

LOBBYING FOR GLOBALISATION*

Michael Blanga-Gubbay, Paola Conconi and Mathieu Parenti

Using detailed information from lobbying reports filed under the Lobbying Disclosure Act, we construct a unique dataset that allows us to identify which firms lobby on free trade agreements negotiated by the United States, their positions (in favour or against) and their lobbying efforts on the ratification of each trade agreement. Using this dataset, we show that lobbying on free trade agreements is dominated by large multinational firms, which are in favour of these agreements. On the intensive margin, we exploit exogenous variation across free trade agreements to show that individual firms put more effort into supporting agreements that generate larger potential gains—larger improvements in their access to foreign consumers and suppliers and smaller increases in domestic competition—and that are more likely to be opposed by politicians. To rationalise these findings, we develop a new model of endogenous lobbying on trade agreements. In this model, heterogeneous firms select into trade and choose whether and how much to spend lobbying on the ratification of a free trade agreement, and politicians may be biased in favour of or against the agreement.

Recent decades have seen a proliferation of regional trade agreements. More than 350 are currently in force, most of which take the form of free trade agreements (FTAs).¹ For example, the United States has fourteen FTAs with twenty countries, including the North American Free Trade Agreement (NAFTA) and the US-Korea Free Trade Agreement (KORUS). Article XXIV of the General Agreement on Tariffs and Trade (GATT)/World Trade Organisation (WTO) requires that preferential trade agreements negotiated by the United States and other developed countries must

* Corresponding author: Paola Conconi, Department of Economics, University of Oxford, 10 Manor Pl., Oxford OX1 3UQ, UK. Email: paola.conconi@economics.ox.ac.uk

This paper was received on 18 July 2022 and accepted on 11 September 2024. The Editor was Ekaterina Zhuravskaya.

The data and codes for this paper are available on the Journal repository. They were checked for their ability to reproduce the results presented in the paper. The replication package for this paper is available at the following address: <https://doi.org/10.5281/zenodo.13646963>.

An earlier version of this paper was circulated under the title ‘Globalization for Sale’. We are grateful to Pol Antràs, Richard Baldwin, Matilde Bombardini, Laurent Bouton, Arnaud Costinot, Giovanni Facchini, Sylvain Chabé-Ferret, Jeff Frieden, Gene Grossman, Elhanan Helpman, Oleg Itskhoki, In Song Kim, Giovanni Maggi, Julien Martin, Florian Mayneris, Marc Melitz, Peter Neary, Marcelo Olarreaga, Ralph Ossa, Gianmarco Ottaviano, Vincent Rebeyrol, Frédéric Robert-Nicoud, Dani Rodrik and David Strömberg for helpful comments and suggestions. We also wish to thank for their comments the Editor (Katia Zhuravskaya) and three anonymous referees, as well as participants at the ETSG, ITSG, EITI, RMET and SETC conferences, Geneva Trade and Development Workshop, 4th Conference on Global Value Chains, Trade and Development, the Villars Workshop in Quantitative International Economics, Midwest International Trade Conference, CEPR ERWIT conference, CEPR/EBRD Conference on Globalisation and Labour Markets, Jornadas de Economía Industrial, Workshop on Firms in a Global Economy, KIIS workshop, Conference on Trade Policy and Firm Performance in the Global Economy, World Trade Forum, WTO workshop on Updating Trade Cooperation, GSE Summer Forum on Firms in the Global Economy, Cowles Conference on International Trade, NBER ITI Summer Institute, as well as seminar participants at the Bank of Italy, Bank of England, Aarhus, Cattolica, ECARES, King’s College, Nottingham, Exeter, Bocconi, Stockholm, Rotterdam, Warwick, LSE, University College London, World Bank, UCLA, Harvard and MIT. Paola Conconi gratefully acknowledges financial support from the European Research Council (Advanced ERC Grant Agreement No. 834253) and the European Union’s Horizon 2020 Research and Innovation Programme (Grant Agreement No. 770680). Michael Blanga-Gubbay gratefully acknowledges funding from the European Research Council (Grant Agreement No. 819394). This paper was written before Blanga-Gubbay joined the World Trade Organisation (WTO). The opinions expressed in this paper are those of the authors. They do not represent the positions or opinions of the WTO or its Members and are without prejudice to Members’ rights and obligations under the WTO. Any errors are attributable to the authors.

¹ Regional trade agreements include FTAs and customs unions. As of March 2022, 354 agreements are in force according to the World Trade Organisation.

reciprocally eliminate ‘duties and other restrictive regulations of commerce’ on ‘substantially all the trade’ among members.²

Rodrik (2018) argued that the political economy of trade agreements is ‘shaped largely by rent-seeking, self-interested behaviour on the export side. Rather than rein in protectionists, [FTAs] empower another set of special interests and politically well-connected firms’ (p. 75) that gain from these agreements. In this paper, we provide empirical and theoretical support for this view. The contribution of our paper is three-fold. First, exploiting detailed information from lobbying reports available under the Lobbying Disclosure Act (LDA), we construct a unique dataset that allows us to identify which firms lobby on FTAs negotiated by the United States, their positions (in favour or against) and their lobbying efforts (in terms of expenditure and the number of reports filed) on each agreement.³ As discussed below, existing lobbying datasets (e.g., the Senate Office of Public Records, LobbyView) do not provide information on firms’ positions and lobbying efforts on FTAs. Second, we use this dataset to document several novel facts. On the extensive margin, we show that lobbying on FTAs is dominated by large multinational corporations, which are in favour of these agreements. On the intensive margin, we exploit exogenous variation across FTAs to show that individual firms put more effort lobbying on agreements that generate larger potential gains and are more likely to be opposed by politicians. Third, we develop a new theoretical model of endogenous lobbying on FTAs by heterogeneous firms, which provides a rationale for our empirical findings on firm-level lobbying on trade agreements.

To construct our dataset, we collect all lobbying reports related to trade agreements. Our main dataset is based on all reports filed by firms that explicitly mention the bills for the ratification of FTAs in the US Congress. This methodology allows us to focus on the final version of each trade agreement, and examine whether firms lobbied in favour of or against its entry into force.⁴ As an alternative methodology, we use keywords rather than bill numbers to track lobbying reports related to trade agreements. This allows us to capture lobbying activities that take place during the negotiations of FTAs and also to include lobbying reports on the Trans-Pacific Partnership (TPP), which never reached the ratification stage.⁵ We code information on the identity of each lobbying firm, its lobbying effort on a particular FTA and whether it supports or opposes the agreement. We match our lobbying dataset with Compustat, to obtain additional information about lobbying firms (e.g., the sectors in which they operate, their sizes, whether they engage in exports and imports, their multinational status) and be able to compare them with non-lobbying firms.

A common presumption in the literature is that trade agreements can foster greater liberalisation than unilateral trade policies, because they mobilise export interests against import-competing interests. The idea is that ‘reciprocal liberalisation mobilises a country’s exporters to lobby for greater domestic trade liberalisation, since it is the avenue through which they gain better access to foreign markets. A counterweight to the import-competing sector is thereby created, diminishing the political heft of these domestic producers’ (WTO, 2007, p.129). Against this

² The Enabling Clause allows more flexibility in the case of trade agreements negotiated by developing countries.

³ As discussed in Section 2, we have also collected lobbying reports filed by industry associations and trade unions, but in this paper we focus on lobbying by individual firms, which are the key players when it comes to lobbying expenditures on trade agreements (total lobbying expenditures on FTAs by manufacturing firms is more than ten times larger than spending by industry groups and fifty-eight times larger than spending by unions).

⁴ All the trade agreements in our sample have been negotiated under Fast Track Authority. As a result, once they have been signed by the executive, they cannot be amended by US congressmen, who can only support or oppose their ratification (see Conconi *et al.*, 2012).

⁵ TPP was signed by President Obama in February 2016, but never reached the Congress floor, since President Trump withdrew from the agreement on his first day in office.

presumption, we find that lobbying on trade agreements is dominated by pro-FTA firms, with no counterweight by anti-FTA firms: in over 99% of the cases, lobbying firms support the ratification of trade agreements. This fact holds across all FTAs that have been negotiated by the United States since the passage of the LDA in 1995. We find overwhelming support among lobbying firms for agreements negotiated with small partners (e.g., Panama) and with larger partners (e.g., Korea); for agreements that were voted in Congress, as well as agreements that did not reach the ratification stage (TPP); and for lobbying activities carried out after the signature of the agreement (which can only affect legislators' ratification decisions) and before the signature (when the content of the agreement can still be modified). We also show that firms that lobby on FTAs are larger and more internationalised than non-lobbying firms.

On the intensive margin, we examine the determinants of within-firm variation in lobbying effort across trade agreements. First, exploiting exogenous variation in pre-agreement tariffs and in the size of the FTA partners, we show that individual firms spend more supporting FTAs when they generate larger potential gains, i.e., larger improvements in their access to consumers and suppliers in foreign markets and smaller increases in domestic competition. Second, we exploit exogenous variation in Congress composition to show that individual firms spend more supporting trade agreements when legislators are less likely to vote in favour of ratification, i.e., when more legislators are members of the protectionist party and when the legislative and executive branches are not politically aligned.

Our empirical findings cannot be explained by existing models of the political economy of FTAs—in which lobbying is carried out by industry groups (Grossman and Helpman, 1995; Maggi and Ossa, 2023) or homogeneous firms (Krishna, 1998; Ornelas, 2005)—or by models of lobbying by heterogeneous firms on unilateral trade policies (Bombardini, 2008). We thus develop a new model of the political economy of trade agreements, in which heterogeneous firms choose whether to pay a fixed cost to become internationalised (to export their final goods, import inputs from foreign suppliers and establish foreign subsidiaries) and how much to spend lobbying in favour of or against the ratification of a proposed FTA. The economic structure of the model allows us to study the distributional effects of the agreement, which leads to the reciprocal elimination of tariffs across all sectors. We show that the biggest winners from the FTA have higher stakes in the agreement than the biggest losers: the maximum gains achieved by internationalised firms are larger in absolute terms than the maximum losses incurred by domestic firms.

The political structure of the model builds on the literature on contests (e.g., Tullock, 1980; Becker, 1983; Dixit, 1987; Esteban and Ray, 2001; Siegel, 2009; 2010). Firms lobbying in favour of or against the FTA, anticipate the impact of their lobbying efforts on the probability of ratification. This probabilistic objective allows us to capture in a tractable way lobbying under trade policy uncertainty.⁶ Firms' lobbying efforts in our model should be interpreted as reflecting the broad range of lobbying activities covered by the Lobbying Disclosure Act—'lobbying contacts and any efforts in support of such contacts, including preparation or planning activities, research, and other background work that is intended, at the time of its preparation, for use in contacts, and coordination with the lobbying activities of others.' We assume that politicians

⁶ In the absence of uncertainty, it would be hard to explain why firms may spend millions lobbying in support of agreements that do not enter into force. For example, in 2008, thirty-four firms filed 132 lobbying reports supporting bills H.R.5724 and S. 2830 on the ratification of the United States-Colombia Trade Promotion Agreement, which were not enacted into law. Similarly, in 2016, the year in which President Obama signed the TPP, 276 firms filed 1,041 lobbying reports supporting this agreement, which did not even reach the ratification stage due to the election of President Trump.

deciding on the ratification of an agreement can be biased in favour of or against it, and there is some uncertainty about their political bias.⁷ The fact that politicians may be biased against the agreement captures other possible channels—beyond lobbying expenditures—of opposition to trade agreements.⁸

Our model can explain the observed patterns on the extensive margin of firm-level lobbying on FTAs. We derive conditions guaranteeing a unique equilibrium in which only the firms with the highest stakes in the trade agreement select into lobbying. We show that, for this equilibrium to arise, it is sufficient that the marginal impact of lobbying on the probability of ratification is capped, or, equivalently, that firms must pay a fixed lobbying cost. The equilibrium features free-riding: smaller pro-FTA firms that do not lobby benefit from the lobbying efforts of larger firms. The model is also consistent with the fact that the firms that select into lobbying on FTAs are larger and more likely to be engaged in international trade than non-lobbying firms.

On the intensive margin, the model can rationalise our empirical findings about within-firm variation in lobbying effort across trade agreements. It predicts that lobbying firms should spend more supporting FTAs that generate larger gains—i.e., larger improvements in their access to the foreign market and smaller increases in domestic competition. Firms' lobbying expenditures should also increase in the probability that legislators are biased against ratifying the agreement. Intuitively, when politicians are more likely to be in favour of the agreement, firms tend to free ride on their political bias, thereby decreasing their lobbying effort.

The rest of the paper is structured as follows. Section 1 discusses the related literature. In Section 2, we describe the data used in our empirical analysis. Section 3 presents our empirical findings. In Section 4, we develop a new theoretical model that can rationalise our empirical findings on the extensive and intensive margins of firm-level lobbying on FTAs. Section 5 concludes and discusses avenues of future research.

1. Related Literature

Our paper contributes to the literature on the political economy of trade policy. As mentioned before, our results support the argument of Rodrik (2018) that the political economy of FTAs is dominated by large corporations that gain from these agreements. It should be stressed that our findings are not in contrast with the standard view, elegantly captured by the protection for sale (PFS) model of Grossman and Helpman (1994), that trade liberalisation efforts are met by staunch opposition. This view is focused on a different type of trade policy—unilateral and sector-specific tariffs—which only affects import competition, implying that trade liberalisation can only hurt domestic producers. We consider instead FTAs, which are reciprocal and cover

⁷ When deciding whether and how much to spend lobbying on an FTA, firms may not know whether there is a majority in favour in both houses of Congress, which is required for the agreement to be ratified. Indeed, even after FTAs are signed by the President, US congressmen often oppose their ratification. Legislators' support for ratification depends on many factors, including their party affiliation, whether they are members of the House or Senate, and their proximity to elections (Conconi *et al.*, 2014).

