Asset Specificity, Corporate Protection and Trade Policy

– Firm-level evidence from antidumping petitions in 19 jurisdictions

Abstract

We provide the first firm-level evidence that policy-makers tailor trade policy to suit selected firms. We argue that firms with relatively higher levels of specific assets find it more costly to reorganize production, and are hurt more by international competition. In response, policy-makers grant more trade protection to firms with fixed assets. Since protectionism is costly, firms compete for it, which creates diffusion dynamics where protection granted to one firm affects protection granted to others. To test this claim, we utilize the special role antidumping duties (ADDs) play in international trade, and combine petitions for ADDs with financial data on the firms filing them in a unique dataset. Using spatial autoregressive models, we find that firms with specific assets are granted more protection. However, diffusion dynamics differ within and between groups of firms producing the same good. This suggests that firms can partly shape their own level of trade protection.

Introduction

Research on the political economy of international trade has always emphasized the role of business in shaping protectionist policies (Grossman and Helpman 1994; Manger and Shadlen 2015; McGillivray 2004). In spite of this, we know surprisingly little about which firms gain protection from international competition and why. In this letter, we argue that firms with specific assets are more successful in petitioning for trade protection. For firms with capital fixed in specific assets like factories and buildings ("immobile firms"), the costs to reorganizing production are comparatively high. This makes them more vulnerable to international competition, and – for reasons discussed below – more likely to gain trade protection when petitioning for it. We also provide a link between protection afforded to individual firms and groups of firms by showing that the protection gained by companies with specific assets diffuses to other firms producing the same product ("same-good producers"). These results show that trade policy-makers are more responsive to the preferences of companies with specific assets. For this reason, immobile firms can play a part in shaping their own level of trade protection. Since protection diffuses, this has consequences well beyond their own purview.

To test this claim, we marshal evidence on the role of antidumping duties (ADDs) in shielding individual companies against international competition. ADDs are temporary tariffs that importing countries impose on foreign products, and which are intended to provide protection to domestic producers against predatory pricing. However, they also constitute a potent political weapon that governments employ as protectionist measures favorable to targeted domestic actors. ADDs are imposed with a high level of discretion and granularity by domestic authorities and trade jurisdictions after domestic companies file complaints that foreign competitors are charging predatory prices. Importantly, this institutional setup allows us to investigate why some firms are successful when actively seeking trade protection, while others are not. By mapping decisions regarding ADDs onto the characteristics of complainant firms in 19 WTO jurisdictions, we construct a uniquely granular dataset, which allows us to investigate ADD protection at the firm level. To empirically model the spatial dynamics of firm-level protection, we utilize spatial autoregressive (SAR) models, which enable us to estimate how protection afforded to one company affects the likelihood that same-good producers will receive protection too.

Our paper thereby provides new insights on the firm-level determinants of successful petitions for protectionist policies. While recent years have seen an impressive growth in research that examines the role of firms in the politics of trade (e.g. Alt et al. 1999; Bombardini 2008; Distelhorst and Locke 2018; Kim 2017; Malesky and Mosley 2018; Osgood et al. 2017), we still know little about the extent to which firms are able to shape the trade protection they are afforded themselves. In doing so, we shed new light on the broader literatures on determinants of firm-level political influence (De Figueiredo and Richter 2014), and the political economy of trade (reviewed by Bown 2015; Gawande and Krishna 2003; Rodrik 1995). These issues have become even more pertinent with the recent application of "new-new trade theory" to trade protection (e.g. Bombardini 2008; Kim 2017), which has documented extensive firm-level heterogeneities and other incongruences with established industry-level theories. This suggests that firms may be more important in shaping protectionist policies than industry-level factors (Kim 2017). While this challenges aspects of the existing research that has studied trade protection at the industry-level (Goldberg and Maggi 1999; Grossman and Helpman 1994; Hiscox 2002; McGillivray 2004; Rogowski 1989), it does not necessarily invalidate it. Some industry-level insights may still help explain firm-level outcomes through alternative mechanisms (Bombardini 2008). By investigating how asset specificity – which previously was thought mostly to matter at the industry-level – shapes antidumping protection, we show how the firm is a key player in shaping contemporary protectionism and trade policy.

