Global Value Chains as a Constraint on Sovereignty: Evidence from Investor-State Dispute Settlement*

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Abstract

That economic integration constrains state sovereignty has been a longstanding concern and the subject of much study. We assess the validity of this concern in the context of two very particular components of contemporary economic globalization: development-enhancing global value chain (GVC) integration and Investor-State Dispute Settlement (ISDS). We argue that multinational corporations (MNCs) with the potential to disrupt GVC integration are more likely to see host state regulations changed in their favor. Contemporary ISDS arbitration, in which MNCs sue host states over alleged violations of investment treaties, make this process visible. Using the non-parametric difference-in-differences estimator by Imai, Kim and Wang (2020), we connect ISDS filings to substantial decreases in GVC trade. We bring that finding to our novel dataset, in which we document that host states have abandoned 24% of regulations disputed in ISDS (1987-2017). Our argument and evidence suggest that, in combination, GVC integration and ISDS can grow an MNC's power to such an extent that the host state quite literally abandons a regulation that the MNC disputes.

Keywords: Global Value Chains; Investor-State Dispute Settlement; sovereignty; regulation; regulatory coordination

Word count: 13,700

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1 Introduction

Power concerns the capacity to influence the behavior of others. Led by the pioneering work of Susan Strange, many scholars see today's multinational corporations (MNCs) as comprising a key locus of power with the ability to influence the behavior of governments not just at home, but also in the host states in which they invest (Strange, 1983). A priority in contemporary political science research is to understand the extent to which MNCs are in fact forcing a "retreat of the state" (Strange, 1996). In this article, we probe the conditions under which foreign, private market actors shape regulatory policy in host states under the specific conditions of contemporary economic globalization. We focus on two phenomena core to the status quo of foreign direct investment (FDI), MNC activities, and host state choices over economic openness: global value chain (GVC) integration, and the ability of foreign investors to sue host states under treaty-based Investor-State Dispute Settlement (ISDS), facilitated by thousands of international investment agreements (IIAs). Our argument and evidence suggest that these phenomena in combination can generate advantages for MNCs, through both indirect and direct channels. It follows that host states choosing economic openness under current conditions may be particularly exposed to the kinds of constraints on sovereignty consistent with the retreat of the state.

The first of these contemporary phenomena is global value chain (GVC) integration, or the increasingly dominant choice of MNCs to fragment production across host states via subsidiaries and/or subcontractors, which accounts for some 70% of international trade (Kim and Rosendorff, 2021).[1] GVC integration likely plays a role in all globalized industries because it involves trade in services and not only in physical goods with which it is more commonly associated (Weymouth, 2017). For host states, GVC integration is associated with increased productivity, employment, living standards, and economic diversification; in the words of the World Bank, it provides states "the opportunity to leap-frog their development process."[2] It follows that host states value GVC integration as a (if not the) key benefit of contemporary economic globalization.

The second phenomenon is treaty-based Investor-State Dispute Settlement (ISDS), the controversial face of international investment law. ISDS gives foreign investors standing to sue host states for alleged property rights violations in ad hoc arbitration, which is facilitated by thousands

[1] https://www.oecd.org/trade/topics/global-value-chains-and-trade/, Accessed 10 August 2021.
[2] https://www.worldbank.org/en/topic/global-value-chains, Accessed 10 August 2021.

of decentralized bilateral and regional IIAs that do not codify foreign investor commitments to the host state. Treaty-based ISDS arbitrations have skyrocketed especially in the 2010s, and developing host states have borne the brunt of ISDS costs as respondents (Moehlecke and Wellhausen, N.d.). Respondent host states that lose at arbitration are bound to pay monetary compensation to the claimant investor, transferring government revenue to MNCs often on the order of USD millions (Franck, 2019). ISDS reform efforts are proceeding in earnest, driven by international organizations and the efforts of individual states, but abrogated or renegotiated ISDS treaty commitments remain today the exception and not the rule (Thompson, Broude and Haftel, 2019; Peinhardt and Wellhausen, 2016).[3]