⁸ For example, trade unions may use endorsements and mobilisation of voters to influence politicians' stances on FTAs. Blanga-Gubbay (2021) showed that lobbying against FTAs is dominated by large unions, though their lobbying expenditures are dwarfed by the amounts spent by large firms in support of these agreements (see also Online Appendix Figure A-3). Colantone *et al.* (2022) discussed evidence of political pressure against trade and globalisation more generally.

multiple sectors, and can thus benefit large internationalised firms by improving their access to foreign consumers and suppliers.^{9, 10}

Within the PFS literature, the paper that is closest to ours is by Bombardini (2008), who introduced heterogeneous firms into the model of Grossman and Helpman (1994). Our analysis differs from hers along several dimensions. From a theoretical perspective, the key difference is that we study lobbying on FTAs, while she considered lobbying on unilateral and sector-specific tariffs. Moreover, in her model there is no selection into trade and no distributional effects of trade policy: all firms gain from an increase in the sectoral tariff. By contrast, our model features selection into trade and distributional effects of trade policy: the entry into force of an FTA generates winners and losers. When the marginal impact of lobbying on the probability of ratification is low enough, only firms with sufficiently high stakes in the trade agreement have incentives to lobby. The asymmetry in stakes leads to selection into lobbying by the largest pro-FTA firms. In terms of data, we exploit detailed information from lobbying reports available under the LDA, which makes it possible to trace the specific policy issues targeted by lobbyists. By contrast, Bombardini (2008) used data on campaign contributions by political action committees (PACs), which do not allow one to identify the policy issues that the lobbyists are trying to influence. Finally, her empirical analysis is at the industry level (explaining cross-industry variation in the level of protection), while ours is at the firm level (explaining selection into lobbying and within- and cross-firm variation in lobbying expenditures on trade agreements).

Our empirical results on the extensive margin of lobbying on trade agreements resonate with previous studies showing that large firms favour tariff reductions (e.g., Blanchard and Matschke, 2015; Ludema *et al.*, 2018).¹¹ They are also in line with several studies by political scientists, which emphasise the outsized role that large firms play in trade politics (e.g., Kim, 2017; Osgood, 2017; 2021).¹² None of these studies examines firms' lobbying expenditures on trade agreements.

The political structure of our model is related to theoretical work by Cole *et al.* (2021), who also made use of the tractability of the contest-success function to study lobbying on a trade agreement. They revisited the canonical rationale for trade agreements in the presence of lobbying by one pro- and one anti-agreement group in each country, which gives rise to transnational political externalities. In this setting, they showed that trade agreements fail to eliminate all terms-of-trade externalities. The goal of our theoretical model is instead to explain the observed patterns on the extensive and intensive margins of firm-level lobbying on trade agreements. To this end, we study lobbying by individual firms rather than groups, allowing for free-riding across firms. We also augment the standard contest-success function framework with uncertainty about governments'

⁹ Small domestic firms, on the other hand, tend to lose from FTAs, since they suffer from increased import competition in the domestic market and do not benefit from improved access to foreign markets. For example, the US-Korea FTA may benefit large footwear and apparel companies like Nike, but hurt smaller firms in the same sector.

¹⁰ If we applied our model to lobbying on unilateral and sector-specific trade policies rather than FTAs, large firms would select into lobbying for higher tariffs, in line with the PFS literature. Moreover, our empirical results are based on lobbying expenditures, which capture two key roles played by lobbyists (Blanes i Vidal *et al.*, 2012; Bertrand *et al.*, 2014): providing information to legislators to guide their decision-making process, and providing access to politicians through their connections. By contrast, the PFS literature examines 'quid-pro-quo' lobbying, whereby politicians implement policies in exchange for campaign contributions.

¹¹ Blanchard and Matschke (2015) combined data on the activities of US foreign affiliates with detailed measures of US trade policy to study the relationship between offshoring and preferential market access. Ludema *et al.* (2018) examined lobbying by firms to influence Congressional decisions to suspend MFN tariffs on their inputs.

¹² Kim (2017) showed that more productive exporting firms are more likely to lobby to reduce tariffs, especially when their products are differentiated. He did not distinguish lobbying on FTAs from other trade policies (e.g., MFN tariffs, temporary trade barriers). Osgood (2017) documented that 'America's business community has (almost) uniformly supported trade liberalisation'. His analysis is based on attitudes towards FTAs rather than on lobbying reports. Osgood (2021) studied the way firms organise collectively rather than individually.

stances on FTAs. This novel feature of our model rules out trivial Nash equilibria, in which firms in both countries would choose not to lobby. Taken together, the novel elements of our model—lobbying by individual firms, free-riding and political uncertainty—allow us to rationalise our empirical findings.

Our paper is also related to the literature on firm heterogeneity in trade, which emphasises selection effects: only the most productive firms in a sector engage in exporting (e.g., Bernard and Jensen, 1999; Melitz, 2003; Freund and Pierola, 2015), importing (e.g., Antràs *et al.*, 2017; Blaum *et al.*, 2018) and are multinational corporations (e.g., Helpman *et al.*, 2004). This literature suggests that, by eliminating all tariffs among member countries, FTAs can benefit large internationalised firms through various channels: they reduce the cost of exporting their final goods (intermediate inputs) to foreign consumers (from foreign suppliers), as well as the cost of trading with their foreign subsidiaries.¹³

Finally, our analysis is related to ongoing work by Blanga-Gubbay *et al.* (2023), in which we examine firm-level lobbying on ‘deep’ trade policies (e.g., rules on intellectual property rights, investment, environmental and labour standards, sanitary and phytosanitary measures) included in both domestic legislation and trade agreements. We collect all lobbying reports that mention these policies and code the identity of lobbying firms and their lobbying efforts on each deep trade policy.¹⁴ The data show that lobbying on deep trade policies is dominated by (domestic and foreign) multinational firms. Their lobbying efforts are mostly focused on policies that help to protect their assets in foreign markets (e.g., rules on intellectual property rights and investment) and on the removal of non-tariff barriers (export restrictions, red tape at borders).

2. Data

2.1. Lobbying Dataset

We construct a novel dataset on firm-level lobbying expenditures on trade agreements, using detailed information from lobbying reports available under the LDA, which was passed in 1995. This is the first dataset that traces the payments firms make to influence the passage of trade agreements, as well as their positions (in favour or against the agreement).

The LDA requires individuals and organisations engaged in lobbying to register with the federal government.¹⁵ Lobbying activities encompass all efforts to influence the thinking of

¹³ As pointed out by Baldwin (2011), when firms set up production facilities abroad—or form long-term ties with foreign suppliers—they can gain from trade agreements, not only through the elimination of tariffs, but also through the inclusion of provisions on non-tariff regulations (e.g., rules on investment, intellectual property rights). This argument is formalised by Antràs and Staiger (2012), who developed a theoretical model showing that in the presence of offshoring of intermediate inputs deep integration is necessary to achieve internationally efficient policies. Related work by Blanchard (2007; 2010) shows that foreign direct investment and international ownership alter optimal tariffs. Ornelas and Turner (2008; 2012) examined how bilateral bargaining among value chain partners affects optimal trade policy for final goods and inputs. Blanchard *et al.* (2021) studied how global value chain linkages modify countries’ incentives to impose protection.

¹⁴ We also keep track of the institutions targeted by the lobbyists, which include, not only those directly involved in trade policy (e.g., Congress, the Department of Commerce, the United States Trade Representative), but also federal agencies that regulate domestic policies (e.g., the Patent and Trademark Office, the Food and Drug Administration). The dataset in Blanga-Gubbay *et al.* (2023) contains all reports filed by firms related to lobbying on deep trade policies (even those not included in FTAs). Unlike the dataset constructed for this paper, it does not contain information on the direction of firms’ lobbying efforts (coding support or opposition is only possible when the policy targeted by the lobbyists is dichotomous, as in the case of FTA ratification).

¹⁵ There are minimum thresholds to register as a lobbyist in terms of time and income. Based on the Honest Leadership and Open Government Act of 2007 that strengthened the disclosure requirements of the 1995 Act, an individual is

legislators or other covered federal officials for or against a specific cause. As stated in the Act, they include lobbying contacts and efforts in support of such contacts, preparation and planning activities, research and other background work. The LDA requires individuals and organisations to file semi-annual reports providing information on their lobbying activities at the federal level. Lobbyists must disclose all their expenditures, no matter how small.¹⁶ The legislation imposes significant civil and criminal penalties for violations of its requirements.

Using data on lobbying expenditures has a key advantage compared to the data on campaign contributions used in earlier empirical studies on the political economy of trade policy (e.g., Goldberg and Maggi, 1999; Gawande and Bandyopadhyay, 2000): it allows researchers to directly trace the issues targeted by lobbyists, which is not possible for data on contributions. This is because the LDA requires the disclosure of, not only the amounts of lobbying expenditures, but also the issues for which the lobbying is carried out.¹⁷ It should also be noted that a broad comparison of the two types of lobbying shows that total lobbying expenditures (on all issues) are more than ten times larger than total PAC contributions (to all politicians), as shown in [Online Appendix Figure A-1](#).

To construct our dataset on firm-level lobbying expenditures on trade agreements, we use lobbying reports that are officially available from the website of the Senate Office of Public Records (SOPR). This is the same source used to construct the LobbyView dataset by Kim (2018). Lobbying reports filed prior to 2008 are not available in scannable PDF format, and some of them are digital versions of handwritten documents. Starting from 2008, following the Honest Leadership and Open Government Act of 2007, lobbying reports are available in a digitalised format at the quarterly level. It is important to stress that neither SOPR nor LobbyView provide information on firms' lobbying efforts on FTAs and the direction of lobbying (in favour of/against), which is key to study the extensive and intensive margins of lobbying on trade agreements.

We examine lobbying by individual firms on trade agreements negotiated by the United States. Our main sample is based on all reports filed by firms that explicitly mention the bills for the ratification of trade agreements in the US Congress.¹⁸ This allows us to focus on the final version of an agreement, and examine whether firms lobby in favour of or against its implementation. In robustness checks, we use keywords rather than bill numbers to identify lobbying expenditures related to FTAs.

Although our analysis is focused on lobbying by individual firms, we have collected all lobbying reports related to FTA ratification bills, including those filed by industry associations and trade unions. As shown in [Online Appendix Figure A-3](#), lobbying on trade agreements is dominated by individual firms: expenditures by manufacturing firms are more than ten times

considered a 'lobbyist' with respect to a particular client if he or she makes more than one lobbying contact, and his or her lobbying activities constitute at least 20% of the individual's time in services for that client over any three-month period. In terms of income, an organisation employing in-house lobbyists is exempt from registration if its total expenses for lobbying activities do not exceed \$10,000 during a quarterly period. Lobbying firms have to register if their total income for matters related to lobbying activities on behalf of a particular client exceeds \$2,500. If a lobbying firm represents many companies on the same issue, the client (to which the \$2,500 registration threshold applies) is 'the coalition or association and not its individual members'.

¹⁶ When lobbying expenditures are below \$5,000 during one quarter, the lobbyist still has to file the report (specifying the general and specific issues it lobbied on), but does not have to write down the exact amount. In our lobbying dataset, a few firms report lobbying expenditures on FTAs below \$5,000.

¹⁷ When filing its report, a firm has to choose the issue(s) it lobbied on from a list of seventy-six general issues (trade being one of them), and must indicate at least one specific issue (e.g., ratification of a particular trade agreement).

¹⁸ See [Online Appendix Table A-1](#) for a list of all the FTAs that have been ratified during our sample period and the corresponding bill numbers.

larger than those by industry groups (which mostly lobby in favour of FTAs) and more than fifty times larger than those by unions (which mostly lobby against FTAs).

Each report in our dataset provides information on the identity of the lobbying firm lobbying on a trade agreement. A firm can lobby directly (through its own lobbying department) or indirectly (through a lobbying company).¹⁹ To study the extensive margin of lobbying on FTAs, we define the dummy variable *Lobbying on FTA*_{*f,a,t*}, which is equal to 1 if firm *f* lobbies on the ratification of agreement *a* in year *t*. As explained below, we also code the direction of lobbying, i.e., whether the firm is in favour of or against ratification, using information from lobbying reports and official company statements.

To capture the intensive margin of lobbying on trade agreements, we construct the variable *Lobbying Expenditure on FTA*_{*f(j)a,t*}, which measures the amount (in US dollars) that firm *f* (operating in sector *j*) spends on the ratification of agreement *a* in year *t*. Lobbying reports provide information on the amount spent by each firm lobbying in a given period, but do not provide a breakdown of the expenditures by issue. To link the expenditures to a particular agreement, we follow a standard procedure in the literature (e.g., Facchini *et al.*, 2011; Ludema *et al.*, 2018), using information contained in Sections 15 and 16 of each report, in which firms have to respectively declare the general and specific issues to which their lobbying activities are related.²⁰

We also construct an alternative measure of firms' lobbying efforts on trade agreements: the variable *Number of reports on FTA*_{*f(j)a,t*} is the number of lobbying reports filed by the firm in year *t* on agreement *a*. Note that this variable does not suffer from the measurement error that arises when allocating lobbying expenditures across different policy issues.

We collapse the data at the firm-FTA-year level. Our main lobbying database contains 318 firm-FTA-year observations based on 803 reports filed by 112 firms related to the twelve FTAs ratified by the United States after the passage of the Lobbying Disclosure Act. On average, individual firms spend \$253,094 per year on the ratification of a trade agreement. The top spenders include AT&T, Daimler, Chevron, Philip Morris, JPMorgan Chase, Walt Disney, Boeing and Pfizer. Firms usually lobby on the same agreement more than once: the average number of reports for each ratification bill is 2.53 per year.

These statistics suggest that lobbying on the ratification of trade agreements is a rare event. This result echoes previous studies that examine lobbying on specific issues.²¹ The number of lobbying firms is larger when using keywords rather than bill numbers to identify lobbying on

¹⁹ In the first case, the firm reports its name and address in Sections 1 and 2 of the lobbying report and the amount of its lobbying expenses in Section 13. In the second case, the registrant is the lobbying firm, which reports the amount received by the firm as income in Section 12. Direct lobbying is the prevalent mode in our data: in more than 70% of the cases, firms use their own lobbying department to influence the ratification of FTAs; in the remaining cases, they use lobbying firms (22.99%) or combine the two modes (6.57%). There is no evidence that firms coordinate their lobbying efforts by using the same lobbying firm: there are thirty-seven lobbying firms in our database; in 70.3% of the instances, these firms lobby on behalf of a single client; in the other cases, the clients operate in very different sectors.