Asset Specificity and Firm-level Trade Protection

The costs of trade liberalization are carried by different actors, depending on whether factors of production are assumed to be immobile (the Ricardo-Viner model) or not (the Heckscher-Ohlin model). The important implication being that costs of international trade are increasing in the degree of an actor's asset immobility (Hiscox 2002). While this insight has normally been applied at the industry-level, it also holds for immobile firms, as liquidating capital that is fixed in specific assets is costly. In the face of international competition and trade liberalization, this means that firms carry significant costs if they cannot easily reorganize production (Alt et al. 1999).

There are a number of reasons why this might be translated into more trade protection. First, controlling specific assets may be a credible signal of the costs a firm incurs from international trade. To the extent that decision-makers care about protecting vulnerable firms, this may directly influence the likelihood of gaining antidumping protection. Second, these costs might also induce firms holding specific assets to lobby more intensively for trade protection (Alt et al. 1999). In line with this argument, political activities (e.g. lobbying and campaign contributions) have been linked to trade protection (Evans and Sherlund 2011). Third, if governments' prime concern is re-election, trade policy will tend to be more restrictive, since the median voter generally is endowed with immobile assets (Mukherjee et al. 2009). This mechanism is likely to be important at the company-level, making decision-makers more responsive to firms with specific assets, because jobs in those companies are more vulnerable. Fourth, as immobile firms are easier to tax (Genschel and Schwarz 2011), policy-makers who are motivated by fiscal concerns may want to shield firms with specific assets, as they can gain a significant premium from keeping them alive and profitable. For these reasons, protection of owners of specific assets should not be a phenomenon that is exclusive to particular industries. Indeed, at the company-level, immobile firms should also be more successful in gaining protection through petitions for ADDs.

Asset specificity and the competition for protection

Granting trade protection is costly (Feenstra 1995; Rodrik 1995). This forces decision-makers to trade off producer interests against those of consumers (Rodrik 1995). When a company is successful in having duties placed on its international competitors, it drains from society's pool of protective measures. Because of this competitive dynamic, ADDs should diffuse from firms with specific assets, affecting the protection afforded to entire producer groups. This could make ADDs a local public good (Stiglitz 1977): When policymakers have agreed that trade in a product is harmful, it becomes easier for all producers of that product to gain protection. However, when one firm is protected, it could also leave less protection available for other same-good producers, inducing a common pool problem (Ostrom 1990), where all firms compete for protection.[1]

Because same-good producers may simultaneously capitalize on protection afforded to immobile firms, and compete with them for protection, it is difficult to predict the direction of the diffusion dynamic. In the empirical section, we discuss which theoretical lessons can be inferred from the results. For now, our conjecture is that when one firm gains protection under the auspices of ADD, it will change the probability that same-good producers are successful in their own petitions.

Context, Methods and Data

Antidumping investigations are typically initiated when a domestic firm files a complaint against a foreign competitor. Domestic authorities have a high degree of discretion in deci-

[1]While part of the price rise induced by ADDs will be non-excludable and non-rival, the rise is unlikely to be homogeneous, as firms petition for protection against different foreign exporters. The bulk of the rise will be concentrated with the firm originally punished, while firms, whose products are not directly affected by the duty are likely to see a smaller increase in price. See Nye (2006) for a discussion.

sions on ADDs, and can impose duties with an extremely high level of granularity, singling out the company mentioned in the complaint, but also specific products it exports. While this provides an ideal setting for investigating which firms are successful in gaining protection, ADDs also constitute important trade barriers in their own right: They increase the market power of domestic companies to such a degree that they are among the costliest trade protection measures (Blonigen and Prusa 2003, p. 271) and have been linked to large suppressions of international trade (Bown and Crowley 2007). It is precisely the granularity with which ADDs can be targeted at foreign competitors, their effectiveness in depressing competition, and the discretion of domestic authorities to impose them that make them ideal targets for companies that seek to use political means to shield themselves against international competition – and ideal for researchers seeking to elucidate effective firm-level strategies for obtaining politically sanctioned trade protection. In Appendix A, we describe in more detail how ADDs are imposed.