Taken together, these phenomena create a status quo in which developing states seek to grow their role as suppliers of intermediate goods and services to MNCs via GVC integration and have made legal commitments to ISDS (Cutler and Lark, 2020). The first phenomenon suggests that a host state would set policies advantageous to the MNCs that account for GVC integration (Johns and Wellhausen, 2016). The second phenomenon suggests that, should such a GVC-enabling MNC sue a host state in ISDS over a given policy, the host government has clear incentives to resolve the dispute in order to protect GVC integration. The definition of resolution has been touted as a key upside of ISDS design. Specifically, respondent host states have a legal commitment to provide compensation to the claimant foreign investor in the event of an adverse ruling. There is no requirement that respondent states abandon the disputed policy, making ISDS a "breach and pay" system that stands out from others in international economic law (Pelc and Urpelainen, 2015). Moreover, there is no norm that respondent states change the policy anyway; ISDS reform has specifically focused on preserving host states' sovereign authority to maintain policies even if they have adverse consequences for foreign investors (Haftel et al., 2018). Our question is whether the power of GVC-enabling MNCs incentivizes the host government to go beyond its treaty commitments. Our intuition is that the respondent host government is more likely to nonetheless abandon the policy when the foreign claimant is key to GVC integration. The implication is that contemporary economic globalization facilitates conditions that force the "retreat of the state," even in ways that sovereign states have explicitly excluded from their commitments to private market actors.

[3] "Reforming Investment Dispute Settlement: a stocktaking." *IIA Issues Note*, UNCTAD: March 2019.

To probe these expectations, we first needed to generate the dependent variable: variation in the post-ISDS filing status of regulations disputed in ISDS. Among ISDS arbitrations triggered by a specific regulation, we find that respondent host states abandoned some 24% of disputed regulations, resulting in policy environments closer to claimant preferences (ISDS filed 1987-2017, assessed as of 2018). In fact, in 20 instances the state abandoned the regulation *despite winning the ISDS arbitration*. Given selection effects and peculiarities of both legal and investment data, we pursue creative empirical strategies to get at our expectations and their observable implications. Using the non-parametric difference-in-differences estimator by Imai, Kim and Wang (2020), we find evidence linking disputed regulations to disruption of trade in the claimant's specific industry, via We follow this with a medium-n approach, presenting descriptive statistics consistent with a direct channel at the firm-level. In our view, both our novel data and empirical strategies have great potential to further evaluate the starkest normative concerns about market-generated constraints on sovereign states' regulatory policy making.

This paper proceeds as follows. First, we connect scholarship on foreign investor-host state power relations to the specific, contemporary phenomenon of MNCs seeking legal recourse for host state actions through international investment law. We present our novel dataset identifying disputed regulations and their post ISDS-filing status to set up our puzzle: why do host states sometimes abandon regulations contested in ISDS arbitration, even when under no legal obligations or normative pressure to do so? We lay out our theory linking variation in abandoned regulations to the popularity of GVC-integration as key means of extracting development-enhancing benefits from economic globalization. We then describe our creative approaches to probing what is a difficult-to-test theory and present confirmatory quantitative and descriptive qualitative evidence. In conclusion, we emphasize that the explosion in recent years of global production networks, combined with the status quo in international investment law, generates outcomes consistent with market-derived political constraints on sovereignty already foreseen decades ago.