²⁰ All the reports in our main sample mention trade (TRD) as a general issue and an FTA ratification bill as a specific issue. In most cases (91.4%), other issues are also mentioned. To define the share of expenditures associated with an FTA, we first count the number of general issues in each lobbying report. Second, we verify whether the FTA ratification bill was also mentioned, as a specific issue, in a general issue other than trade (this occurs in 12% of the instances). For each report, we divide equally the reported expenditure by the number of general issues and then multiply this amount by the number of general issues under which the ratification of the FTA was mentioned. For example, if a firm lobbied on four general issues, and the ratification of an FTA was mentioned (as a specific issue) in two out of the four general issues, we allocate half of the reported lobbying expenditure to the FTA. When firms file multiple reports on the same FTA, we sum up the amounts each firm spends in a given year lobbying on a particular agreement.

²¹ For example, Kerr *et al.* (2014) found that only 327 firms lobbied on immigration policies in 1996–2008. When looking at lobbying on all policy issues, Huneeus and Kim (2018) found that only 766 public firms engaged in lobbying.

FTAs. This is not surprising, since lobbying on ratification bills only occurs after the agreement has been signed.²² The limited number of reports related to trade agreements is not driven by firms not mentioning the specific issues they lobby on. This can be seen by using the LobbyView dataset by Kim (2018) and searching for all reports in which a firm lobbies on trade (i.e., mention TRD as the general issue in Section 15). In only 0.34% of the cases the firm does not mention any specific lobbying issues (i.e., leaves Section 16 empty).

To determine the position of a lobbying firm, we manually code whether it supported or opposed the ratification of the trade agreement. In around 30% of the cases, the firm's position is clearly stated in Section 16 of the lobbying report. Examples of expressions indicating support for the ratification of an agreement are *support*, *sought passage*, *advocate for swift passage*, *passage of bill in its entirety*, *provisions promoting the passage*, *enactment of entire bill*, *promotion of entire agreement*, *urged passage*.²³ As explained below, when the information on the firm's position is not clearly expressed in the report, or is missing, the coding of the firm's position is based on official company statements (e.g., company websites, public statements) around the time of the FTA ratification.

Online Appendix Figures A-6–A-9 provide four examples of lobbying reports in which Section 16 provides information about the firm's position. The first was filed by Miller Brewing Company in the second semester of 2005.²⁴ The company spent around \$375,000 lobbying to 'Support S.1307 (to Implement the Dominican Republic-Central America-U.S. Free Trade Agreement Implementation Act); Support H.R. 3045 (to Implement the Dominican Republic-Central America-U.S. Free Trade Agreement Implementation Act)'. The second example is a report filed by Philip Morris in the third quarter of 2008. The company spent \$1,020,000 lobbying on 'HR 5724/S2830–United States-Colombia Trade Agreement Implementation Act; To implement the United States-Colombia Trade Promotion Agreement; *enactment of the entire bill*'. The last two reports were filed in the third quarter of 2011 in support of KORUS. The third report is an example of indirect lobbying, since it was filed by a lobbying company: the Laurin Backer Group reports receiving \$20,000 from Masco Corporation to lobby 'in support of the Korea-US Free Trade Agreement (HR 3080/D1642)'.²⁵ The last report was filed by US Steel Corporation, which spent \$800,000 lobbying on '*Implementation and enforcement of U.S. trade laws*', including 'H.R. 3080–United States Korea Free Trade Agreement, *entire bill*'.

As mentioned above, when the report does not contain explicit information about the firm's position, we use official company statements to code whether the firm supported or opposed the agreement. For example, in a report filed in the third quarter of 2011, Applied Materials Inc. declares spending \$250,000 lobbying on 'US-Korea Free Trade Agreement (HR 3080)'. On the day of the ratification of the FTA, the company released a statement applauding the US Congress for the result of the vote:

²² For example, when looking at lobbying on the US-Korea FTA, we find 113 reports filed by forty-seven firms during the 2011–12 period that mention the ratification bills for this agreement (H.R.3080 and S. 1642). When extending the analysis to all lobbying reports the mention the keywords related to the KORUS agreement, there are 588 reports filed by ninety firms during 2000–11.

²³ In reports filed by firms, we never found wording that clearly expressed opposition, which was instead regularly used in reports filed by labour unions (e.g., *lobbied in opposition*, *oppose*, *against*).

²⁴ Note that this is an example of an early lobbying report filed on a semi-annual basis in a non-digitalised format. As mentioned before, starting from 2008 lobbying reports are filed electronically at the quarterly level.

²⁵ Most firms in our dataset lobby directly, i.e., through their in-house lobbyists: in 70.44% of the cases the registrant is the firm. In the remaining cases, they use a lobbying firm (22.99%) or combine the two lobbying modes (6.57%).

After more than four years of convoluted negotiations (both bilaterally and domestically), Congress today *finally approved* the legislation necessary to ratify and implement the Korea-U.S. Free Trade Agreement (KORUS FTA). This *long overdue* action is an important step in U.S. trade policy, and will help *open new opportunities and new markets*. [...] Applied Materials has *long championed passage* of the KORUS FTA, and has worked side-by-side with the U.S.-Korea Business Council and the U.S.-Korea FTA Business Coalition to *push for passage and implementation* of what is the most significant trade agreement since the North American Free Trade Agreement (NAFTA). [...] Applied Materials *applauds* Congress for taking this important step to open up new markets in South Korea, while assisting U.S. workers who might be displaced. This truly is a win-win and we look forward to speedy passage in Korea's National Assembly.²⁶

In all but two cases, we can code the firm's position on the FTA, based on information from the reports or official company statements. We exclude these cases from our analysis.

Our main dataset is based on lobbying reports that mention FTA ratification bills. This allows us to focus on the final version of a trade agreement, and examine whether firms lobby in favour of or against its entry into force. As a robustness check, we use keywords rather than bill numbers to track lobbying reports related to a particular trade agreement. This methodology allows us to consider lobbying expenditures on the Trans-Pacific Partnership Agreement. This FTA was signed by President Obama in February 2016, but did not reach the ratification stage (President Trump withdrew from the agreement on his first day in office). [Online Appendix Figure A-10](#) provides an example of a lobbying report filed related to TPP: in the first quarter of 2016, Qualcomm, Inc. declares spending \$1,730,000 lobbying on 'support for Trans Pacific Partnership'.

Using keywords also allows us to consider lobbying reports filed during the negotiations of an FTA. Focusing on the Korea-US FTA, the most important trade agreement ratified since the passage of the Lobbying Disclosure Act in 1995, we have collected all the reports that mention the words *Korus*, *US-Korea FTA* or *US-Korea Free Trade Agreement*. When using this methodology, we obtain 588 reports filed by firms related to this agreement, covering the period 2000–11 (see [Online Appendix Figure A-4](#)).

2.2. Firm-Level Variables

We match our lobbying dataset with Compustat to obtain additional information on lobbying and non-lobbying firms. This database from Standard and Poor's provides extensive information on publicly listed firms since the 1950s. We were able to match 89% of the firms in our lobbying dataset with firms in Compustat using the company name. Among the unmatched lobbying firms are some of the largest privately held companies of the United States.²⁷ The matched dataset contains 114,409 firm-FTA-year observations, covering the 2001–12 period.

Using information from the Fundamentals segment of Compustat, we construct two proxies for a firm's size: $Employment_{f,t}$ is the total number of employees (in thousands) of firm f in year t ; $Sales_{f,t}$ is total sales (in millions of US dollars) by firm f in year t . We also construct the dummy variable $Multinational_{f,t}$, which is equal to 1 if firm f reports positive or negative foreign income taxes in year t . This variable is constructed using the information on the financial

²⁶ See <https://web.archive.org/web/20111016010358/http://blog.appliedmaterials.com/congress-approves-korea-free-trade-agreement>. All official company statements used to code the positions of lobbying firms are available from the authors upon request.

²⁷ For example, the unmatched firms include Koch Industries, Mars Inc. and Bechtel Group, which are respectively the second, third and fifth largest private companies in the United States.

statements of firms and is meant to identify multinational corporations, which own or control production of goods or services in at least one country other than the United States.²⁸

Online Appendix Table A-2 provides descriptive statistics on the firms that lobby on trade agreements in the matched dataset. These tend to be large corporations: mean yearly sales and mean employment are respectively equal to US\$63 billion and 159,000 employees. The overwhelming majority (84%) of firms that lobby on FTAs are also multinational corporations.

Compustat also contains information on a company's main activity, based on its reported Standard Industrial Classification (SIC) code and North American Industry Classification System (NAICS) code. Online Appendix Figure A-2 illustrates the distribution of firms lobbying on FTAs by SIC2 sector. The top-three lobbying sectors are 'Chemical & Allied Products' (SIC 28), 'Industrial Machinery & Equipment' (SIC 35) and 'Transportation Equipment' (SIC 37).

2.3. FTA-Level Variables

In what follows, we describe two sets of FTA-level variables, which capture exogenous variation across FTAs in their potential effects on firms' profits and in politicians' support for their ratification. All variables are constructed using data before the entry into force of the agreement.

Descriptive statistics of the FTA variables are reported in Online Appendix Table A-3.

2.3.1. Expected effects of FTAs

As mentioned before, multilateral trading rules require the FTA partners to eliminate all tariffs between them. We construct three variables to capture exogenous variation in the expected effects of agreement a on US firms operating in sector j : *Improved access to foreign consumers* $_{j,a}$ measures the expected gains associated with the reduction in the tariffs they face when exporting their final goods to the FTA partner(s); *Improved access to foreign suppliers* $_{j,a}$ captures the expected gains due to the reduction in the tariffs they face when importing inputs from the FTA partner(s); *Increased competition in the domestic market* $_{j,a}$ measures the expected losses due to the lower tariffs faced by their FTA competitors when exporting to the United States.

Below we describe the three steps we followed to construct these measures. The first step is the construction of variables capturing the extent to which an FTA, if it enters into force, will lead to tariff reductions affecting firms operating in industry j . This depends on the Most Favoured Nation (MFN) tariffs applied by the United States and its FTA partners vis-à-vis each other, which can be taken as exogenous for firms in our lobbying dataset.²⁹

²⁸ This proxy for a firm's multinational status is justified by Section §210.4-08(h)(1) (*Income Tax Expense*) of the US Securities and Exchange Commission rules, which mandates the disclosure of the components of income as either domestic or foreign. In an earlier version of the paper, we also defined the variables *Exporter* $_{f,t}$ and *Importer* $_{f,t}$ to capture a firm's trade participation. However, these variables can only be defined for a small subset of observations in our matched sample, due to missing data.

²⁹ As pointed out by Alfaro *et al.* (2016), MFN tariffs are the result of long rounds of multilateral trade negotiations, are very persistent and must be applied in a non-discriminatory manner to imports from all countries, which severely limits negotiators' flexibility to respond to political pressure. Governments tend to use antidumping duties and other temporary trade barriers to respond in the short term. Recall that all lobbying reports are filed after the passage of the Lobbying Disclosure Act in 1995. In this period, the United States and its trading partners applied MFN tariffs that were determined in the Uruguay Round of trade negotiations concluded in 1994, and can thus be taken as exogenous for firms in our lobbying dataset.

The source of the tariff data is the World Integrated Trade Solution (WITS) database.³⁰ National tariff schedules are based on the Harmonised System (HS) classification and defined at the product (HS6) level. WITS also provides tariff data based on other classifications, including the SIC. We use these data to construct the following variables at the SIC4 level, the same level of sector aggregation of firms in our matched dataset.³¹

Tariff applied by FTA partner on final good_{j,a}: this is the tariff faced by US firms operating in sector j when exporting to the FTA partner(s), before the ratification of agreement a .

Tariff applied by US on inputs_{j,a}: this is the tariff faced by US firms operating in sector j when importing their inputs from the FTA partner(s), before the ratification of agreement a . To identify the relevant inputs, we use detailed input-output data from the Bureau of Economic Analysis (BEA), in line with recent studies (e.g., Alfaro *et al.*, 2016; 2019).³² For every pair of industries, i, j , the input-output accounts provide the dollar value of i required to produce a dollar's worth of j .³³ For every firm producing good j , we focus on its top one hundred inputs i as ranked by the direct requirement coefficients IO_{ij} and collect data on the pre-agreement tariffs applied by the United States on imports of these goods. The variable is constructed as a weighted average of the tariffs applied on the top one hundred inputs of good j , using the IO_{ij} coefficients as weights.

Tariff applied by US on final good_{j,a}: this is the tariff applied by the United States on imports in sector j from the FTA partners, before the ratification of agreement a .

In [Online Appendix Table A-3](#) we report descriptive statistics for the tariff variables.³⁴ These show that the United States tends to apply lower tariffs before the agreement than its FTA partners,³⁵ and that input tariffs tend to be lower than tariffs on final goods.³⁶

³⁰ We use the Effectively Applied Tariffs in the year of the ratification of the FTA. The results are robust to using data from earlier years. Before the agreement, US FTA partners always applied MFN tariffs on US imports. In a few cases, the United States applied lower-than-MFN (GSP) rates on imports from its FTA partners. For example, before the ratification of the CAFTA-DR agreement in 2005, the United States applied a tariff of 87.5% on imports of smoking tobacco (HS240310) from the Dominican Republic, which was below the 350% MFN rate. Our results are robust to dropping those cases or replacing GSP tariff rates with the corresponding MFN rates.

³¹ We have constructed three versions of these variables, based on the average tariffs, average weighted tariffs and maximum tariffs applied in an SIC4 sector.

