brandy, and brandy spirits	7.83%
2015	Poultry slaughtering and processing	7.77%
3661	Telephone and telegraph apparatus	7.76%
3851	Ophthalmic goods	7.55%

**Table 2. Summary statistics**

This table gives summary statistics for firm and industry characteristics. Panel A reports mean, median, and standard deviation for average U.S. tariffs on imports from Canada for the period of 1986-88 as well as the HHI index computed in 1988. In Panel B, we report summary statistics for firm variables. See Appendix 1 for the description of all variables.

<i>Panel A. Competition and concentration measures</i>				
		<b>Mean</b>	<b>Median</b>	<b>Standard deviation</b>
Import tariff cut		0.0445	0.0333	0.0504
Export tariff cut		0.0934	0.0646	0.1144
Herfindahl-Hirschman index (1988)		0.1737	0.1482	0.1210
<i>Panel B. Firm characteristics</i>				
	<b>Number of obs.</b>	<b>Mean</b>	<b>Median</b>	<b>Standard deviation</b>
Assets size	34,264	3.6303	3.4917	2.3506
Ln (age)	34,279	2.1884	2.1972	0.9611
ROA	33,462	0.0584	0.1181	0.2421
Leverage	33,410	0.1937	0.1534	0.1874
Market-to-book	27,770	1.6435	0.6649	2.4251
Institutional investor ownership	14,428	0.2686	0.2207	0.2189
Import penetration	34,264	0.1276	0.0939	0.1208



**Table 3. Findings from the BC-FTA Identification**

This table reports OLS regressions. In Columns (1) and (2), we include the BC law dummy and the variable measuring the change in import tariffs; in Columns (3)-(6), we include the interaction between BC law dummy and the variable measuring the change in import tariffs. Column (5) also includes a variable measuring the change in export tariffs and Column (6) its interaction with the BC law dummy. Control variables are described in Appendix 1. Standard errors, clustered by state of incorporation, are given in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1%, respectively.

<i>Dependent variable: ROA</i>						
	(1)	(2)	(3)	(4)	(5)	(6)
BC	-0.0268** (0.0102)	-0.0250** (0.0097)	-0.0205* (0.0105)	-0.0189* (0.0101)	-0.0133* (0.0066)	-0.0133* (0.0066)
BC × Import tariff cuts			-0.4497** (0.2132)	-0.4615** (0.2168)	-0.5595*** (0.2058)	-0.5610** (0.2614)
Import tariff cuts	-0.3245*** (0.0958)	-0.2311** (0.0960)	0.0253 (0.2089)	0.1315 (0.2078)	0.2134 (0.2008)	0.2146 (0.2465)
Export tariff cuts					-0.0045 (0.0219)	0.0009 (0.0596)
BC × Export tariff cuts						-0.0052 (0.0559)
Size	0.1061*** (0.0058)	0.1094*** (0.0055)	0.1061*** (0.0058)	0.1093*** (0.0056)	0.1080*** (0.0065)	0.1080*** (0.0065)
Size squared	-0.0083*** (0.0005)	-0.0085*** (0.0005)	-0.0083*** (0.0005)	-0.0085*** (0.0005)	-0.0081*** (0.0005)	-0.0081*** (0.0005)
Ln (age)	-0.0315*** (0.0056)	-0.0205** (0.0101)	-0.0318*** (0.0056)	-0.0210** (0.0099)	-0.0208** (0.0093)	-0.0208** (0.0093)
State-year	0.2205*** (0.0584)	0.2220*** (0.0623)	0.2192*** (0.0573)	0.2205*** (0.0613)	0.2059*** (0.0560)	0.2059*** (0.0560)
Industry-year	0.1618*** (0.0320)	0.1593*** (0.0283)	0.1614*** (0.0318)	0.1587*** (0.0281)	0.1270*** (0.0275)	0.1270*** (0.0275)
HHI <sub><i>t-1</i></sub>		0.0840*** (0.0272)		0.0848*** (0.0266)	0.0735*** (0.0264)	0.0735*** (0.0263)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of obs.	32,777	29,512	32,777	29,512	29,512	25,001