2 MNC Leverage, Regulatory Change, and ISDS Arbitration

A large body of scholarship makes clear that MNCs can exert power over host states through a multitude of indirect and direct channels. Indirectly, MNCs can lean on diplomatic support from their home governments when embroiled in conflict in a host state (Wellhausen, 2015*b*; Gertz, 2018; Gertz, Jandhyala and Poulsen, 2018). MNCs can influence their home governments' behavior in international negotiations, shaping the priorities and content of international agreements with host states (Sell and Prakash, 2004). MNCs further indirectly influence host states when they invest in private governance, third-party monitoring, and other substitutes for traditional state-led regulation of their activities (Markus, 2012; Locke, 2012; Distelhorst and Locke, 2018; Malesky and Mosley, 2018). Directly, MNCs have been instrumental in driving international regime complexes around climate change and other issues (Raustiala and Victor, 2004; Vogel, 2008; Keohane and Victor, 2011; Johns, Pelc and Wellhausen, 2019). Treaty shopping provides advantages to foreign – and not domestic – market actors (Busch, 2007; Peinhardt and Wellhausen, 2016; Arel-Bundock, 2017; Moehlecke, 2020; Thrall, 2021). Foreign MNCs have also found success in more directly lobbying governments in host states (Mitchell et al., 2015; Hansen and Mitchell, 2000; Weymouth, 2012). Structural issues in the host economy can make less-competitive domestic firms particularly weak in countering such efforts by foreign MNCs (Salamon and Siegfried, 1977; Bauerle Danzman, 2019; Johns, Thrall and Wellhausen, 2020). None of these channels of influence require the legal institution of treaty-based ISDS arbitration.

But ISDS arbitration as it stands today is the face of outsized MNC power relative to that of host states, and it is facing near-universal popular and practitioner backlash. Unquestionably, being sued under ISDS generates costs for respondent host states, whether monetary, diplomatic, or reputational (Franck, 2019; Hafner-Burton, Steinert-Threlkeld and Victor, 2016; Gertz, Jandhyala and Poulsen, 2018; Allee and Peinhardt, 2011). Costs also increase as evolving legal standards across ad hoc tribunals broaden what host states had originally expected to be more limited IIA commitments (Poulsen et al., 2013; Schultz and Dupont, 2014; Pelc, 2017; Johns, Pelc and Wellhausen, 2019). Leaders of reform efforts contend that the decentralized, overlapping, and frankly confusing set of host state IIA commitments to ISDS, in addition to the design choices of ISDS adjudication itself, push host governments to choose between sovereignty and foreign investors' preferences.[4]

A multitude of scholarly efforts have taken up the task of providing theory to explain

[4]To be clear, not every IIA contains ISDS provisions (especially older treaties) (John, 2018). Nonetheless, ISDS clauses in direct foreign investor-host state contracts (e.g. concession agreements) are standard, and some states incorporate ISDS commitments in domestic law, such that states worldwide have some level of exposure to ISDS.

(variation in) ISDS constraints on host state autonomy (Waibel et al., 2010; Van Harten, 2016, 2012; Milner, 2014). In particular, arguments about "regulatory chill" raise the specter that ISDS deters host states from fully exercising their sovereign authority. Specifically, if a host state expects that enacting a potentially investor-unfriendly regulation risks ISDS, it may be "chilled" such that it chooses not to enact that otherwise preferred regulation (Simmons, 2014). Careful research provides evidence that "regulatory chill" is bounded, even in most-likely cases, which tempers the direst normative concerns (Moehlecke, 2020). Still, should a host state enact a regulation that is disputed, and be sued in ISDS for doing so, its choice to abandon the regulation would be consistent with being "chilled," albeit belatedly.[5] Our data collection effort can be thought of as finding the set of such instances, and then exploring the extent to which these instances are consistent with regulatory chill triggered by threats to GVC-integration.

While ISDS is an important topic of study in its own right, in our setting it also has a key characteristic that rules out important alternative hypotheses for explaining host government (in)actions: ISDS does not require the respondent host state sued in arbitration to change the regulation(s) that the claimant foreign investor disputes. To repeat, there is no requirement whatsoever that the host state change its regulations if it loses an ISDS case. Rather, the host state meets its obligations when it pays the award (if any) that results from adjudication by the tribunal as compensation for the host state's property rights violation.[6]

Further, there is not an established norm that a respondent host state should abandon a disputed regulation anyway – far from it. The dominant norm among states and international organizations is that ISDS should not infringe on states' sovereignty to pass and maintain the laws that they desire.[7]

In the absence of a legal obligation or a norm to abandon regulations disputed in ISDS, we expect foreign, private market actors to be a key explanation for why host governments nonetheless

[5] Note that it is possible that the host state gains enough benefits from this course of action such that the regulation, lawsuit, and abandonment is in fact what is known as efficient breach (Pelc and Urpelainen, 2015), but recent evidence suggests that only perhaps 31% of post-ISDS investment outcomes are consistent with the logic of efficient breach (Wellhausen, 2019).