³² Benchmark IO tables from the BEA include the make table, use table, and direct and total requirement coefficient tables. We employ the Use of Commodities by Industries after Redefinitions 1992 (Producers' Prices) tables. The BEA employs six-digit input-output industry codes, while Compustat uses the SIC industry classification. We use the concordance guide provided by the BEA. The matching is almost one to one for manufacturing sectors.

³³ Using an example from Alfaro *et al.* (2016), one of the inputs necessary to make ships is fabricated metal structures. The IO_{ij} coefficient for this i - j pair is 0.0281, indicating that 2.8 cents' worth of metal structures are required to produce a dollar's worth of ships.

³⁴ Looking at [Online Appendix Table A-3](#), note that the number of observations is smaller than for the other FTA variables. This is due to the fact that tariff schedules can only be defined for tradable sectors. Moreover, tariff data are missing in some sectors for both the United States and its trading partners.

³⁵ There are two reasons for this: (i) the United States has generally lower MFN tariffs than its FTA partners; (ii) as mentioned above, before the entry into force of trade agreements, the United States was often granting better-than-MFN (GSP) tariff preferences to FTA partners.

³⁶ The variable *Tariff applied by US on inputs_{j,a}* has a much lower mean (0.145) and maximum (3.94) than *Tariff applied by US on final good_{j,a}*. This is due to the fact that this variable is constructed as a weighted average of the tariffs applied to the inputs of good j , and the IO_{ij} coefficients used as weights are very low (0.038 on average in our sample). If we construct the variable *Tariff applied by US on inputs_{j,a}* as a simple (unweighted) average of input tariffs, the mean is 3.31 (which is very similar to the mean of *Tariff applied by US on final good_{j,a}*).

In a second step, we construct measures capturing exogenous variation in the size of the partner(s) of an FTA.³⁷

GDP of FTA partner_a is the GDP of the partner(s) of agreement *a* (in millions of US dollars).

Export potential of FTA partner_{j,a} measures US exports in industry *j* to the partner(s) of agreement *a* (in millions of US dollars).

Sourcing potential of FTA partner_{j,a} measures US imports of inputs used by industry *j* from the partner(s) of agreement *a* (in millions of US dollars). To identify the relevant inputs, we use input-output tables from the BEA (see the description of the variable *Tariff applied by US on inputs_{j,a}* above).

Competition from FTA partner_{j,a} measures US imports in sector *j* from the partner(s) of agreement *a* (in millions of US dollars).

In the third step, we combine the measures described above to construct variables that capture exogenous variation in gains and losses that US firms operating in sector *j* expect as a result of the entry into force of agreement *a*.

Improved access to foreign consumers_{1,j,a} (*Improved access to foreign consumers_{2,j,a}*) is equal to *Tariff applied by FTA partner on final good_{j,a}* multiplied by *GDP of FTA partner_a* (*Export potential of FTA partner_{j,a}*).

Improved access to foreign suppliers_{1,j,a} (*Improved access to foreign suppliers_{2,j,a}*) is equal to *Tariff applied by US on inputs_{j,a}* multiplied by *GDP of FTA partner_a* (*Sourcing potential of FTA partner_{j,a}*).

Increased competition in the domestic market_{1,j,a} (*Increased competition in the domestic market_{2,j,a}*) is equal to *Tariff applied by US on final good_{j,a}* multiplied by *GDP of FTA partner_a* (*Competition from FTA partner_{j,a}*).

2.3.2. Expected political support for FTAs

We construct two sets of variables capturing exogenous variation in expected political support for trade agreements from the point of view of firms lobbying on an FTA.

First, US legislators' support for FTAs should be lower when different parties control the executive and the legislative branches of government (e.g., Lohmann and O'Halloran, 1994; Edwards *et al.*, 1997). This is because congressmen who are from the same party as the president are more likely to support the FTA ratification bills—and any other bills put forward by the executive. For example, the estimates in Conconi *et al.* (2014) indicate that belonging to the same party as the executive increases the probability of a vote in favour of trade liberalisation bills by around 11%. We define the dummy variable *Divided Government_a*, which is equal to 1 if the legislative and executive branches are not politically aligned in the year of ratification of agreement *a*. We construct two versions of this variable. The first (second) is equal to 1 if one

³⁷ Again, these variables are constructed using pre-agreement data. The source of the data is the US Census (with the exception of *GDP of FTA partner_a*, which is constructed using data from the World Bank).

party controls the executive branch, and the other party controls one (both) of the houses of the legislative branch.

Second, we exploit variation in composition of Congress at the time of the ratification of trade agreements. Our main dataset is based lobbying reports related to trade FTA that were voted in Congress during 2001–11 (see [Online Appendix Figure A-1](#)). During this period, Democrats were systematically more protectionist than Republicans (e.g., Baldwin and Magee, 2000; Hiscox, 2004, Conconi *et al.*, 2014; Irwin, 2017). For example, based on roll-call votes on all major trade liberalisation bills over the period 1973–2005, Conconi *et al.* (2014) found that membership in the Democratic party decreases the probability that congressmen support trade liberalisation by more than 40%. Similarly, Irwin (2017) documented that, during the 1993–2015 period, Democrats were significantly less likely to vote pro-trade than Republicans. From the point of view of firms in our lobbying dataset, expected political support for FTAs should be lower when a larger share of US congressmen belong to the Democratic party. We thus define the variable *Share of Democrats in Congress_a*, which is equal to the share of members of the legislative branch belonging to the Democratic party in the year of the ratification of agreement *a*. We construct two versions of this variable. The first includes only congressmen who are members of the Democratic party, the second also includes independent congressmen who caucus with the Democrats.

Note that, although most trade agreements were ratified by a sizeable majority, some votes (e.g., ratification of CAFTA) were very close, and in one case (the first FTA with Colombia) the agreement did not reach the Congress floor due to limited political support. One may think of using variation in the *outcome* of ratification votes in Congress to proxy for politicians' support for/opposition to FTAs. However, vote outcomes reflect firms' lobbying efforts and would thus not capture exogenous variation in political support for FTAs.

3. Stylised Facts on Firm-Level Lobbying on FTAs

In this section, we document several novel facts on firm-level lobbying on trade agreements.

In Section 3.1, we focus on the extensive margin of lobbying, examining the characteristics of firms that lobby on trade agreements. The section provides empirical evidence supporting the claim of Rodrik (2018) that lobbying on FTAs is dominated by large internationalised firms that are in favour of these agreements.

In Section 3.2, we document new facts on the intensive margin of lobbying on FTAs, exploiting within-firm variation in lobbying efforts across trade agreements (in terms of expenditures and the number of reports filed). We first exploit exogenous variation in pre-agreement tariffs and in the size of the FTA partners to study how firms' lobbying efforts depend on the expected gains from a trade agreement (in terms of improved access to consumers and suppliers in the foreign market) and the expected losses (due to increased competition in the domestic market). We then exploit exogenous variation in political support for FTAs, depending on whether the majority in the House and Senate is politically aligned with the President and on the party composition of Congress.

3.1. Extensive Margin

In this section, we examine which firms select into lobbying on trade agreements. We first use our lobbying dataset to study the direction of preferences, i.e., whether lobbying firms

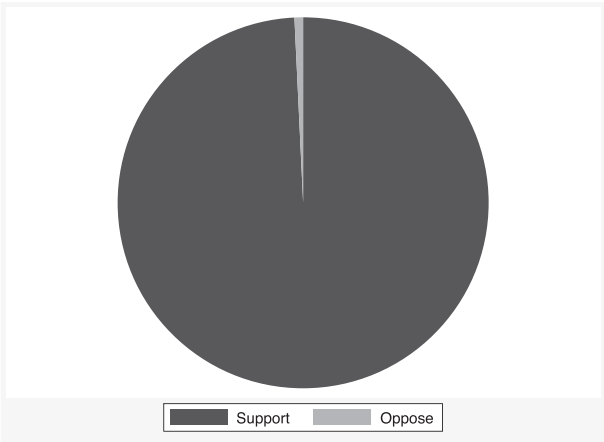


Fig. 1. *Firms' Positions on FTAs.*

Note: The figure reports the share of observations in which firms that lobbied on FTAs were in favour of/against the agreement, based on all lobbying reports that mention the bills for the ratification bills of the FTAs.

support or oppose the ratification of trade agreements. We then use the matched dataset to compare lobbying and non-lobbying firms in terms of their size and the extent to which they are internationalised.

To study the direction of preferences of firms that lobby on trade agreements, we collapse the data at the firm-FTA level.³⁸ We find that opposition to trade agreements is extremely rare: as illustrated in Figure 1, in 99.25% of the cases, firms lobbied in support of the agreement.³⁹ This share is based all lobbying reports that explicitly mention the bills for the ratification of FTAs. As mentioned before, this methodology allows us to study firms' positions on the actual trade deal that, if ratified, will be implemented. We can thus state the following fact.

FACT 1. *Virtually all lobbying firms are in favour of FTAs.*

This fact is extremely robust: it holds across all FTAs that have been negotiated by the United States since the Lobbying Disclosure Act was passed in 1995, independently of whether the agreement involved small trading partners (e.g., Panama) and larger ones (e.g., Korea). As discussed below, we find overwhelming support among lobbying firms for all agreements that have been ratified, as well as agreements that did not reach the ratification stage; and for lobbying activities carried out after the signature of the FTA (which can only affect legislators' ratification decisions) and before the signature (when the content of the agreement can still be modified).

Using bill numbers to track lobbying on FTAs does not allow us to examine lobbying expenditures related to the TPP, a major FTA that was signed by President Obama in February 2016, but never reached the ratification stage due to the election of President Trump. To verify whether lobbying firms supported or opposed the entry into force of this agreement, we have collected

³⁸ In our lobbying dataset, there are no instances in which a firm reports different positions on the same FTA.

³⁹ Only two textile firms in our dataset opposed the ratification of an FTA (with Korea). Interestingly, the same firms supported the ratification of other FTAs (with Colombia and Panama).

all lobbying reports filed by firms in 2016 that mention the words *Trans-Pacific Partnership* or *TPP*. In that year, 276 firms filed 1.041 lobbying reports related to the TPP agreement. Again, we find evidence of overwhelming support for the FTA: 98.4% of firms lobbied in favour of the agreement.⁴⁰

Fact 1 also holds when looking at lobbying expenditures incurred before the ratification of FTAs, when firms can still affect some of the provisions contained in the agreement (e.g., rules on investments and intellectual property rights). To verify this, we have collected all lobbying reports that mention the words *KORUS*, *US-Korea FTA* or *US-Korea Free Trade Agreement*.⁴¹ We have obtained 588 reports filed by firms during the 2000–11 period (see [Online Appendix Figure A-4](#)).⁴² Again, in virtually all cases (97.8%) lobbying firms supported the agreement (see [Online Appendix Figure A-5](#)).

One could also be concerned that firms that support the ratification of FTAs may do so knowing that they will nevertheless be sheltered from increased import competition from the FTA partners. This would be the case if firms could exclude their products from the trade agreement. Recall, however, that exceptions are extremely rare in US FTAs, in line with Article XXIV of the GATT (Kohl *et al.*, 2020). Trade defence measures such as antidumping (AD) duties could also be used to protect import-competing firms following the entry into force of an FTA. However, several studies show that FTAs actually reduce the use of AD duties (e.g., Ahn and Shin, 2011; Silberberger and Stender, 2018; Tabakis and Zanardi, 2019).

Fact 1 is based on all firms included in our lobbying dataset, independently of whether they are also in Compustat. We next use the matched dataset, constructed by combining our lobbying dataset with Compustat, to examine the role of firm size and internationalisation in explaining the extensive margin of firm-level lobbying on trade agreements. Looking at firms' employment and sales, we find that lobbying firms tend to be larger than non-lobbying firms. Figure 2 shows that the distribution of employment and sales of lobbying firms is shifted to the right relative to the distribution of firms that do not lobby.

This difference between lobbying and non-lobbying firms is confirmed when we study the impact of firm size on the probability of lobbying on trade agreements by estimating the probit model⁴³

$$\text{Lobbying on FTA}_{f(j),a,t} = \Phi(\alpha_1 \text{Size}_{f,t} + \delta_a + \delta_j + \varepsilon_{f(j),a,t}). \quad (1)$$

The dependent variable is a dummy variable equal to 1 if firm f (operating in sector j) lobbies on the ratification of agreement a in year t . This also captures the probability that the firm lobbies in favour of the FTA, given that no firm in our matched dataset ever lobbied against a trade agreement.⁴⁴ Here Φ is the cumulative distribution function of the standard normal distribution

⁴⁰ Based on information from Section 16 of the lobbying reports and official company statements, we were able to code the positions of firms lobbying on TPP in 93.8% of the cases.

⁴¹ We can only observe lobbying expenditures on FTAs negotiated by the United States after the LDA was passed in 1995. For this robustness check, we focus on KORUS, the most important of the agreements in force.

⁴² Note that most lobbying reports related to KORUS were filed in 2008 (following the signature of the agreement by President Bush) and 2011 (when President Obama presented a slightly modified version of the agreement to Congress for ratification). For twenty-eight reports filed by seven firms, we cannot code the firm's position on the FTA based on the information contained in the report or on official company statements.

⁴³ The results are robust to using a linear probability model, as shown in [Online Appendix Table A-4](#).

⁴⁴ The matched dataset only includes firms that lobbied in favour of FTAs (the two textile firms mentioned in footnote 39 that lobbied against the US-Korea FTA are not in Compustat).