We use the Global Antidumping Database (Bown 2016) to measure ADDs in two ways. First, we construct a binary indicator, which takes the value one (1) if the policy-maker decides that the foreign competitor has dumped its prices, and zero (0) otherwise. However, this measure does not include information about the extent to which companies receive antidumping protection. Therefore, we also use the proportion of the sales price that is added as duty. Whenever the initial ruling states that the foreign competitor was not dumping its prices, no duties are imposed, and the variable takes the value zero. Both measures are shown in Figure 1.

Bown (2016) is an extremely detailed data source, which reports the names of the complainant firms. We match these companies with the Orbis (2016) database of firm finances. Most importantly, this allows us to measure asset specificity as US$ invested in fixed assets as a proportion of the firm's total assets. The distribution is shown in Figure 2. This measure captures the basic intuition in our argument: As the ratio of fixed assets – defined as investments in property, plant and equipment – to total assets increases, so do

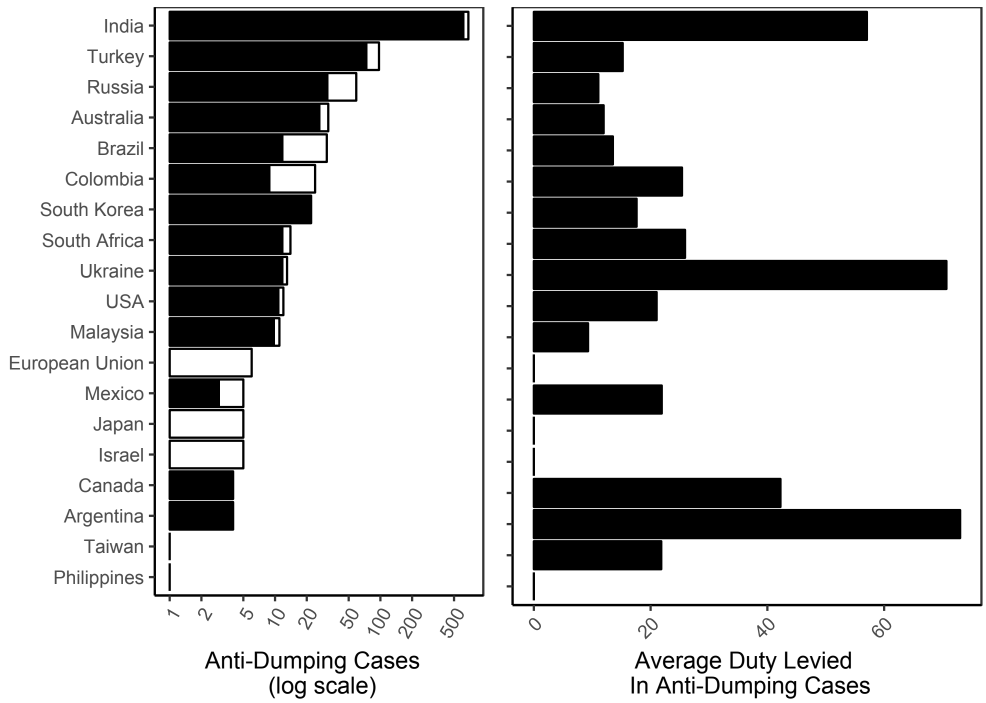

Figure 1: Anti-Dumping Cases and Their Successfulness Across the World. *The left-hand panel shows the total number of anti-dumping cases (white), and how many of them that are successful (black). The right-hand panel shows the average percent of original sales price that the anti-dumping duty comprises.*

the costs of relocating production (Alt et al. 1999). From Orbis, we also collect a number of firm-level controls. In total, we are able to get data on all covariates for 1030 firm-complaint observations from 19 WTO jurisdictions. The data are described in further detail in Appendix B.

Estimating competition for protection

To capture the proposed diffusion, we construct a 1030x1030 (NxN) connectivity matrix, where two firms are connected if they a) have filed separate antidumping petitions b) to have the same product (ten-digit HS codes) protected against c) different foreign companies, and d) have done so in the same year and home-country. This creates the network of domestic competitors seeking ADDs placed on the same good, which is depicted in Figure 3.