[6] In a handful of cases, tribunals have reached a pro-investor ruling but award zero monetary compensation. Also note that one point of controversy has been the subset of treaty protections that effectively award compensation for future lost profits, due to the host state's action (these concerns are related to "pre-establishment" clauses). Revisions to NAFTA Chapter 11 and now the USMCA, as well as other modern IIAs, attach some limits to such bases for compensation.

[7] See for example "UNCTAD's Reform Package for the International Investment Regime" (2018). New York and Geneva: United Nations.

sometimes abandon regulations. Before presenting our theory, however, we introduce our novel data documenting the existence of and trends in the dependent variable under study.

3 Data: ISDS arbitrations and specific disputed regulations

Has ISDS has found the sweet spot – enforcing international regulatory convergence on respect for the rule of law via compensation awards, while allowing host states regulatory autonomy? We undertook a novel data collection effort to verify whether this is the case. Our starting point was to examine whether, in fact, respondent host states have abandoned the specific regulation disputed by the foreign claimant. Given that states sometimes make such changes – without a legal or norm-driven reason to do so – we see a clear puzzle to be explained by some other mechanism.

We started with the commonly-used UNCTAD dataset of treaty-based ISDS arbitrations, covering 809 arbitrations filed from 1987-2017. This is a non-random sample of the true population, due to variation in rules and norms regarding public disclosure of treaty-based ISDS; nonetheless, this dataset is appropriate for our setting, as undisclosed arbitrations cannot reasonably transmit information to the variety of market actors involved in GVC integration.[8] Our first tasks were to identify if there is a specific underlying regulation disputed by the claimant, and if so, its characteristics.[9] Our coding of "regulation" is based on the dictionary definition of any "rule or directive made and maintained by an authority."[10] Coding relied primarily on case documents and, secondarily, on academic case notes and other reliable sources.[11] To qualify as a disputed regulation for our purposes, we require that the rule or directive be "on the books." For example, in 2012 the Swedish energy firm Vattenfall filed for ISDS arbitration against Germany, disputing the law requiring all nuclear plants in the country to be phased out by 2022 (*Vattenfall v. Germany II*).[12]

We were able to confirm a specific, disputed host state regulation for 46% of ISDS filings (370 of 809). The primary reason this is far from 100% is that many claimants sue over issues other

[8] As of June 2021, UNCTAD counts 1104 treaty-based ISDS arbitrations; a private service (IA Reporter) that engages in investigative journalism has found 1127.

[9] In the rare event that an investor cites multiple regulations in a single case, we record all disputed regulations.

[10] Google Dictionary.

[11] Academic case notes are published in journals such as *The ICSID Review.* Other news sources include *IA Reporter*, other business and legal news sources, and memos released by claimant firms and their legal representation.

[12] The German nuclear phase-out law was approved by the Bundestag with over 80% of the vote. Vattenfall alleged that the law breached Germany's obligations under the Energy Charter Treaty, an IIA that includes ISDS access.

than an allegedly unlawful regulation. Specifically, we do not code instances in which the claimant accuses the host state of breaking its own regulation, as this does not represent the claimant disagreeing with the regulation's content. For example, in *Allard v. Barbados* the claimant alleged that the government of Barbados breached several of its own domestic environmental regulations in violation of the Canada-Barbados BIT.[13] Additionally, ISDS arbitrations alleging covert or extralegal government actions are not coded, as they suggest risks to foreign investors beyond adverse regulation. Lastly, we do not code the many ISDS arbitrations alleging contract violations by the host state, as these disputes concern enforcement of something that is not a regulatory policy. A secondary reason why the percentage is far from 100% is that claimants sometimes do not specify the exact host state regulation that triggered the dispute; claimants have broad abilities to keep the exact content of ISDS arbitration confidential (Hafner-Burton, Puig and Victort, 2017; Hafner-Burton, Steinert-Threlkeld and Victor, 2016). We do not attempt to infer which regulation(s) might be applicable when compelling documentation is unavailable. Thus, we bias toward undercounting specific regulations disputed in ISDS.