## Table 4. Robustness

This table reports OLS regressions as in Column (3) of Table 3 with the same control variables. We only report the coefficient and the standard errors on the interaction term between BC and Import tariff cuts. In Row (1), we add the interaction between the BC law dummy and average tariffs before 1989. In Row (2), we add the interaction the BC law dummy and the HHI. In Row (3), we add - as industry controls - skill intensity, capital intensity and TFP growth (all averaged for the period 1986 to 1989 and interacted with a dummy, set equal to 1 in the post-FTA period). In Row (4), we add all the controls that were included separately in Rows (1)-(3). Row (5) provides the results of estimation in Column (3) of Table 4 but without including any controls. Row (6) excludes firms incorporated in Delaware. Row (7) excludes firms operating in more than one segment. Row (8) excludes the firms incorporated in the states that passed BC laws after the FTA implementation (i.e. BC laws passed in 1990 and 1991). In Row (9), we provide our main estimates for a subsample of firms that are present in the dataset from 1981 to 1995. Row (10) replicates estimations in Column (3) of Table 4 but instead clusters standard errors by four-digit SIC industry, while Row (11) provides two-way clustered standard errors by state of incorporation times four-digit SIC industry. All regressions, except the one in Row (5) include the control variables used in Column (3) of Table 4. Control variables are described in Appendix 1. Standard errors, clustered by state of incorporation, are given in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1%, respectively.

<i>Dependent variable: ROA</i>			
	BC × Import tariff cuts	Standard error	Number of obs.
(1) Sample after 1982	-0.4985*	(0.2571)	25,177
(2) Controls for first-generation antitakeover laws	-0.4705**	(0.2394)	32,777
(3) Controls for other second-generation antitakeover laws	-0.4036*	(0.2422)	32,777
(4) Exclude motivating firms	-0.4519*	(0.2389)	32,583
(5) Controls for BC dummy × average tariffs before 1989	-0.4476*	(0.2233)	29,512
(6) Controls for interaction between BC dummy and HHI	-0.4600**	(0.2171)	29,512
(7) Additional industry controls	-0.4963**	(0.2057)	26,018
(8) All controls from rows (1)-(3)	-0.4236**	(0.1852)	26,018
(9) No controls	-0.5255**	(0.2528)	33,462
(10) Excludes firms incorporated in Delaware	-0.5796**	(0.2214)	14,619
(11) Single-segment firms	-0.4652*	(0.2441)	15,983
(12) Only states that passed BC law before FTA	-0.5003**	(0.2400)	27,775
(13) Constant sample	-0.6999*	(0.3951)	11,524
(14) Clustered by four-digit SIC industry	-0.4615**	(0.2082)	29,512
(15) Two-way clustered by state of incorporation and industry	-0.4615*	(0.2400)	29,512

**Table 5. Firm and Industry Heterogeneity**

This table reports OLS regressions as in Column (3) of Table 3 with the same control variables. Panel A, Column (1) (resp. (2)) reports separate regressions for firms with TFP greater (resp. lower) than the median TFP of firm's three-digit SIC industry in 1984. Column (3) (resp. (4)) reports separate regressions for firms with headquarters located in a state with the principal city closer (resp. farther) than 300 miles to the U.S.-Canada border crossing. In Column (5) (resp. (6)), we estimate separate regressions for firms in three-digit SIC industries with import tariffs from Canada smaller (resp. larger) than export tariffs to Canada. Panel B, Column (1) (resp. (2)) reports separate regressions for firms in three-digit SIC industries with high (resp. low) net change in capital in 1984. Net change in capital is estimated as net change in equity and debt, normalized by book assets. Column (3) (resp. (4)) reports separate regressions for firms that had (resp. did not have) an S&P long-term debt rating in 1985. Column (5) (resp. (6)) reports separate regressions for firms that were smaller (resp. larger) than the median firm in its three-digit SIC industry in 1984. Control variables are described in Appendix 1. Standard errors, clustered by state of incorporation, are given in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1%, respectively.

**Panel A**

*Dependent variable: ROA*

	<b>High-TFP firms</b>	<b>Low-TFP firms</b>	<b>Closer to border</b>	<b>Farther from border</b>	<b>More competitive industries</b>	<b>Less competitive industries</b>
	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>	<b>(5)</b>	<b>(6)</b>
BC	0.0055 (0.0090)	-0.0221* (0.0113)	-0.0030 (0.0070)	-0.0402** (0.0161)	-0.0148** (0.0070)	-0.0137 (0.0089)
BC × Import tariff cuts	-0.4967** (0.2045)	-0.9504** (0.3912)	-0.4752** (0.1865)	-0.1705 (0.2458)	-0.4661* (0.2329)	-0.7231** (0.3068)
Import tariff cuts	0.3097* (0.1709)	0.5680 (0.4254)	0.0743 (0.1696)	-0.1807 (0.2830)	0.0223 (0.2184)	0.4107 (0.2892)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of obs.	11,571	9,755	16,880	15,897	17047	10709