We use the connectivity matrix to include a spatial lag of the dependent variable in a

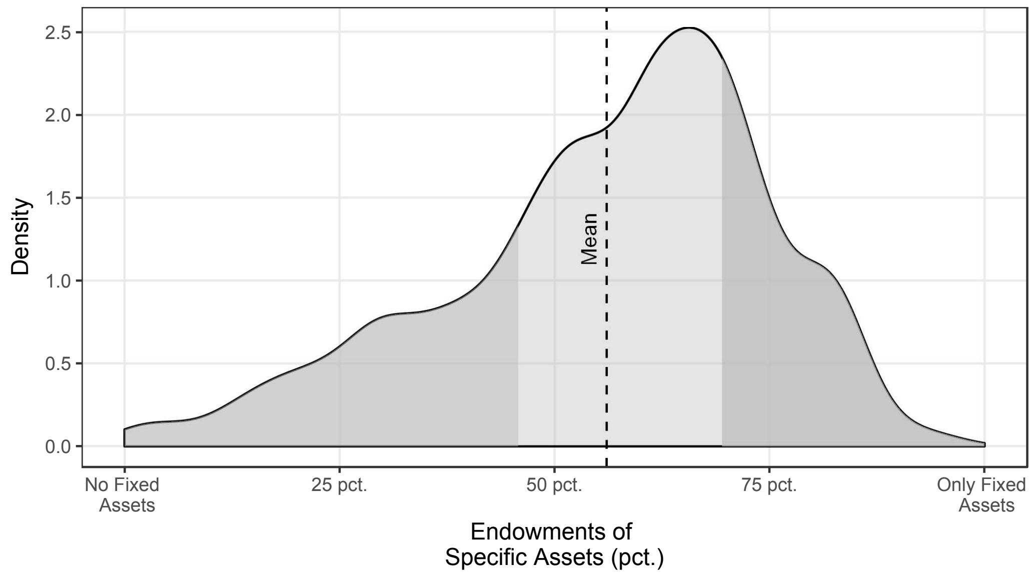

Figure 2: Distribution of Asset Specificity. *Dashed line at the mean. Dark shaded areas are below the 25th and above 75th percentiles.*

series of SAR models. This allows us to estimate how protection afforded to one company impacts the likelihood that other companies are protected too. In particular, we can investigate how ADDs diffuse among import-competing firms that are active on the same domestic market, but have different foreign competitors. We can tease out two separate quantities of interest: a) the direct impact of asset immobility on the company's own trade protection, and b) the additional indirect effect asset specificity has because the immobile company's own success changes the likelihood that same-good producers are successful in petitioning for ADDs (LeSage and Pace 2014).

Because the complainants seek protection for the same good – but do so separately and against different foreign firms – they are almost certainly competitors on the domestic market. This leads us to what may be the most important implication of this measurement strategy: If one firm gains protection against foreign competition, but other competing firms do not, this will markedly change domestic competitive dynamics.

Figure 3 clearly shows the dense clustering of firms in their pursuit of ADDs. Producers of the same products tend to seek protection separately and do so recurrently. For most