Our next step was to code whether the host state abandoned the disputed regulation at any point from the ISDS filing through the end of the study period (2018).[14] In sum, we find that the host state made a pro-claimant change to the disputed regulation in 87 of the 370 ISDS arbitrations in which a specific regulation is disputed (24%).[15] This gives us prima facie corroboration that ISDS is sometimes associated with regulatory convergence toward the claimant's preferences.[16] We confirm that the disputed regulation was not changed in 49% of applicable cases (180 of 370). We are unable to find conclusive evidence that a regulation had either changed or stayed the same since ISDS filing in 36% of applicable cases (134 of 370). While we wish this last number were lower, we chose to code conservatively to make it more difficult for us to establish that there is indeed variation in what we put forward as our dependent variable.[17]

[13] Allard, who purchased land with the intention of developing an eco-tourism project, claimed that government violations of its own regulations caused environmental damage that diminished the value of his investment.

[14] Note that we do not capture regulations that might have been changed in association with negotiations undertaken before the claimant formally invoked ISDS. Thus, we undercount potential instances in which the host state may be "chilled" by the claimant.

[15] This is 11% of all 809 ISDS arbitrations, including those in which no specific regulation is publicly disputed.

[16] We are careful to label this a pro-claimant and not a pro-FDI change, as we cannot assume foreign investors' preferences are homogeneous given firm heterogeneity (Gulotty, 2020; Bauerle Danzman, 2020).

[17] For more information, see the code book and replication data. Our goals are to be exceedingly transparent in these materials to make them of greatest use to other researchers; please do get in touch with questions.

In our coding procedures, we operationalize change dichotomously: cases are coded 1 if the regulation is "abandoned," meaning that there is a pro-claimant change in a disputed regulation at any point since ISDS filing.[18] We coded abandonment whenever we found evidence in governmental and/or specialized news sources that the disputed regulation had been amended, repealed, replaced, expired, or annulled/overruled by the domestic judiciary. One illustrative example of abandonment is *IMFA v. Indonesia*, filed in 2015 under the India-Indonesia BIT. IMFA sought USD 600 million in compensation, as the mining permits it had obtained could not be used because they were overlapping with seven other permits granted to other firms. This issue went back to a 2009 Indonesian law that did not require the various permit-issuing agencies to use a harmonized map when drawing permit boundaries. After the ISDS filing, Indonesia abandoned the previous regulation and replaced it with Regulation 43/2015, which then established criteria for the resolution of overlapping permits.

We code 0, indicating that the disputed regulation was not abandoned, if we could find definitive evidence that the regulation was not substantively altered at any point since ISDS filing. We also coded 0 if the regulation has been amended, but the amendment did not move the regulation toward the claimant's preferences. One example of this coding decision is in *GAMI v. Mexico*, filed in 2002 under NAFTA. GAMI held shares of a Mexican holding company that owned five sugar mills in the country. GAMI disputed a decree issued by the Mexican government that expropriated sugar mills owned by local subsidiaries, which had the stated purpose of revitalizing the Mexican sugar industry. Since ISDS filing, the applicable Mexican Expropriation Law has been amended several times. However, none of the amendments have addressed the core purpose of the law disputed by the investor, that is, the component that justified the seizure of private assets for public benefit.[19]

Although there is no requirement or norm that the host state abandon the disputed regulation whatever the outcome of the arbitration, Table 1 addresses whether the ISDS outcome is sufficient to account for patterns in abandonment. In the context of an arbitration that the investor won or settled prior to a ruling, the host state abandoned the disputed regulation in (only) around one-third of applicable cases. What is particularly surprising is that the host state abandoned

[18] In the few instances in which the claimant disputes multiple specific regulations, we code 1 if any the disputed regulations have been abandoned.

[19] `http://www.diputados.gob.mx/LeyesBiblio/pdf/35.pdf`

regulations in 20% of applicable cases that the state in fact won. That is, the state went through formal ISDS procedures, was ruled to not be liable for compensation to the claimant investor, and abandoned the underlying disputed regulation anyway. Moreover, the host state had already abandoned the disputed regulation in 12% of applicable cases that remained pending at the end of the study period. These descriptive patterns cast doubt on the notion that ISDS outcomes are the key driver of patterns in the dependent variable, although we revisit the potential influence of outcomes in our empirical analyses.