**Panel B**

*Dependent variable: ROA*

	<b>High capital industries</b>	<b>Low capital industries</b>	<b>Rated firms</b>	<b>Unrated firms</b>	<b>Large firms</b>	<b>Small firms</b>
	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>	<b>(5)</b>	<b>(6)</b>
BC	-0.0227 (0.0157)	-0.0035 (0.0072)	-0.0073 (0.0078)	-0.0153 (0.0110)	-0.0006 (0.0077)	-0.0219* (0.0129)
BC × Import tariff cuts	-1.0507*** (0.2188)	-0.0429 (0.3525)	-0.0928 (0.4714)	-0.6897*** (0.2289)	-0.3875** (0.1735)	-0.8818** (0.4357)
Import tariff cuts	0.3441 (0.2364)	0.0295 (0.3467)	0.2066 (0.4863)	0.2902 (0.1962)	0.2852* (0.1649)	0.4034 (0.4185)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of obs.	12,838	11,202	4,577	20,437	12,068	10,445

**Table 6. Results by Exporting Status**

This table reports OLS regressions. We distinguish between exporters and non-exporters (a firm is classified as an exporter if exports constituted at least 1% of its sales prior to the FTA). These regressions also include, as an explanatory variable, the interaction between the change in export tariffs and our BC law dummy. In Column (1) we estimate the regression for the sample of non-exporting firms. In Columns (2)-(5) we estimate regressions for the sample of exporting firms. In Column (4) (resp. Column (5)) we estimate separate regressions for exporting firms in industries with the share of exports to Canada over all exports in 1985 higher (resp. lower) than 15%. All regressions include the control variables used in Column (3) of Table 4. Control variables are described in Appendix 1. Standard errors, clustered by state of incorporation, are given in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1%, respectively.

	<i>Dependent variable: ROA</i>				
	Non-exporters	Exporters			
					Industries with high exports to Canada
	(1)	(2)	(3)	(4)	(5)
BC	-0.0173* (0.0096)	-0.0002 (0.0056)	0.0011 (0.0056)	-0.0005 (0.0109)	0.0054 (0.0076)
BC × Export tariff cuts	-0.0242 (0.0554)		-0.2653** (0.1176)	-0.3388** -0.1423	-0.1816 -0.173
Export tariff cuts	0.0419 (0.0587)	0.0672** (0.0267)	0.3184*** (0.1140)	0.3877*** (0.1193)	0.2081 (0.1671)
BC × Import tariff cuts	-0.5624* (0.3249)	-0.4729*** (0.1698)	-0.0622 (0.1721)	0.0955 (0.7126)	-0.3185 (0.2132)
Import tariff cuts	0.0508 (0.2818)	0.1933 (0.1405)	-0.1917 (0.1403)	-0.044 (0.7033)	-0.0963 (0.1925)
Controls	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Number of obs.	12,542	9,119	9,119	5,011	4,081

**Table 7. Abnormal returns around the 1988 Canadian general election**

This table reports the cumulative abnormal returns (CARs) of stocks of U.S. firms. These returns are calculated as the difference between actual holding returns (as extracted from CRSP), and expected returns (projected using a market model with the parameters estimated from 241 to 41 trading days prior to November 21, 1988). Event date [0] in the table corresponds to November 21, 1988. Columns (1)-(3) report results for different equally weighted portfolios, constructed at the three-digit SIC industry level: Column (1) reports results of all industry portfolios; Column (2) reports the average abnormal returns for portfolios of the firms in industries subject to high (i.e. greater than 3.3%) tariff; and Column (3) reports the average abnormal returns for portfolios of the firms in industries subject to low (i.e. lower than 3.3%) tariff. Columns (5)-(6) report results for different equally weighted portfolios, constructed at the state of incorporation level: Column (5) reports the average abnormal returns for portfolios of the firms incorporated in a state that passed a BC law before 1989; and Column (6) reports the average abnormal returns for portfolios of the firms incorporated in a state that passed a BC law in or after 1989. Standard errors are given in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% levels, respectively.