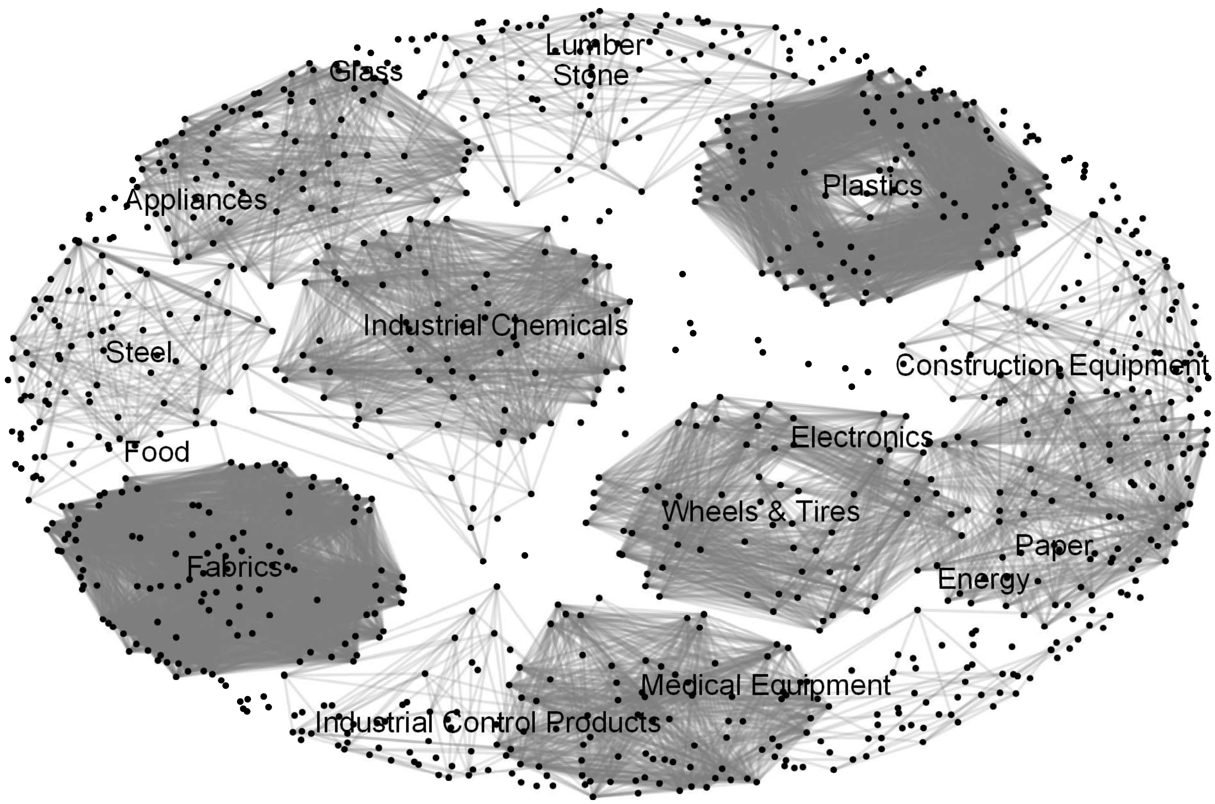

Figure 3: A Network of Firms Seeking Protection for the same Product. *Note: Nodes represent firms seeking antidumping protection for a good they produce. Edges are connections between firms. Network layout is produced with the Kamada-Kawai algorithm. Firms clustered together in communities located using Clauset-Newman-Moore fast-greedy modularity optimization.*

companies, domestic competitors seek protection as well. Because of the sheer density of the network of protection-seeking firms, ADDs shielding firms with specific assets may have vast consequences. Descriptives and diagnostics on the spatial lag parameter is in appendix C.

Results

In Table 1, we present results from a number of SAR models. Columns (1)-(3) show the results from models with dumping decision as the outcome. Columns (4)-(6) show models with duty size as the dependent variable. Models are linear SARs estimated using maximum likelihood. All models include country and time fixed effects. For interpretation, we simulate average direct (Panel A) and indirect (Panel B) effects using the parametric bootstrap (LeSage and Pace 2014). Full details of the model specifications are available in Appendix D.

When using dumping decision as the outcome variable, our results show a clear positive and statistically significant relationship between firm-level asset specificity and ADDs. Adding firm-level controls in column two and product fixed effects in column three only strengthens this conclusion. Our controls are tailored to deal with an array of firm-level confounders, most importantly size and productivity (Kim 2017). Product fixed effects address a number of industry and good-level confounders, e.g. underlying propensity to gain ADDs and product differentiation (Kim 2017). When using duty size as the dependent variable, the results do not emerge before adjusting for these important confounders. The results suggest that if a firm increases the specificity of its assets by 18 percent (approximately one standard deviation), we would expect an increase in the likelihood of gaining ADDs of six percentage points, and an increase in the size of the duty placed on its foreign competition of 19 percent.