Table 1: **ISDS outcomes and abandoned regulations (1987-2017, assessed 2018).** Notably, host states have abandoned disputed regulations even after winning the related ISDS arbitration.

ISDS Outcome	Case count	Abandoned	Pct
Investor win	113	37	33%
Settled	45	17	38%
State win	99	20	20%
Pending	113	13	12%
Total	*370*	*87*	*24%*

In Appendix 1, we provide further descriptive statistics summarizing variation in the 87 ISDS arbitrations associated with abandoned regulations. Disputed regulations include actual laws passed by the legislative branch, executive decrees, judicial rulings, or some combination of these. In the data, regulations ultimately resulting from legislative actions dominate, with executive actions also prominent (Table A-3). The method by which a disputed regulation is abandoned is most commonly expiration, although active abandonment by judicial or legislative actions is also common (Table A-4). Although the lion's share of abandoned regulations are in the context of ISDS filings by US investors, relevant claimants have come from 23 other home states (Table A-5). Additionally, while the modal claimant is in utilities (electricity, gas, water supply, sewerage, waste, and remediation services), relevant claimants have come from 14 other industries (Table A-6). Twenty-eight host states have abandoned disputed regulations, including not only developing countries but also Canada (associated with six arbitrations) and the United States (associated with five arbitrations) (Table A-7). Finally, it is not the case that arbitrations heard early in the study period have disproportionately high rates of regulatory abandonment by the end of it (Figure A-6). However, we do note that the 2002 Emergency Law in Argentina triggered 25 ISDS filings in the dataset. As that law expired in 2018, these arbitrations play an important role in the data. Although these data points fit the criteria for inclusion, our results are robust to excluding Argentina (Appendix 2.4).

4 Theory: Abandoning Regulations to Avoid GVC Disruption

We use our novel ISDS data to examine the conditions under which foreign, private market actors can influence regulatory policy in the host states in which they invest. If the host state sets a regulation that an MNC considers to have violated its property rights, and the MNC sues under ISDS, under what conditions is the host state more likely to abandon the disputed regulation? Our underlying expectation is that the host state is more likely to abandon the regulation, and thus move toward the preferences of the claimant, if maintaining the regulation imposes sufficient costs on the host state. The question becomes under what conditions does a host state face expected or realized costs that are sufficient for it to abandon its regulation.

The status quo in international investment law allows us to rule out several potential sources of costs. First, we can rule out any legal obligation; states' ISDS treaty commitments do not require policy change. Second, we can rule out norm-driven pressure on host states to abandon regulations; rather, norms in civil society, at the international institutions that facilitate ISDS, and even within the US government reinforce host states' sovereignty to maintain disputed regulations. For example, US Trade Representative in the Trump administration Robert Lighthizer testified that ISDS has "sovereignty issues...I'm always troubled by the fact that non-elected, non-Americans can make a decision that a United States law is invalid...I find that offensive." The Director of the Board of Investment in Sri Lanka criticized "bitter lessons from international arbitrations and the tendency for BITs to constrain domestic policy space." In advocating for reform, the UN Conference on Trade and Development writes that "broad and vague formulations...have enabled investors to challenge core domestic policy decisions – for instance, in environmental, financial, energy, and health policies."[20]

A third hypothesis is that a loss at ISDS arbitration motivates the host state to abandon the

[20] USTR Lighthizer testified to Senate Finance Committee members in response to Sen. Sherrod Brown's (D-Ohio) question on whether ISDS will be removed from NAFTA (21 June 2017). Champika Malagoda, Director of Research and Policy Advocacy Department, Board of Investment of Sri Lanka (16 October 2014). UNCTAD, "Chapter 3: Recent Policy Developments and Key Issues," World Investment Report 2017: Investment and the Digital Economy (9 May 2017). All quotations sourced from Public Citizen compilation, available here: `https://www.citizen.org/wp-content/uploads/isds-quote-sheet.pdf`.