CARs around Canadian election results							
	<b>All firms</b>	<b>High tariffs</b>	<b>Low tariffs</b>	<b>Difference: (2)-(3)</b>	<b>BC laws present</b>	<b>No BC laws</b>	<b>Difference: (5)-(6)</b>
Event period	(1)	(2)	(3)	(4)	(5)	(6)	(7)
[-20,-1]	-0.0035 (0.0064)	-0.0138 (0.0087)	0.0075 (0.0093)	-0.0212* (0.0127)	-0.0013 (0.0168)	0.0186 (0.0227)	-0.0199 (0.0332)
[-5,-1]	-0.0024 (0.0034)	-0.0063 (0.0041)	0.0018 (0.0055)	-0.0081 (0.0068)	0.0013 (0.0042)	-0.0069 (0.0087)	0.0081 (0.0122)
[-1,0]	-0.0003 (0.0039)	-0.0045 (0.0030)	-0.0021 (0.0040)	-0.0024 (0.0049)	-0.0050 (0.0037)	-0.0037 (0.0045)	-0.0012 (0.0067)
[0,0]	-0.0009 (0.0034)	-0.0043** (0.0018)	-0.0030 (0.0029)	-0.0013 (0.0034)	-0.0057** (0.0026)	-0.0034 (0.0036)	-0.0023 (0.0052)
[0,1]	-0.0016 (0.0037)	-0.0086*** (0.0023)	-0.0003 (0.0036)	-0.0083* (0.0043)	-0.0064* (0.0038)	0.0043 (0.0058)	-0.0106 (0.0083)
[0,3]	-0.0049* (0.0028)	-0.0091*** (0.0032)	-0.0003 (0.0047)	-0.0088 (0.0057)	-0.0135*** (0.0047)	0.0020 (0.0060)	-0.0155* (0.0088)
[0,5]	-0.0034 (0.0032)	-0.0125*** (0.0042)	0.0063 (0.0046)	-0.0188*** (0.0062)	-0.0144*** (0.0052)	0.0044 (0.0069)	-0.0188* (0.0101)

**Table 8. Alternative measures of competition and corporate governance**

This table reports OLS and instrumental variables regressions. In Column (1) we estimate regressions in which corporate governance is proxied by the fraction of the firm's shares held by the institutional investors. In Column (2) we estimate regressions in which foreign competition is proxied by import penetration of the firm's industry. Import penetration is instrumented with the weighted average of the real exchange rates of the importing countries, where weights for each industry are the shares of each foreign country's imports in the total imports of that industry, fixed in 1981. All regressions include the control variables used in Column (3) of Table 4. Control variables are described in Appendix 1. In columns 1-2 Standard errors are clustered by industry while in columns 3-4 they are clustered by state of incorporation. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1%, respectively.

<i>Dependent variable: ROA</i>		
	(1)	(2)
Institutional ownership	0.0640*** (0.0191)	
Institutional ownership × Import tariff cuts	0.9574** (0.3952)	
Import tariff cuts	-0.3687 (0.2312)	
BC		0.0982 (0.0599)
BC × Import penetration		-0.8743* (0.4679)
Import penetration		2.2823 (1.4989)
Controls	Yes	Yes
Firm fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Number of obs.	14,011	33,490

## Appendix 1. Variable construction

Name of the Variable	Description	Source
<i>Governance Characteristics</i>		
BC (or BC law present)	Dummy variable, set equal to 1 starting from the year when the BC law was passed by the state where the firm is incorporated (and to 0 otherwise).	
Institutional ownership	Fraction of firm's outstanding shares that are held by institutional investors.	Thompson Financial CDA/Spectrum
<i>Competition Variables</i>		
Pre-1989 tariffs	Average tariffs on imports of Canadian goods during the period 1986-88 for each four-digit SIC industry. For each year tariffs are estimated as the total duties paid across all sub-industries (of each four-digit SIC industry) divided by the total customs value of imports.	UC Davis Center for International Data
Import tariff cuts	Change in the tariffs on imports of Canada. Before 1989 it is equal to 0, in and after 1989 it takes a positive value equal to pre-1989 tariffs (see description of Pre-1989 tariffs variable).	UC Davis Center for International Data
Export tariff cuts	Change in the tariffs on exports of U.S. goods to Canada. Before 1989 it is equal to 0, in and after 1989 it takes a positive value equal to pre-1989 export tariffs. Pre-1989 export tariffs are estimated as the average over 1986-88 for each four-digit SIC industry.	Trefler (2004)
High (resp. low) tariff	Dummy, set equal to 1 if Pre-1989 tariffs exceeds (resp. does not exceed) 0.033 and set to 0 otherwise.	UC Davis Center for International Data
HHI	Herfindahl-Hirschman index, computed as the sum of squared market shares of all publicly listed firms (based on sales), in a given three-digit SIC industry in each year. We omit 2.5% of firm-year observations at the right tale of the HHI distribution.	Compustat (or U.S. Census)
Import penetration	Dollar value of imports divided by the sum of dollar value of imports plus the dollar value of domestic production in a given four-digit SIC industry.	Schott (2008)
Source-country weighted real exchange rate	Weighted average of real exchange rate of the U.S. dollar versus other currencies. For any given four-digit SIC industry, the weights are the shares of each foreign country's imports in the total imports of that industry, fixed in 1981.	Datastream