The spatial lag parameter, ρ, indicates that competition for ADDs exists between groups of same-good producers. This between-product diffusion of ADDs is so strong that the indirect effect of asset specificity very markedly enhances the direct effect. When an immobile company is successful in gaining protection, other companies that produce the same good are much more likely to be protected too – compared to producers of other goods.

Table 1: SAR results: Direct and Indirect Effects of Asset Specificity on Antidumping Protection

	Dumping Decision			*Duty Size (logged)*		
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Direct Effects						
Asset Specificity	0.046**	0.285***	0.269***	-0.198	1.047***	0.746***
	(0.017, 0.244)	(0.276, 0.542)	(0.209, 0.352)	(-0.741, 0.393)	(0.617, 1.785)	(0.698, 1.905)
Revenue (logged)		0.088***	0.115***		0.695***	0.528***
		(0.081, 0.176)	(0.070, 0.166)		(0.466, 0.965)	(0.485, 1.087)
Total Assets (logged)		-0.171**	-0.138***		-0.680***	-1.231***
		(-0.176, -0.079)	(-0.192, -0.084)		(-0.981, -0.443)	(-1.253, -0.631)
Taxation (logged)		-0.068**	-0.121***		-0.185**	-0.634**
		(-0.077, -0.028)	(-0.175, -0.089)		(-0.312, -0.075)	(-0.654, -0.253)
Total Capital (logged)		-0.026**	-0.006		-0.065**	-0.106
		(-0.028, -0.001)	(-0.016, 0.005)		(-0.117, -0.000)	(-0.114, 0.021)
Panel B: Indirect Effects						
Asset Specificity	0.059**	0.559***	0.023	-1.227	3.176***	-0.344**
	(0.023, 0.512)	(0.536, 8.906)	(-0.041, 0.322)	(-6.113, 2.421)	(1.080, 17.151)	(-0.353, -0.101)
Revenue (logged)		0.171***	0.001		2.049***	-0.187**
		(0.166, 2.431)	(-0.020, 0.176)		(0.927, 14.304)	(-0.200, -0.078)
Total Assets (logged)		-2.062**	-0.012		-2.03***	0.100***
		(-2.585, -0.149)	(-0.208, 0.023)		(-14.517, -0.892)	(0.155, 0.237)
Taxation (logged)		-0.672**	-0.010		-0.522**	0.045**
		(-0.277, -0.048)	(-0.124, 0.021)		(-4.515, -0.183)	(0.039,0.119)
Total Capital (logged)		-0.230**	-0.001		-0.189	-0.000
		(-0.356, -0.001)	(-0.005, 0.002)		(-1.205, 0.004)	(-0.004, 0.019)
ρ	0.016***	0.017***	0.001	0.017***	0.017***	-0.015***
	(0.000)	(0.000)	(0.01)	(0.000)	(0.000)	(0.003)
Spatial lag of X?	Yes	Yes	Yes	Yes	Yes	Yes
Country FE?	Yes	Yes	Yes	Yes	Yes	Yes
Year FE?	Yes	Yes	Yes	Yes	Yes	Yes
Product FE?	No	No	Yes	No	No	Yes
Observations	1,030	1,030	1,030	1,030	1,030	1,030
Log Likelihood	-216.706	-160.762		-1784.534	-1737.064	-978.678

*Note: Columns (1)-(3) and (4)-(6) show, respectively, results from models with Dumping Decision and Duty Size (logged) as the dependent variables. Panels A and B show direct and indirect effect estimates, respectively. Point estimates are medians of bootstrapped distributions. CIs (95 pct.; in parentheses) are from the relevant percentiles of the bootstrapped distributions. For the spatial autocorrelation parameter (ρ), standard errors are in parentheses. ** and *** indicate statistical significance at the 5 and 1 pct. levels. Intercept included in all models, but not shown. Due to high collinearity among the controls, the model in column (3) is estimated using spatial two-stage least squares.*

Adding the product fixed effects – and only investigating diffusion within product groups – in columns three and six changes the results: While there is no within-product diffusion for dumping decisions, it becomes negative when modeling duty size.