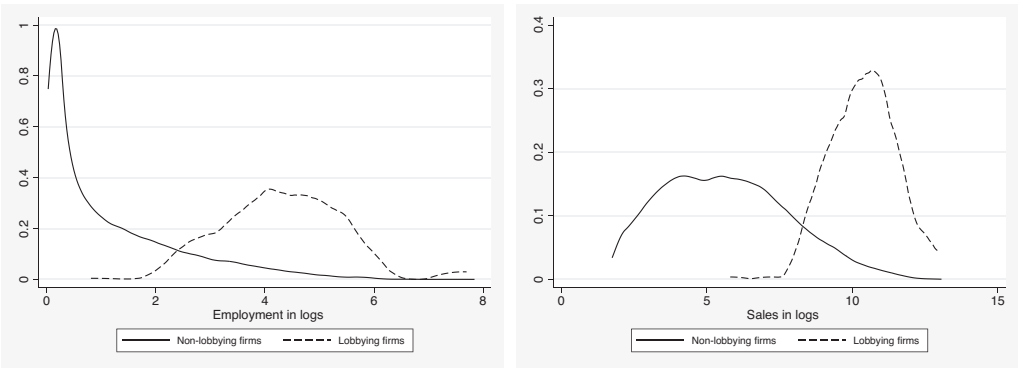


Fig. 2. *Employment and Sales Distribution (Lobbying versus Non-Lobbying Firms).*
Note: The figure plots the log of $Employment_{f,t}$ and the log of $Sales_{f,t}$ for lobbying and non-lobbying firms.

Table 1. *Probability of Lobbying on FTAs.*

	(1)	(2)	(3)	(4)	(5)
$\log(Employment_{f,t})$	0.004*** (0.0008)			0.004*** (0.0008)	
$\log(Sales_{f,t})$		0.004*** (0.0008)			0.004*** (0.0008)
$Multinational_{f,t}$			0.008*** (0.0018)	0.003*** (0.0009)	0.003*** (0.0009)
FTA FEs	Yes	Yes	Yes	Yes	Yes
Sector FEs	Yes	Yes	Yes	Yes	Yes
Observations	67,713	67,713	67,713	67,713	67,713
Predicted probability	0.0037	0.0037	0.0036	0.0037	0.0037

Note: The table reports marginal effects of probit regressions. The dependent variable, $Lobbying\ on\ FTA_{f(j),a,t}$, is a dummy variable equal to 1 if firm f (operating in sector j) lobbies on the ratification of agreement a in year t . The variable $Employment_{f,t}$ is the total number of employees of firm f in year t , $Sales_{f,t}$ is total sales by firm f in year t and $Multinational_{f,t}$ is a dummy variable equal to 1 if firm f reports positive or negative foreign income taxes. Sector fixed effects are defined at the SIC2 level. SEs reported in parentheses are clustered at the FTA-SIC1 level. Significance level: *** 1%.

and $Size_{f,t}$ is proxied by the log of $Employment_{f,t}$ or $Sales_{f,t}$.⁴⁵ We include agreement fixed effects (δ_a) and sector fixed effects (δ_j) and cluster SEs at the agreement-sector level.⁴⁶

Columns (1) and (2) of Table 1 report the results of estimating (1). The positive and significant coefficients of the variables $Employment_{f,t}$ and $Sales_{f,t}$ indicate that larger firms are more likely to lobby on trade agreements. Note also that lobbying on trade agreements is a rare event: the predicted probability of lobbying reported at the bottom of Table 1 is 0.0037. The estimates in

⁴⁵ We take logs of these variables because their distribution is highly skewed. The sample includes all firm-year observations for which we have information on sales and employment. We cannot include the variables $Employment_{f,t}$ and $Sales_{f,t}$ in the same specification because of multicollinearity (the correlation between them is above 0.8).

⁴⁶ The effects of a trade agreement on firms' payoffs—and thus on their incentives to lobby—should be heterogeneous across FTAs and sectors, depending on the size of the trading partners and the level of pre-agreement tariffs. For this reason, we cluster SEs at the FTA-SIC1 level. The results are robust to clustering SEs at the sectoral (SIC1 or SIC2) level.

this table imply that increasing firm size by one unit leads to a 1% increase in the probability of lobbying.⁴⁷

We next examine whether the probability that a firm lobbies on FTAs depends on its participation in international trade. To this end, we include the variable *Multinational*_{*f,t*} in (1). We first include this variable by itself (see column (3) of Table 1) and then together with the proxies for firm size (see columns (4) and (5) of the same table). The results show that multinational corporations are more likely to lobby on FTAs.⁴⁸ In terms of magnitude, the probability of lobbying on FTAs is between 80% and 190% higher for multinational corporations.⁴⁹

The results of Table 1 can be summarised as follows.

FACT 2. *Larger and internationalised firms are more likely to lobby on FTAs.*

3.2. Intensive Margin

We next focus on the firms that lobby on FTAs and study the economic and political determinants of firms' lobbying efforts on trade agreements.

We first examine how firms' lobbying efforts depend on their expected gains from a trade agreement (in terms of improved access to consumers and suppliers in the foreign market) and the expected losses (due to increased competition in the domestic market). As discussed in Section 2.3, the variables *Improved access to foreign consumers*_{*j,a*}, *Improved access to foreign suppliers*_{*j,a*} and *Increased competition in the domestic market*_{*j,a*} are constructed by combining information on pre-agreement tariffs and the size of the FTA partner(s) and capture exogenous variation in the potential gains from a trade agreement (in terms of improved access to consumers and suppliers in the foreign market) and potential losses (due to increased competition in the domestic market).

To examine whether firms' lobbying expenditures on FTAs depend on the potential effects of the agreements, we estimate

$$\begin{aligned} \log(\text{Lobbying expenditure on FTA}_{f(j),a,t}) \\ = \alpha_1 \log(\text{Improved access to foreign consumers}_{j,a}) \\ + \alpha_2 \log(\text{Improved access to foreign suppliers}_{j,a}) \\ + \alpha_3 \log(\text{Increased competition in the domestic market}_{j,a}) \\ + \delta_f + \delta_t + \varepsilon_{f(j),a,t}. \end{aligned} \quad (2)$$

The dependent variable in (2) is the lobbying expenditure of firm *f* (operating in sector *j*) on the ratification of agreement *a* in year *t*. We take into account the fact that firms report positive lobbying expenditures only on some trade agreements and include zeros in the dependent variable for FTAs they do not lobby on.⁵⁰ Recall that no firm in our matched dataset ever lobbies against a trade agreement. Thus, *Lobbying expenditure on FTA*_{*f(j),a,t*} captures the extent of the firm's

⁴⁷ This result is obtained by dividing the marginal effects of the variables *Sales*_{*f,t*} and *Employment*_{*f,t*} in Table 1 by the average predicted probability of lobbying reported at the bottom of the table. This finding echoes results by Kim (2017), who showed that pro-trade lobbying is correlated with firm size, though his analysis was not focused on lobbying reports related to trade agreements.

⁴⁸ As shown in an earlier version of the paper, we obtain similar results if we replace *Multinational*_{*f,t*} with indicator variables capturing whether the firm is an exporter and/or an importer.

⁴⁹ This can be seen by dividing the marginal effect of *Multinational*_{*f,t*} by the average predicted probability of lobbying reported at the bottom of the table.

⁵⁰ To include zero expenditures on some FTAs, we take the log of $(1 + \text{Lobbying expenditure on FTA}_{f(j),a,t})$ when estimating (2). We obtain similar results if we use the inverse hyperbolic sine transformation of *Lobbying*

support for the agreement. The control variables capture the potential effects of FTA a for firms operating in sector j . We always include firm fixed effects (δ_f) to control for time-invariant firm characteristics and year fixed effects (δ_t) to account for time-varying macroeconomic and political conditions.

The results are reported in Table 2. In columns (1) and (4), the two versions of the variables *Improved access to foreign consumers* $_{j,a}$, *Improved access to foreign suppliers* $_{j,a}$ and *Increased competition in the domestic market* $_{j,a}$ are constructed using data on average tariffs, while in columns (2)–(5) and (3)–(6) they are based on weighted average tariffs and maximum tariffs, respectively. Across all specifications, the coefficients of *Improved access to foreign consumers* $_{j,a}$ and *Improved access to foreign suppliers* $_{j,a}$ are positive and significant, indicating that firms spend more in support of FTAs that generate larger market-access gains. The coefficients of *Increased competition in the domestic market* $_{j,a}$ are instead always negative and significant, indicating that increased import competition lowers firms' support for trade agreements.

In terms of magnitude, if we look, for example, at the coefficients in column (3) of Table 2, they imply that a 1% increase in access to consumers in the foreign market (import competition in the domestic market) leads to a 0.064% increase (decrease) in lobbying expenditures, while a 1% increase in access to foreign suppliers increases lobbying expenditures by 0.155%.

One may be concerned that firm-level lobbying expenditures on trade agreements are measured with error, since lobbying reports do not provide a breakdown of the expenditures by issue. [Online Appendix Table A-5](#) reproduces Table 2 using our alternative measure of firms' lobbying efforts on trade agreements, which does not suffer from this measurement error (since it is based on the number of lobbying reports filed by a firm that mention each FTA). The results confirm that firms' lobbying efforts on FTAs increase in their potential gains from the agreements.

We can summarise the above results as follows.

FACT 3. *Individual firms put more effort lobbying on FTAs that generate larger profit gains.*

As shown in Section 3.1, virtually all firms lobbying on FTAs support the ratification of these agreements (Fact 1). Given the lack of spending by anti-FTA firms, one may wonder why pro-FTA firms make any effort lobbying in favour. Their expenditures may be explained by the need to sway politicians who are against the ratification of trade agreements, for electoral or other motives. To verify this, we estimate

$$\log(\text{Lobbying expenditure on FTA}_{f(j),a,t}) = \alpha_1 \text{Political Support}_a + \delta_f + \delta_t + \varepsilon_{f(j),a,t}, \quad (3)$$

where *Political Support* $_a$ captures exogenous variation in the expected political support for the ratification of agreement a . As discussed in Section 2.3, this is captured by the different versions of the variables *Divided Government* $_a$ and *Share of Democrats in Congress* $_a$.⁵¹

The results of estimating (3) are reported in Table 3. The positive and significant coefficients of the variable *Divided Government* $_a$ indicate that firms spend more on FTAs when Congress is not politically aligned with the executive and is thus less inclined to ratify trade agreements. The coefficients of the variable *Share of Democrats in Congress* $_a$ are positive and significant, indicating that firms spend more lobbying in favour of trade agreements when the US Congress is more likely to be protectionist.

expenditure on FTA $_{f(j),a,t}$, which unlike the log transformation is defined at zero (Burbidge *et al.*, 1988; MacKinnon and Magee, 1990).

⁵¹ We include these variables separately, since they are highly correlated with each other. The highest correlation (0.95) is between *Divided Government* $_{2a}$ and *Share of Democrats in Congress* $_{2a}$.

Table 2. *Lobbying Expenditures on FTAs and the Expected Effects of the Agreements.*

	(1)	(2)	(3)	(4)	(5)	(6)
$\log(\text{Improved access to foreign consumers})_{j,a}$	0.066** (0.0275)	0.059** (0.0249)	0.064** (0.0258)			
$\log(\text{Improved access to foreign suppliers})_{j,a}$	0.147*** (0.0519)	0.152*** (0.0452)	0.155** (0.0570)			
$\log(\text{Increased competition in the domestic market})_{j,a}$	-0.081** (0.0320)	-0.098*** (0.0336)	-0.064** (0.0279)			
$\log(\text{Improved access to foreign consumers})_{2j,a}$				0.078** (0.0306)	0.078** (0.0276)	0.073** (0.0273)
$\log(\text{Improved access to foreign suppliers})_{2j,a}$				0.124** (0.0527)	0.142** (0.0502)	0.130** (0.0515)
$\log(\text{Increased competition in the domestic market})_{2j,a}$				-0.093* (0.0475)	-0.120** (0.0453)	-0.081* (0.0399)
Firm FEs	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes
Observations	651	651	651	606	606	606
R^2	0.255	0.256	0.258	0.264	0.265	0.266

Note: The table reports the coefficients of OLS regressions. The dependent variable is $\text{Lobbying expenditure on FTA}_{j(i),a,t}$, the lobbying expenditure of firm f (operating in sector j) on the ratification of agreement a in year t . The explanatory variables capture exogenous variation in the potential impact of trade agreement a for US firms operating in sector j , in terms of potential gains (due to improved access to foreign consumers and suppliers) and losses (due to increased competition in the domestic market). See Section 2.3 for details on the construction of these variables. In columns (1) and (4), the variables are constructed using data on average tariffs, in columns (2) and (5) using data on average weighted tariffs, and in columns (3) and (6) using data on maximum tariffs. SEs reported in parentheses are clustered at the FTA-SIC1 level. Significance levels: * 10%, ** 5%, *** 1%.

Table 3. *Lobbying Expenditures on FTAs and Expected Political Support for the Agreements.*

	(1)	(2)	(3)	(4)
<i>Divided Government</i> 1_a	1.347*** (0.2686)			
<i>Divided Government</i> 2_a		1.615*** (0.4022)		
<i>Share of Democrats in Congress</i> 1_a			11.567** (5.4494)	
<i>Share of Democrats in Congress</i> 2_a				12.462** (5.3416)
Firm FEs	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
Observations	1,821	1,821	1,821	1,821
R^2	0.104	0.097	0.083	0.084

Note: The table reports the coefficients of OLS regressions. The dependent variable is *Lobbying expenditure* $_{f(j),a,t}$, the lobbying expenditure of firm f (operating in sector j) on the ratification of agreement a in year t . The variable *Share of Democrats in Congress* 1_a (*Share of Democrats in Congress* 2_a) measures the share of congressmen belonging to the Democratic party (including independent congressmen who caucus with the Democrats) in the year of the ratification of agreement a ; *Divided Government* 1_a (*Divided Government* 2_a) is a dummy variable equal to 1 if, in the year of the ratification of agreement a , one party controls the executive branch, while the other party controls at least one of the houses (both houses) of the legislative branch. SEs reported in parentheses are clustered at the FTA-SIC1 level. Significance levels: ** 5%, *** 1%.

Again, we have verified that the results are robust to using the alternative measure of lobbying effort based on the number of reports, which does not suffer from the measurement error that arises when allocating lobbying expenditures across different policy issues. In line with Table 3, the results reported in Online Appendix Table A-6 confirm that individual firms put more effort (in terms of the frequency of lobbying) into supporting FTAs when expected political support for the agreements is lower.

Our last empirical finding can be summarised as follows.