<i>Firm Characteristics</i>		
Ln (age)	= $\ln(\text{age}+1)$ , where <i>age</i> is the number of years that the firm has been in Compustat.	Compustat
Asset size	= $\ln(\text{at})$ , where <i>at</i> is the size of assets, in millions of U.S. dollars.	Compustat
ROA	= $\text{ebitda}/\text{at}_{t-1}$ , where <i>ebitda</i> is the earnings before interest, taxes, depreciation and amortization and where <i>at</i> is the size of assets.	Compustat
Leverage	= $(\text{dlc}+\text{dltt})/\text{at}$ , where <i>dlc</i> is the amount of financial debt due in one year, <i>dltt</i> is the amount of long-term financial debt and <i>at</i> is the size of assets.	Compustat
Market-to-book	= $(\text{prcc}_f \times \text{cshtr}_f)/\text{ceq}$ , where <i>prcc<sub>f</sub></i> is the market price of a common share at the end of the fiscal year, <i>cshtr<sub>f</sub></i> is the number of common shares outstanding and <i>ceq</i> is the book value of equity. This variable is limited to the interval between 0 and 10.	Compustat
R&D/Sales	= $\text{xrd}/\text{sale}$ , where <i>xrd</i> is the amount of R&D expenditures and <i>sale</i> denotes the annual sales.	Compustat
Large (resp. small) firm	Dummy variable, set equal to 1 if the firm's asset size of the firm is greater (resp. lower) than the median size of the firms within the firm's three-digit SIC industry in 1984 and set to 0 otherwise.	Compustat
High (resp. low) TFP firm	Dummy variable, set equal to 1 if the firm's total factor productivity (TFP) of the firm is greater (resp. lower) than the median TFP of the firms within the firm's three-digit SIC industry in 1984 and set to 0 otherwise; here TFP is estimated using the procedure described by Olley and Pakes (1996). The firm-level variables used to compute TFP are the logarithms of sales, employment, capital expenditures, and property, plants and equipment.	Compustat
More competitive (resp. less competitive) industry	Dummy variable, set equal to 1 if firm's three-digit SIC industry's import tariffs from Canada were smaller than its export tariffs to Canada before 1989.	UC Davis Center for International Data, Trefler (2004)
Closer to (resp. farther from) the border	Dummy variable, set equal to 1 if the distance from the principal city of the state in which the firm's headquarter is located is less (resp. more) than 300 miles from the nearest road crossing of U.S.-Canada border and set to 0 otherwise.	Various
Exporters (resp. non exporters)	Dummy variable, set equal to 1 if the firm reports an average of at least (less than) 1% of export to sales and set to 0 otherwise.	Compustat
Industries with high (resp. low) exports to Canada	Dummy variable, set equal to 1 if the industry's share of exports to Canada over all exports in 1985 is higher (resp. lower) than 15%.	Schott (2008)
High (resp. low) capital intensive industry	Dummy variable, set equal to 1 if the four-digit SIC industry's net change in capital is greater (resp. lower) than the median net change in capital across all industries in 1984 and set to 0 otherwise.	Compustat
Rated (resp. unrated) firm	Dummy variable, set equal to 1 if, in 1985, the firm has been (resp. has not been) assigned a long-term bond rating by Standard & Poors and set to 0 otherwise.	Compustat
<i>State (Industry) Trends</i>		
State-year	Average of the dependent variable across all firms in the same state of location of the firm, where averages are computed excluding the firm in question.	Compustat
Industry-year	Average of the dependent variable across all firms in the same four-digit SIC industry of the firm, where averages are computed excluding the firm in question.	Compustat