The fact that diffusion is positive between groups of same-good producers but negative within those groups indicates that competitive dynamics differ depending on which firms are compared. This is consistent with a model where there is competition both within and between groups of same-good producers (Godwin et al. 2012). First, companies compete with producers of other products to distribute the overall level of protection afforded to each good. When one company manages to convince political decision-makers that it is harmed by foreign competition, it creates an exploitable precedent for same-good producers who can pursue similar arguments to increase their level protection. This subtracts from the protection available to producers of other goods. When immobile firms manage to raise their own protection, it becomes easier for same-good producers to gain protection at the expense of producers of other goods. Second, once the levels of protection afforded to each product is decided, and producers of other goods are removed from the equation, same-good producers still have to compete amongst themselves to distribute the protection that has been afforded to their product. A competitive dynamic arises within the group of same-good producers, where the success of immobile firms decreases the likelihood that others will gain protection as well.

Investigating the mechanism

In Appendix E, we provide evidence on a number of the potential mechanisms linking asset specificity to ADD protection. While we cannot provide any conclusive answers on this question, the richness of the Orbis database gives us some leverage in investigating some widely applied explanations of trade protection. First, we investigate whether electoral concerns could be driving responsiveness to immobile firms (Mukherjee et al. 2009). If this is so, we would expect firms with specific assets to be more successful only if they also are large employers, as these jobs would be would be vulnerable to international competition. That is, we would expect an effect of the interaction between asset specificity and the number of people employed by the firm. We find no such evidence (see Figure E1 in Appendix E). Second, if decision-makers primarily respond to fiscal concerns, we would expect asset specificity to matter only if the firm is a large taxpayer as well. We find no evidence of an interaction between the firm's tax payments and the specificity of its assets (see Figure E1 in Appendix E). Third, supply-side factors could explain the patterns we observe here. For instance, because of electoral concerns, democracies may be more responsive to voters and firms employing large numbers of voters. Investigating any subset of these system-level moderators is infeasible, because we only have 19 trade jurisdictions in our sample. However, if supply-side factors at the aggregate level make decision-makers more responsive to immobile firms, we would expect significant country-level differences in effects. We find limited evidence that this is the case (see Figure E2 in Appendix E). Finally, while the data do not allow us investigate whether lobbying intensity acts as a mechanism, previous research provides some evidence that firms with more specific assets lobby more intensively (Alt et al. 1999) (Alt et al. 1999), and that lobbying intensity seems to translate into more protection (Evans and Sherlund 2011).

Conclusion

In this paper, we have uncovered two important and unexplored dynamics of firm-level antidumping protection. First, decision-makers tailor their provision of ADDs to protect vulnerable firms – those owning assets that are difficult to liquidate and relocate in the face of international competition. Our results lend credence to the view that decision-makers grant trade protection because it furthers the interests of a specific group of companies. Second, since protection is a scarce resource, ADDs afforded to these immobile firms diffuses. The results indicate that same-good producers have the common goal of increasing protection for their product at the expense of other goods. However, once the overall levels of protection are decided, they still have to compete amongst themselves to be the final recipient of ADDs. Because of the sheer density of the network of protection-seeking firms (cf. Figure 3), ADDs shielding firms with specific assets may have vast economic consequences. Most obviously, it has the direct effect of distorting the competitive environment by keeping foreign competition to immobile domestic firms out. However, since this changes the probability that same-good producers are protected as well, the diffusion of antidumping protection further distorts the domestic competitive environment beyond the initial first-order effect.

These results suggest a number of avenues for future research. First, while we explored (and rejected) a number of plausible explanations of why decision-makers are more responsive to immobile firms, future work should focus on uncovering the mechanisms linking asset specificity to trade protection. For instance, if policy-makers react to a credible signal of vulnerability, the policy implications will be different from the case where policy-makers are swayed by corporate lobbying campaigns. Second, the diffusion dynamic uncovered here is likely to be an important reason why ADDs have large economic effects (Blonigen and Prusa 2003). Further explorations of why dynamics differ within and between product groups – and testing the explanation provided here – will be an important future endeavor for research on trade protection.

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