disputed policy in order to avoid future costs of litigation. It is true that the probability of facing a future ISDS arbitration over the same disputed regulation is not zero, given the absence of double jeopardy or related constraints in decentralized international investment law. However, there is also a weak role of precedent (Johns, Pelc and Wellhausen, 2019). As a result, the outcome of the first arbitration over a disputed regulation is not a perfect predictor of the outcome of the second, as host states like the Czech Republic and Argentina have experienced firsthand (Wellhausen, 2016). That future litigation can occur whatever the ISDS outcome is consistent with the descriptive patterns reported in Table 1. Regulatory abandoment occurs following not only host state losses but also wins; moreover, it sometimes occurs even while a case remains pending. Nonetheless, we consider these non-obvious patterns in detail while compiling evidence for our theory.

Our explanation for variation in regulatory change around ISDS derives from a feature and not a bug of contemporary economic globalization: integration via global value chains (GVCs). The global movement of intermediate goods and services used as inputs in firms' design, branding, manufacturing, distribution, customer support and after-sale activities has spread deeply and widely and make up the bulk of contemporary global trade (Kim and Rosendorff, 2021). GVCs are what allow intermediate raw materials, equipment, and services to move across states in the process of generating finished products. Among forms of FDI and related sub-contracting, GVC integration carries notable host state benefits, for example as domestic entrepreneurs find opportunities to become suppliers along the GVC and greater access to finance (Bauerle Danzman, 2020).[21] On the flip side, the greater dependence of GVC-linked domestic firms on foreign investors – often their monopsony buyers – raises the stakes of any disruption to that integration to host states. Indeed, Johns and Wellhausen (2016) argue that the kinds of politically salient hardships that can come from disrupting GVC-integrated domestic firms incentivize host states to do more to mitigate political risks to the foreign investor. Given that GVC integration is measured as trade in intermediate-level goods and services, we propose: *The more an ISDS claimant can provoke negative shocks to trade in intermediate goods and services, the more likely the host state is to abandon the disputed regulation and move the regulatory environment in a pro-claimant direction.*

We highlight several important takeaways in terms of our theory's contributions. First,

[21] For more benefits, see UNCTAD (2013). "Global Value Chains: Investment and Trade for Development." World Investment Report.

a key observable implication is that final-goods trade is not as important to MNC leverage over host state regulations as trade in intermediates. Disruption to final-goods exported by the MNC to the host state could certainly hurt consumers in the host state market. However, disruption to final-goods trade can carry benefits for domestic producers, as disruption can increase the price-competitiveness and domestic market share of domestic producers.[22] This mitigates the political leverage of MNCs that export final goods into the host state relative to MNCs engaged in trade in intermediate goods and services.

Second, the mechanism implied by our theory is different from one that says well-integrated MNCs transmit regulations across borders via their supply chain connections (Schiller, 2017). In our theory, the GVC-integrated ISDS claimant is not using its domestic suppliers to build coalitions, facilitate learning-based diffusion, or otherwise influence the host state's choice over whether and how to regulate. Rather, the host state is influenced by the costs to its domestic economy implied by an adverse policy environment for MNCs driving GVC integration.

Third, globalization-linked regulatory constraints are generally theorized to hold for net-capital-importing developing states and are tested on the sub-sample of developing states. However, our theory makes no reference to the development level of the host state. As GVC integration is a primary channel through which economic openness generates benefits for economic growth and development, we assume that any host state that chooses economic openness is interested in GVC integration. The reality that developed host states are increasingly sued in ISDS has generated new waves of criticism of ISDS and IIAs, making the applicability of our argument to developed host states more important (Pelc, 2017; Johns, Pelc and Wellhausen, 2019; Johns, Thrall and Wellhausen, 2020). Therefore, our primary empirical strategy includes the full set of developed and developing states.[23]

4.1 Is this out of equilibrium behavior?

Before empirically evaluating the plausibility of our theory, we acknowledge that a natural, even obvious concern is that this is host states' out-of-equilibrium behavior. Why would states enact regulations that land them in ISDS arbitration and disrupt GVC integration, if the costs are

[22]Indeed, this was the result of tariffs that President Trump continually trumpeted in his public comments (i.e. tweets).