FACT 4. *Individual firms put more effort into lobbying on FTAs when US legislators are less likely to be in favour of ratification.*

4. Model

In the previous section, we documented novel facts about the extensive and intensive margins of firm-level lobbying on trade agreements. To rationalise these findings, in this section we develop a new model of endogenous lobbying on trade agreements by heterogeneous firms.

In Section 4.1, we describe the economic structure of the model, which allows us to study the distributional effects of trade agreements. This is characterised by two key features. First, the profits of internationalised firms are super-modular in market access and productivity. Second, the biggest winners from an FTA have higher stakes in the ratification of the agreement than the biggest losers.

In Section 4.2, we turn to the political structure of the model. This has two main features. First, firms pay lobbying expenditures before the policy outcome is realised (i.e., before the ratification of a trade agreement). Second, politicians deciding on the ratification of the agreement may be biased in favour of or against it, and firms are uncertain about this political bias.

In Section 4.3, we show that this theoretical model can rationalise our empirical findings on the extensive and intensive margins of lobbying on trade agreements.

4.1. *Economic Structure: Winners and Losers from an FTA*

We start by discussing the effects of a proposed FTA between a Home and a Foreign country through the lens of a reduced-form model. We use an asterisk to denote variables related to Foreign.⁵² We conclude this section by reviewing a variety of possible micro-foundations.

In each country, firms differ in their profitability. We parametrise this heterogeneity by a variable $A_f \in [0, A_M]$, so that profits of a domestic firm f are given by $A_f \pi$, where π depends on (possibly endogenous) market characteristics. Variable A_f can be a function of productivity, but may be more conveniently interpreted as a pure firm-specific demand shifter, e.g., brand or customer base. By assumption, larger firms are more profitable as soon as $\pi > 0$. To capture selection into different forms of trade participation, we assume that a firm f may become internationalised and obtain extra profits $A_f \pi_I$ upon paying a fixed cost F_I . Firm's f profits are then given by

$$\Pi(A_f) = A_f \pi + \mathbf{1}_I(A_f \pi_I - F_I),$$

where $\mathbf{1}_I$ is an indicator variable equal to 1 for firms that are internationalised. We denote by \underline{A} the productivity of the marginal firm, which is indifferent between remaining domestic and paying the fixed cost F_I . All firms with productivity above this threshold choose to be internationalised.

The 'size' of a trade agreement a is denoted by S_a and depends on the size of the trading partner and the initial (pre-agreement) tariffs applied by the two countries. The entry into force of an FTA can affect firms' profits through various channels: all firms suffer from increased foreign competition for their final goods in the domestic market; internationalised firms enjoy market access gains associated with the reduction in the cost of exporting their final goods to the foreign market and the cost of importing inputs from the foreign market.

We assume that internationalised firms gain from the FTA, i.e., the gains associated with improved access to the foreign consumer and input suppliers more than offset the losses due to increased competition in the domestic market and that these gains are larger the larger the FTA is:

$$\Delta \pi(S_a) + \Delta \pi_I(S_a) > 0,$$

with $\Delta \pi'(S_a) + \Delta \pi_I'(S_a) > 0$. Here x' denotes the derivative of x .

This is, for instance, the case in the Melitz (2003) model where the shifter A is a power function of a firm's productivity: all continuing exporters benefit from the FTA, since the gains associated with improved access to the foreign market dominate the losses due to increased competition (see Melitz and Redding, 2014). Furthermore, these gains are also increasing with the magnitude of the market access improvement, i.e., the overall variation in trade costs. This can also be true under oligopolistic competition (see Online Appendix B-1.1 for a full-fledged model of heterogeneous oligopolistic firms with endogenous entry). Furthermore, large internationalised firms can further benefit from an FTA and further expand by being able to source cheaper inputs (Antràs *et al.*, 2017; Blaum *et al.*, 2018). A further implication is that the gains from an FTA for an internationalised firm are larger for larger firms.

The maximum losses experienced by a domestic firm are given by $\underline{A} |\Delta \pi(S_a)|$, while the maximum gains that can be reaped by internationalised firms are given by $A_M (\Delta \pi(S_a) + \Delta \pi_I(S_a))$. As soon as internationalised firms are large enough, maximum losses will be smaller in absolute

⁵² All the key results continue to hold if we consider a three-country setting, in which the trade agreement can give rise to trade diversion.

terms than the maximum gains. This is, for example, the case in the Melitz (2003) model of trade with heterogeneous monopolistically competitive firms considered in [Online Appendix B-1.1](#). The intuition for this result is simple: losing firms have limited stakes in trade agreements because they are much less profitable ex ante.⁵³ We assume throughout the rest of this section that $A_M(\Delta\pi(S_a) + \Delta\pi_I(S_a)) > A|\Delta\pi(S_a)|$.

4.2. Political Structure

We next describe the political structure of the model, in which firms choose whether to lobby and how much to spend in favour of or against a proposed FTA. To simplify notation, when considering lobbying on a given FTA, we omit the dependence of endogenous variables (e.g., lobbying contributions, the number of lobbying firms) on the size of the FTA. We reintroduce S_a when conducting comparative statics in Section 4.4 below to explain variation in lobbying expenditures across trade agreements. The gains (or losses) from an FTA for a firm of size A_f are denoted $\Delta\Pi_f$. We denote by Ω_P the set of Home firms that are pro agreement (i.e., for which $\Delta\Pi_f > 0$) and by Ω_A the set of Home firms that are against it (i.e., for which $\Delta\Pi_f < 0$).

Each firm decides its lobbying contribution l_f (which can be 0 if the firm chooses not to lobby) to support or oppose the ratification of the agreement. Within the set of pro- and anti-FTA firms, lobbying expenditures are aggregated into an overall group effort, $\mathcal{L}_P = \sum_{f \in \Omega_P} v(l_f)$ for pro-FTA firms and $\mathcal{L}_A = \sum_{f \in \Omega_A} v(l_f)$ for anti-FTA firms, where $v(\cdot)$ is an increasing function.

To model lobbying expenditure in favour of and against FTAs, we follow the literature on contests (e.g., Tullock, 1980; Becker, 1983; Dixit, 1987; Esteban and Ray, 2001; Siegel, 2009; Cole *et al.*, 2021). Contests are economic or social interactions in which two or more players spend costly resources in order to win a conflict. Contest success functions determine the probabilities of winning and losing as a function of the effort levels of each party to the conflict. A drawback of the contest model is that the objective function of the policy makers is not specified. The main advantage of this approach is that it provides a tractable way to model lobbying efforts under uncertainty and to characterise the extensive and intensive margins of firm-level lobbying on FTAs.

We introduce two novel features in the standard Tullock contest success function, in which the probability that one of the parties wins depends on the ratio of efforts of the parties in the conflict.⁵⁴ The first is political uncertainty. We assume that politicians deciding whether to ratify the FTA may have a bias B in favour of the agreement ($B > 0$) or against it ($B < 0$).⁵⁵ Politicians may have a positive bias if they believe that trade agreements are efficiency enhancing. A negative bias could arise due to distributional concerns: politicians who are averse to inequality may worry that the entry into force of the FTA would hurt small firms in their constituency. Party affiliation

⁵³ Note that this insight would remain if we were to assume that only the largest internationalised firms gain from the FTA. In this event, the largest loser may as well be an internationalised firm: as long as the losers from an FTA are smaller than the winners, a mechanical asymmetry arises in the stakes between pro- and anti-FTA firms. As shown in [Online Appendix B-1.2](#), the key insights of the Melitz (2003) model concerning the distributional effects of an FTA can continue to hold in a setting with heterogeneous oligopolistic firms.

⁵⁴ This is the workhorse functional form in the literature on rent-seeking and is sometimes referred to as the ‘power’ or ‘ratio’ form. See Jia *et al.* (2013) for a discussion of the theoretical foundations of contest success functions.

⁵⁵ Introducing a political bias is reminiscent of contest models in which a party may have a ‘head start’ over others (e.g., Siegel, 2009; 2010).

or re-election motives can also lead to a protectionist bias, as shown by Conconi *et al.* (2014). We model B as a random variable, reflecting uncertainty about the direction of the political bias.⁵⁶

The second novel feature is that the number and identity of lobbying firms is endogenous. Firms weigh the effect on the probability of ratification due to their own participation against their lobbying costs. Crucially, the outside option (not lobbying) is also endogenous, since the probability of ratification depends on the number of lobbying firms.

The FTA is implemented only if politicians in both countries ratify it. Assuming that the political biases B and B^* are independent across countries and that firms can only lobby in their own country, the expected probability that the trade agreement enters into force can be written as the product of the expected probability of ratification in Home and Foreign, i.e., $\mathbb{E}[P(\mathcal{L}_P, \mathcal{L}_A, B)] \cdot \mathbb{E}[P^*(\mathcal{L}_P^*, \mathcal{L}_A^*, B^*)]$.⁵⁷

The payoff from lobbying of firm f is

$$\underbrace{(\mathbb{E}[P(\mathcal{L}_P, \mathcal{L}_A, B)] - \mathbb{E}[P(\mathcal{L}_P - v(l_f), \mathcal{L}_A, B)])}_{\text{impact of lobbying on exp. prob. of ratification in Home}} \cdot \underbrace{\mathbb{E}[P^*(\mathcal{L}_P^*, \mathcal{L}_A^*, B^*)]}_{\text{exp. prob. of ratification in Foreign}} \cdot \Delta \Pi_f - \underbrace{l_f}_{\text{cost of lobbying}},$$

benefit from lobbying

where $\Delta \Pi_f > 0$ for all $f \in \Omega_P$ and $\Delta \Pi_f \leq 0$ for all $f \in \Omega_A$. We assume that $v(\cdot)$ is a concave and twice differentiable function with $v(0) = 0$, implying decreasing returns to lobbying. The concavity of $v(\cdot)$ also implies that, within a group, lobbying expenditures are (imperfect) substitutes and guarantee an interior solution to each lobbying firm's problem.⁵⁸ We also require that the marginal lobbying effort features a finite upper bound, i.e., $\kappa \equiv v'(0) < +\infty$. In the presence of uncertainty in the direction of the political bias, this assumption implies a finite expected return to lobbying on the first dollar spent. It is straightforward to show that otherwise all firms would lobby, no matter how small their gains or losses from the trade agreement.⁵⁹ Broadly speaking, κ governs the toughness of lobbying: a lower κ decreases the return to lobbying for all firms.

The probability that the FTA is ratified by the Home country conditional on the political bias B can be written as

$$P(\mathcal{L}_P, \mathcal{L}_A, B) \equiv \frac{\mathcal{L}_P + B^+}{\mathcal{L}_P + \mathcal{L}_A + |B|},$$

where $B^+ = \max\{B, 0\}$. A couple of remarks are in order. First, the fact that the policy outcome is probabilistic reflects some randomness in the effectiveness of lobbying efforts, as in standard contest success functions (see Jia *et al.*, 2013 and Online Appendix B-3). Introducing the political bias B into the standard contest success function is equivalent to adding a random effort from a player who can be in favour of or against the agreement. Note that, differently from the standard contest success function, this implies that the probability of FTA ratification is itself a random

⁵⁶ From the perspective of the firms in our data, this assumption implies that, at the time of their lobbying, they are still uncertain about whether there is a majority of legislators in favour of FTA ratification.

⁵⁷ In our benchmark model, firms can only lobby to affect the ratification decision in their own country, as in Grossman and Helpman (1995). Some studies emphasise the importance of foreign lobbying (e.g., Gawande *et al.*, 2006; Stoyanov, 2009). The key results of our analysis continue to hold if we allow firms to affect the probability of ratification in both Home and Foreign. In this case, firms would choose to lobby in both countries and their expenditures at Home would be higher than in our benchmark model. This is because optimal lobbying expenditure by firms in one country depends positively on the probability that the FTA is ratified in the other country.

⁵⁸ For any overall lobbying expenditure L , $v(\cdot)$ is concave if and only if $N_L v(L/N_L)$ increases with the number of lobbying firms N_L for any $N_L > 0$.

⁵⁹ The assumptions that κ is bounded and that the direction of the political bias is random guarantee that the marginal impact of lobbying expenditures on the probability of FTA ratification is continuous and bounded.

variable. When the political bias is positive, it is as if the effort of the group in favour of the FTA is augmented by B . On the contrary, when the bias is negative, it is as if the effort of the anti-FTA group is augmented by $B^- = -B > 0$. Thus, introducing a political bias unambiguously raises (lowers) the probability that an FTA is ratified in the absence of pro-FTA (anti-FTA) contributions.

Second, the entry into force of the agreement requires ratification by both countries, implying strategic interdependencies between them (Cole *et al.*, 2021). As a result, if pro-FTA (respectively anti-FTA) firms in the Home country conjectured an equilibrium probability of ratification equal to zero (respectively one) by the Foreign country, their best response would be not to lobby in favour of (respectively against) the ratification. Because of political uncertainty, however, a firm in the Home country will always conjecture the equilibrium probability of the Foreign country ratifying the agreement $\mathbb{E}[P^*(\mathcal{L}_P^*, \mathcal{L}_A^*, B^*)]$ to be strictly bounded between 0 and 1. Uncertainty in the direction of the political bias thus rules out trivial Nash equilibria where firms in both countries would choose not to lobby. For simplicity, we assume that the political bias follows a Bernoulli distribution and denote with p the probability that the bias is positive and normalise its value to 1.

In what follows, we focus on one side of the contest, namely, the lobbying game among firms in the Home country, taking as given the expected probability that the partner country ratifies the agreement, which we denote as $\mathbb{E}[P^*]$. As shown below, this implies that, although $\mathbb{E}[P^*]$ is endogenous, the theoretical results on the extensive and intensive margins of firm-level lobbying on FTAs can be derived without explicitly solving for it.

4.3. Firm Lobbying on FTAs: Extensive Margin

In this section, we characterise the Nash equilibrium in which a subset of lobbying firms at Home select into lobbying, i.e., choose a positive lobbying expenditure \hat{l}_f .

In [Online Appendix B-2](#), we show that lobbying expenditures within a group are strategic substitutes: the participation of a new pro-FTA firm increases $\hat{\mathcal{L}}_P$, decreasing individual lobbying efforts. A similar reasoning applies to anti-FTA firms (see [Lemma 1](#) within [Online Appendix B-2](#)).

We also characterise the endogenous set of lobbying firms, showing that any equilibrium must feature perfect sorting (see [Lemma 2](#) within [Online Appendix B-2](#)): if a pro-FTA (respectively anti-FTA) firm finds it profitable to lobby in equilibrium, then any pro-FTA (respectively anti-FTA) firm that expects a larger gain (respectively loss) from the FTA will also lobby.

Moreover, it can be shown that firms experiencing larger gains (or losses in absolute value) from the FTA gain more from lobbying (see [Lemma 3](#) within [Online Appendix B-2](#)).

In what follows, we show that our model can rationalise the key findings on the extensive margin of firm-level lobbying on trade agreements documented in [Section 3.1](#): lobbying on FTAs is dominated by large and internationalised firms, which support the ratification of these agreements.

From [Lemma 2](#) within [Online Appendix B-2](#), it is sufficient to require that the firm that would experience the largest loss from the FTA ($\min \Delta \Pi_f < 0$) would never find it profitable to lobby against it. As shown below, a sufficient condition for no lobbying by anti-FTA firms is

$$\underline{A}|\Delta\pi| < 1/\kappa. \quad (4)$$

This condition guarantees that the marginal return to lobbying is too low for the biggest loser from the agreement, implying that no anti-FTA firm will find it profitable to lobby.

An alternative way to rationalise the lack of lobbying by anti-FTA firms is to assume that firms must pay a fixed cost F_L to be politically organised. In this setting, the sufficient condition for no anti-FTA lobby can simply be written as

$$\underline{A}|\Delta\pi| < F_L. \quad (5)$$

Note that introducing a fixed cost would result in multiple equilibria (as in Bombardini, 2008), which need not feature perfect sorting.⁶⁰ Uniqueness and perfect sorting can be restored if we assume that the firms that experience the largest gains from lobbying move first, as in the oligopolistic Bertrand game considered by Gaubert and Itskhoki (2021). In our baseline model, κ plays a similar role to an FTA-specific fixed lobbying cost F , as it requires that the stakes from the FTA are high enough for lobbying to be profitable. Like higher fixed costs, a low κ reduces the expected gains from lobbying: by decreasing the marginal impact of lobbying on the ratification of the agreement, a low κ implies that only the firms with the highest stakes in the FTA select into lobbying.

We can characterise the equilibrium set of lobbying firms, $\Omega_L = \{f \in \Omega_P \text{ such that } A_f \geq \bar{A}\}$. If condition (4) (or, equivalently, condition (5)) holds, anti-FTA firms do not lobby.

We now state our first theoretical result, which provides a rationale for the empirical findings on the extensive margin of firm-level lobbying on trade agreements.

RESULT 1. *Under condition (4) (or, equivalently, condition (5)), there is a unique equilibrium in which only the largest internationalised pro-FTA firms select into lobbying ($\Omega_L \subset \Omega_P$).*

PROOF. We have already established that if (4) (or alternatively (5)) holds, the equilibrium set of lobbying firms does not include anti-FTA firms ($\Omega_A \cap \Omega_L = \emptyset$). By contrast, the presence of large internationalised firms guarantees that at least some firms make large enough gains from the FTA to find it profitable to lobby in favour of the agreement. We now show that Ω_L , the equilibrium set of lobbying firms, includes only the largest firms in the economy, which gain the most from the FTA. To prove this result, we examine how a firm's payoff from lobbying depends on the equilibrium number of lobbying firms. We denote by $N_L = |\Omega_L|$ the number of lobbying firms. The N_L th firm is the marginal lobbying firm, i.e., the smallest firm that chooses $l_f > 0$.

Let us denote by $\Delta\Pi_n$ and l_n the gains from the FTA and the lobbying expenditure of the n th lobbying firm (with $n \leq N_L$). The payoff from lobbying of firm n can be written as

$$\Psi_n(N_L) = \{\mathbb{E}[P(\hat{\mathcal{L}}_P(N_L), B)] - \mathbb{E}[P(\hat{\mathcal{L}}_P(N_L) - v(\hat{l}_n(N_L)), B)]\} \cdot \mathbb{E}[P^*] \cdot \Delta\Pi_n - \hat{l}_n(N_L),$$

where $\hat{\mathcal{L}}_P(N_L) = \sum_{n \leq N_L} v(\hat{l}_n(N_L))$ is the equilibrium overall effort.

By Lemma 1 within Online Appendix B-2, when a new firm starts lobbying, the overall lobbying effort is higher, i.e., $\hat{\mathcal{L}}_P(N_L + 1) > \hat{\mathcal{L}}_P(N_L)$, which reduces the payoff from lobbying for all firms. Formally,

$$\Psi_n(N_L + 1) < \Psi_n(N_L) \quad \text{for all } n \leq N_L. \quad (6)$$

Given that there is perfect sorting among pro-FTA firms (Lemma 2 within Online Appendix B-2), the new marginal lobbying firm, $N_L + 1$, has a smaller gain from the FTA:

$$\Delta\Pi_{N_L+1} < \Delta\Pi_n \quad \text{for all } n \leq N_L. \quad (7)$$

⁶⁰ This is a general feature of models of asymmetric oligopoly with endogenous entry. Intuitively, even a highly productive firm may face a low residual demand in the presence of a large number of low-productivity firms, making it unprofitable to pay a fixed entry cost.

Combining (6) and (7) with Lemma 3 within Online Appendix B-2 implies that the payoff from lobbying for the marginal firm decreases with the number of lobbying firms, i.e., $\Psi_{N_L+1}(N_L + 1) < \Psi_{N_L}(N_L)$. Thus, the payoff from lobbying of the smallest firm in Ω_L is a decreasing function of the number of lobbying firms. This guarantees that there is a unique equilibrium partition of pro-FTA firms into lobbying. \square

Note that the equilibrium described by Result 1 features free-riding: some of the firms in Ω_P that do not lobby benefit from the lobbying efforts of pro-FTA firms that select into Ω_L . It can be shown that free-riding lowers overall lobbying by pro-FTA firms (see Online Appendix B-4). Note also that, given the economy-wide nature of the FTA, free-riding occurs, not only within, but also across industries (i.e., small non-lobbying pro-FTA firms in an industry can benefit from the lobbying efforts of larger lobbying firms operating another industry).

Summing up, our theoretical model provides a rationale for the empirical findings documented in Section 3.1 on the extensive margin of firm-level lobbying on trade agreements. It explains why lobbying firms always support FTAs (Fact 1): only those firms that gain the most from the entry into force of these agreements have an incentive to lobby. It is also consistent with the fact that firms lobbying on trade agreements are larger and more likely to be internationalised (Facts 2 and 3).

4.4. Firm Lobbying on FTAs: Intensive Margin

We conduct two comparative statics exercises to show that our model can explain the empirical findings documented in Section 3.2 on the intensive margin of firm-level lobbying on trade agreements.

It should be stressed that, to compare lobbying expenditures in different equilibria, we do not need to track the change in the foreign probability of ratification $\mathbb{E}[P^*]$ so we will treat it parametrically. This is because a country's probability of ratification is strictly increasing in the other country's probability of ratification. Consequently, starting from a stable equilibrium, any shift upwards in $\mathbb{E}[P]$ as a function of the other country's probability of ratification will result in a higher equilibrium foreign probability of ratification $\mathbb{E}[P^*]$, further increasing $\mathbb{E}[P]$. The *direction* of the comparative statics can thus be derived discarding the change in $\mathbb{E}[P^*]$ (see Vivès, 2005 for a general discussion of comparative statics in games featuring complementarities).⁶¹

In order to conduct these comparative statics, we start by expressing the equilibrium cutoff $\bar{A}(S_a)$. When only pro-FTA firms lobby, the first-order condition for each lobbying firm f can be written as

$$v'(\hat{l}_f) \left(\frac{1-p}{(\hat{\mathcal{L}}_P + 1)^2} \right) \mathbb{E}[P^*] \Delta \Pi_f = 1. \quad (8)$$

Denoting by \bar{A} the size of the marginal lobbying firm, the optimal lobbying expenditures of firm f are given by

$$v'(\hat{l}_f) = \kappa \frac{\bar{A}}{A_f}. \quad (9)$$

⁶¹ While the parallel nature of the contest does not matter for our results, a transnational political externality may have important implications for the design of trade agreements, as shown by Cole *et al.* (2021).

Using (8) and (9), $\bar{A}(S_a)$ solves the equation

$$\frac{(1-p)\kappa}{(\hat{\mathcal{L}}(\bar{A})+1)^2} \mathbb{E}[P^*] \bar{A}(\Delta\pi(S_a) + \Delta\pi_I(S_a)) = 1, \quad (10)$$

where the overall equilibrium lobbying effort is given by

$$\hat{\mathcal{L}}(\bar{A}) = \sum_{N_f=1}^{N_L(\bar{A})} v \left(v'^{-1} \left(\kappa \frac{\bar{A}}{A_f} \right) \right). \quad (11)$$

The following result provides a theoretical rationale for Fact 4 in our empirical analysis.

RESULT 2. *Firms spend more supporting FTAs that generate larger gains.*

PROOF. Let us consider an increase in the size of an FTA from S_a to $S_{a'}$ and proceed by contradiction. If the set of lobbying firms (weakly) decreased then the overall lobbying effort would necessarily (weakly) decrease by (11). This, in turn, would imply that (10) can no longer hold, since the marginal firm would be (weakly) larger, thus making strictly larger gains with $S_{a'}$, i.e., $\bar{A}(S_{a'}) (\Delta\pi(S_{a'}) + \Delta\pi_I(S_{a'})) > \bar{A}(S_a) (\Delta\pi(S_a) + \Delta\pi_I(S_a))$. In conclusion, more firms lobby on the larger agreement a' , meaning that additional and smaller firms lobby compared to agreement a . By (9), this implies that all firms lobby more on a' . \square

We next consider the role of political bias. It is straightforward to verify that, if pro-FTA firms knew with certainty that the government is biased in favour of the FTA ($p = 1$), they would never find it profitable to lobby in favour of the FTA. In the absence of uncertainty, an equilibrium in which pro-FTA firms lobby in favour of the agreement could only arise if the government was biased against it ($p = 0$). However, as long as there is some uncertainty about the direction of the bias (B can be positive or negative with a strictly positive probability), some pro-FTA firms will always find it profitable to lobby in favour of the agreement, even if $\mathbb{E}[B] > 0$. The following result provides a theoretical rationale for Fact 4 in our empirical analysis.

RESULT 3. *Pro-FTA firms spend more lobbying on FTAs when politicians are more likely to be biased against the agreement.*

PROOF. Through (10), a decrease in p decreases \bar{A} : more firms will lobby when the probability that politicians are in favour of ratifying the trade agreement is lower. Indeed, inspecting (11), note that lobbying efforts on a given FTA are lower when fewer firms lobby or, equivalently, when the marginal firm's gain from that FTA is higher. This implies that $\bar{A} \Delta\pi / (\hat{\mathcal{L}}(\bar{A}) + 1)^2$ is strictly increasing in \bar{A} . By (9), the marginal firm being smaller implies that all firms lobby more on the larger FTA. \square

Intuitively, when politicians are more likely to be in favour of the agreement, pro-FTA firms tend to free ride on their bias and thus exert less effort. In the limit case in which the political bias is deterministic and positive, pro-FTA firms would not lobby at all. When the direction of the bias is uncertain and the probability that the government is in favour decreases, the expected payoff of a firm becomes more dependent on the probability that the FTA is ratified under a negative bias, leading each firm to increase its lobbying expenditure.

5. Conclusion

Recent decades have seen a surge in the number of regional trade agreements. In this paper, we construct a unique dataset allowing us to trace all lobbying expenditures related to FTAs negotiated by the United States since the passage of the Lobbying Disclosure Act. Using this dataset, we show that lobbying on trade agreements is dominated by pro-FTA firms: in virtually all cases, lobbying firms are in favour of the ratification of trade agreements. This fact holds for all trade agreements negotiated by the United States—including TPP, which did not reach the ratification phase—and for lobbying reports filed before the ratification phase. We also show that large firms and multinational corporations are more likely to lobby on trade agreements. On the intensive margin, we find that individual firms spend more lobbying on a trade agreement when their potential gains from the agreement are larger—in terms of improved access to consumers and suppliers in the foreign market—and when legislators are less likely to be in favour of ratification.

Existing models of the political economy of trade agreements do not feature heterogeneous firms and thus cannot explain our empirical findings. We thus develop a new theoretical model, in which heterogeneous firms choose whether to lobby and how much to spend in favour of or against the ratification of a proposed FTA. The political structure of the model builds on the literature on lobbying/rent-seeking in contests and allows us to model in a tractable way lobbying efforts under uncertainty. We show that the biggest winners from the FTA have higher stakes in the agreement than the biggest losers. The model can provide a theoretical rationale for our empirical findings on the extensive and intensive margins of firm-level lobbying on trade agreements.

We see this paper as a first step in understanding how lobbying by heterogeneous firms can shape the politics of trade agreements. Our main dataset is based on all lobbying reports that explicitly mention bills for the ratification of FTAs in the US Congress. By this stage, trade agreements have already been signed by the executive, so firms can only affect legislators' decisions on their ratification. This is consistent with our theoretical model, in which firms' lobbying expenditures affect the probability that a proposed FTA is ratified.⁶² In a complementary ongoing project (Blanga-Gubbay *et al.*, 2023), we examine lobbying by firms on non-tariff policies that are often included in trade agreements, e.g., rules on intellectual property rights and investment that can help to protect their tangible and intangible assets in foreign markets.⁶³

Our analysis has implications for the debate on the causes and consequences of rising market concentration (e.g., Gutiérrez and Philippon, 2018; Autor *et al.*, 2020; De Loecker *et al.*, 2020). Our empirical and theoretical results show that large corporations dominate lobbying on FTAs, spending millions on the ratification of these agreements. These findings suggest that, by lobbying to implement favourable legislation, 'superstar' firms can further increase their market power. On the other hand, there are channels through which this lobbying could be beneficial: in standard models of monopolistic competition with heterogeneous firms and variable markups, the largest firms set higher markups, which typically lead them to under-produce; market expansion through

⁶² It is important to stress that, if firms had nothing to gain from trade agreements in terms of improved access to foreign markets, they would not lobby in support of their ratification. Still, it would be interesting to study lobbying during the negotiations of FTAs, during which firms can try to include provisions that can at least partially shelter them from increased import competition (e.g., long phase-out periods). This type of lobbying could help to explain the variation in the rules of origin (RoO) contained in trade agreements. For example, NAFTA features extensive product-level variation in RoO sourcing restrictions (see Conconi *et al.*, 2018).

⁶³ For example, in the first quarter of 2012, GlaxoSmithKline spent \$2,120,000 lobbying on the 'Trans-Pacific Strategic Economic Partnership Agreement (TPP) - provisions related to intellectual property', among other issues.

trade can then reduce these distortions (Dhingra and Morrow, 2019). An important avenue for future research is to study the welfare effects of firm-level lobbying on trade agreements and other policies.

WTO & University of Zurich, Switzerland

University of Oxford, CEPR, CESifo & CEP, UK

Paris School of Economics, INRAE, CESifo & CEPR, France

Additional Supporting Information may be found in the online version of this article:

Online Appendix

Replication Package

References

- Ahn, D. and Shin, W. (2011). 'Analysis of anti-dumping use in free trade agreements', *Journal of World Trade*, vol. 45(2), pp. 431–56.
- Alfaro, L., Antràs, P., Chor, D. and Conconi, P. (2019). 'Internalizing global value chains: A firm-level analysis', *Journal of Political Economy*, vol. 127(2), pp. 508–59.
- Alfaro, L., Conconi, P., Fadinger, H. and Newman, A.F. (2016). 'Do prices determine vertical integration?', *Review of Economic Studies*, vol. 83(3), pp. 1–35.
- Antràs, P., Fort, T. and Tintelnot, F. (2017). 'The margins of global sourcing: Theory and evidence from US firms', *American Economic Review*, vol. 107(9), pp. 2514–64.
- Antràs, P. and Staiger, R.W. (2012). 'Offshoring and the role of trade agreements', *American Economic Review*, vol. 102(7), pp. 3140–83.
- Autor, D., Dorn, D., Katz, L., Patterson, F. and Van Reenen, J. (2020). 'The fall of the labor share and the rise of superstar firms', *Quarterly Journal of Economics*, vol. 135(2), pp. 645–709.
- Baldwin, R.E. and Magee, C.S. (2000). 'Is trade policy for sale? Congressional voting on recent trade bills', *Public Choice*, vol. 105(1/2), pp. 79–101.
- Baldwin, R. (2011). '21st century regionalism: Filling the gap between 21st century trade and 20th century trade rules', Policy Insight 56, Centre for Economic Policy Research.
- Becker, G.S. (1983). 'A theory of competition among pressure groups for political influence', *Quarterly Journal of Economics*, vol. 98(3), pp. 371–400.
- Bernard, A.B. and Jensen, J.B. (1999). 'Exceptional exporter performance: Cause, effect, or both?', *Journal of International Economics*, vol. 47(1), pp. 1–25.
- Bertrand, M., Bombardini, M. and Trebbi, F. (2014). 'Is it whom you know or what you know? An empirical assessment of the lobbying process', *American Economic Review*, vol. 104(12), pp. 3885–920.
- Blanchard, E. (2007). 'Foreign direct investment, endogenous tariffs, and preferential trade agreements', *The B.E. Journal of Economic Analysis & Policy*, vol. 7(1), doi: 10.2202/1935-1682.1800.
- Blanchard, E. (2010). 'Reevaluating the role of trade agreements: Does investment globalization make the WTO obsolete?', *Journal of International Economics*, vol. 82(1), pp. 63–72.
- Blanchard, E., Bown, C.P. and Johnson, R.C. (2021). 'Global value chains and trade policy', Working paper, Dartmouth College.
- Blanchard, E. and Matschke, X. (2015). 'US multinationals and preferential market access', *Review of Economics and Statistics*, vol. 97(4), pp. 839–54.
- Blanes i Vidal, J., Draca, M. and Fons-Rosen, C. (2012). 'Revolving door lobbyists', *American Economic Review*, vol. 102(7), pp. 3731–48.
- Blanga-Gubbay, M. (2021). 'Trade unions and trade protection', Dissertation, Université Libre de Bruxelles.
- Blanga-Gubbay, M., Conconi, P., Kim, I.S. and Parenti, M. (2023). 'Cross-border lobbying: How multinationals shape deep trade policies', Working paper, University of Oxford.
- Blaum, J., Lelarge, C. and Peters, M. (2018). 'The gains from input trade with heterogeneous importers', *American Economic Journal: Macroeconomics*, vol. 10(4), pp. 77–127.
- Bombardini, M. (2008). 'Firm heterogeneity and lobby participation', *Journal of International Economics*, vol. 75(2), pp. 329–48.
- Burbidge, J.B., Magee, L. and Robb, A.L. (1988). 'Alternative transformations to handle extreme values of the dependent variable', *Journal of the American Statistical Association*, vol. 83(401), pp. 123–7.
- Cole, M.T., Lake, L. and Zissimos, B. (2021). 'Contesting an international trade agreement', *Journal of International Economics*, vol. 128(C), 103410.

- Colantone, I., Ottaviano, G.I. and Stanig, P. (2022). 'The backlash of globalization', in (G. Gopinath, E. Helpman and K. Rogoff, eds.), *Handbook of International Economics*, vol. 5, pp. 405–77, Amsterdam: Elsevier.
- Conconi, P., Facchini, G. and Zanardi, M. (2012). 'Fast track authority and international trade negotiations', *American Economic Journal: Economic Policy*, vol. 4(3), pp. 146–89.
- Conconi, P., Facchini, G. and Zanardi, M. (2014). 'Policymakers' horizon and trade reforms: The protectionist effect of elections', *Journal of International Economics*, vol. 94(1), pp. 102–18.
- Conconi, P., García Santana, M., Puccio, L. and Venturini, R. (2018). 'From final goods to inputs: The protectionist effect of preferential rules of origin', *American Economic Review*, vol. 108(8), pp. 1–32.
- De Loecker, J., Eeckhout, J. and Unger, G. (2020). 'The rise of market power and the macroeconomic implications', *Quarterly Journal of Economics*, vol. 135(2), pp. 561–664.
- Dhingra, S. and Morrow, J. (2019). 'Monopolistic competition and optimum product diversity under firm heterogeneity', *Journal of Political Economy*, vol. 127(1), pp. 196–232.
- Dixit, A.K. (1987). 'Strategic behavior in contests', *American Economic Review*, vol. 77(5), pp. 891–8.
- Edwards III, G.C., Barrett, A. and Peake, J. (1997). 'The legislative impact of divided government', *American Journal of Political Science*, vol. 41(2), pp. 545–63.
- Esteban, J. and Ray, D. (2001). 'Collective action and the group size paradox', *American Political Science Review*, vol. 95(3), pp. 663–72.
- Facchini, G., Mayda, A.M. and Mishra, P. (2011). 'Do interest groups affect US immigration policy?', *Journal of International Economics*, vol. 85(1), pp. 114–28.
- Freund, C. and Pierola, M.D. (2015). 'Export superstars', *Review of Economics and Statistics*, vol. 97(5), pp. 1023–32.
- Gaubert, C. and Itskhoki, O. (2021). 'Granular comparative advantage', *Journal of Political Economy*, vol. 129, pp. 871–939.
- Gawande, K. and Bandyopadhyay, U. (2000). 'Is protection for sale? Evidence on the Grossman-Helpman theory of endogenous protection', *Review of Economics and Statistics*, vol. 82(1), pp. 139–52.
- Gawande, K., Krishna, P. and Robbins, M.J. (2006). 'Foreign lobbies and U.S. trade policy', *Review of Economics and Statistics*, vol. 88(3), pp. 563–71.
- Goldberg, P.K. and Maggi, G. (1999). 'Protection for sale: An empirical investigation', *American Economic Review*, vol. 89(5), pp. 1135–55.
- Grossman, G.M. and Helpman, E. (1994). 'Protection for sale', *American Economic Review*, vol. 84(4), pp. 833–50.
- Grossman, G.M. and Helpman, E. (1995). 'The politics of free trade agreements', *American Economic Review*, vol. 85(4), pp. 667–90.
- Gutiérrez, G. and Philippon, T. (2018). 'Ownership, concentration, and investment', *AEA Papers and Proceedings*, vol. 108, pp. 432–7.
- Helpman, E., Melitz, M.J. and Yeaple, S.R. (2004). 'Export versus FDI with heterogeneous firms', *American Economic Review*, vol. 94(1), pp. 300–16.
- Hiscox, M.J. (2004). 'Commerce, coalitions, and factor mobility: Evidence from congressional votes on trade legislation', *American Political Science Review*, vol. 96(3), pp. 593–608.
- Huneus, F. and Kim, I.S. (2018). 'The effects of firms' lobbying on resource misallocation', Research Paper 2018–23, Massachusetts Institute of Technology.
- Irwin, D.A. (2017). *Clashing Over Commerce: A History of US Trade Policy*, Chicago: University of Chicago Press.
- Jia, H., Skaperdas, S. and Vaidyac, S. (2013). 'Contest functions: Theoretical foundations and issues in estimation', *International Journal of Industrial Organization*, vol. 31(3), pp. 211–22.
- Kerr, W.R., Lincoln, W.F. and Mishra, P. (2014). 'The dynamics of firm lobbying', *American Economic Journal: Economic Policy*, vol. 6(4), pp. 343–79.
- Kim, I.S. (2017). 'Political cleavages within industry: Firm-level lobbying for trade liberalization', *American Political Science Review*, vol. 111(1), pp. 1–20.
- Kim, I.S. (2018). 'LobbyView: Firm-level lobbying and congressional bills database', Working paper, <http://web.mit.edu/insong/www/pdf/lobbyview.pdf> (last accessed: 25 September 2024).
- Kohl, T., Lake, J. and Hakobyan, S. (2020). 'Lobbying for tariff phase-outs in United States free trade agreements', Working paper, University of Groningen.
- Krishna, P. (1998). 'Regionalism and multilateralism: A political economy approach', *Quarterly Journal of Economics*, vol. 113(1), pp. 227–51.
- Lohmann, S. and O'Halloran, S. (1994). 'Divided government and U.S. trade policy: Theory and evidence', *International Organization*, vol. 48(4), pp. 595–632.
- Ludema, R., Mayda, A.A. and Mishra, P. (2018). 'Information and legislative bargaining: The political economy of U.S. tariff suspensions', *Review of Economics and Statistics*, vol. 100(2), pp. 303–18.
- MacKinnon, J.G. and Magee, L. (1990). 'Transforming the dependent variable in regression models', *International Economic Review*, vol. 31(2), pp. 315–39.
- Maggi, G. and Ossa, R. (2023). 'The political economy of international regulatory cooperation', *American Economic Review*, vol. 113(8), pp. 2168–200.
- Melitz, M.J. (2003). 'The impact of trade on intra-industry reallocations and aggregate industry productivity', *Econometrica*, vol. 71(6), pp. 1695–725.

- Melitz, M.J. and Redding, S.J. (2014). 'Heterogeneous firms and trade', in (G. Gopinath, E. Helpman and K. Rogoff, eds.), *Handbook of International Economics*, vol. 4, pp. 1–54, Amsterdam: Elsevier.
- Ornelas, E. (2005). 'Rent destruction and the political viability of free trade agreements', *Quarterly Journal of Economics*, vol. 120(4), pp. 1475–506.
- Ornelas, E. and Turner, J.L. (2008). 'Trade liberalization, outsourcing, and the hold-up problem', *Journal of International Economics*, vol. 74(1), pp. 225–41.
- Ornelas, E. and Turner, J.L. (2012). 'Protection and international sourcing', *ECONOMIC JOURNAL*, vol. 122(559), pp. 26–63.
- Osgood, I. (2017). 'The breakdown of industrial opposition to trade: Firms, product variety and reciprocal liberalization', *World Politics*, vol. 69(1), pp. 184–231.
- Osgood, I. (2021). 'Vanguards of globalization: Organization and political action among America's pro-trade firms', *Business & Politics*, vol. 23(1), pp. 1–35.
- Rodrik, D. (2018). 'What do trade agreements really do?', *Journal of Economic Perspectives*, vol. 23(2), pp. 73–90.
- Siegel, R. (2009). 'All-pay contests', *Econometrica*, vol. 77(1), pp. 71–92.
- Siegel, R. (2010). 'Asymmetric contests with conditional investments', *American Economic Review*, vol. 100(5), pp. 2230–60.
- Silberberger, M. and Stender, F. (2018). 'False friends? Empirical evidence on trade policy substitution in regional trade agreements', *The World Economy*, vol. 41(8), pp. 2175–99.
- Stoyanov, A. (2009). 'Trade policy of a free trade agreement in the presence of foreign lobbying', *Journal of International Economics*, vol. 77(1), pp. 37–49.
- Tabakis, C. and Zanardi, M. (2019). 'Preferential trade agreements and antidumping protection', *Journal of International Economics*, vol. 121(C), pp. 103–246.
- Tullock, G. (1980). 'Efficient rent seeking', in (J. Buchanan, R. Tollison and G. Tullock, eds.), *Toward a Theory of Rent Seeking Society*, pp. 97–112, College Station, TX: Texas A&M University Press.
- Vives, X. (2005). 'Complementarities and games: New developments', *Journal of Economic Literature*, vol. 43(2), pp. 437–79.
- WTO. (2007). *World Trade Report 2007*, Switzerland: WTO Publications.