[23]In robustness tests, we confirm that results hold for developing states only (results available on request).

so high? Another way to articulate this concern is to consider the possibility that host states engage in "efficient breach," meaning that the host state finds it sufficiently advantageous to knowingly set and commit to an unlawful regulation, and accept the costs incurred as a result of being sued and providing compensation when the regulation is ruled to be a treaty violation (Pelc and Urpelainen, 2015; Wellhausen, 2019). From this perspective, too, observing abandoned regulations is puzzling.

An argument that host states are boundedly rational would help to explain observed host state actions; expectations of bounded rationality have gained prominence with regard to IIAs and ISDS (Poulsen et al., 2013; Poulsen, 2015, e.g.). However, this type of outcome can occur in equilibrium even without appealing to bounded rationality. Consider a simple model of a host state's decision of whether or not to enact a given regulation. The host state enacts the regulation when:

$$\mathbb{E}\Big[B^p\Big] > \mathbb{E}\Big[R^p + \tau(R^p + X)\Big] \tag{1}$$

where B^p is the expected benefit of the regulation, broadly construed, and R^p is the expected direct cost of any arbitration that the regulation provokes. $\tau(R^p + X)$ is the expected cost of GVC disruption, which is a function of changed investment decisions following ISDS filing (as we have argued above) as well as other factors X (e.g., the loss of tariff/VAT revenue). A rational host state would implement a regulation if the benefit of doing so is greater than its costs. What is key, though, is that B^p, R^p, and $\tau(R^p + X)$ are all random variables with distributions. After enacting a regulation, draws from each of these distributions are realized, and the state retains the regulation when:

$$B_i^p > R_i^p + \tau(R_i^p + X_i) \tag{2}$$

Even in a world where states are not boundedly rational, meaning that they are able to correctly determine the costs and benefits in expectation, the inequality in Equation 2 is not necessarily satisfied just because the inequality in Equation 1 is. This is because the distributions of the random variables may be high-variance such that (for example) $\mathbb{E}\Big[R^p\Big] = 0$ but in the observed draw $R_i^p >> 0$. There are a number of reasons to suspect that each of the distributions have substantial variance. For example, the benefits of a regulation (B^p) may be contingent on how well it is implemented, which policymakers may not be able to perfectly control. For one thing, consider the fact that sub-national governments are often in charge of implementing national regulations, and that sub-national actions can trigger ISDS arbitrations.[24]

Additionally, the potential costs of ISDS (R^p) could fluctuate with the latent litigiousness of the state's foreign investors. One might argue that, in equilibrium, states should be well-informed about the potential costs of ISDS prior to passing a controversial regulation, because investors would communicate to the host government their intention to file a case in the event that the regulation was implemented.[25] However, threatening to sue is a costless action for firms ("cheap talk"); if threatening to file for ISDS arbitration reduces the probability that a regulation is passed, firms have incentive to make such threats even in response to regulations that they would not be willing to go to arbitration over. As a result, an investor's promise to file a case in the future is not an informative signal about the costs that a government will pay for implementing a given regulation.

In sum, while it is reasonable to expect host states choose to implement regulations or not based on their estimations of the average cost-benefit ratio, their choice to keep the regulations or not is based on the observed costs and benefits. Differences between expected and observed outcomes are not necessarily evidence of bounded rationality on the part of the host states; they are just as easily explained by the fact that both costs and benefits are random variables with nonzero variances.

5 Research Design

Recall our theory: host governments will be more likely to abandon disputed regulations when they believe that failure to do so would jeopardize their economy's integration into GVCs. The implication in our setting is that when a host state is sued in ISDS, and the claimant can generate costly disruptions to GVCs, then the host state is more likely to abandon the regulation. Unfortunately, it is difficult for us to provide direct evidence that any specific instance of regulatory abandonment was motivated by the threat of GVC disruption rather than by some other factor. It

[24] Sub-national (in)action was a key trigger for the wave of ISDS arbitrations filed in the wake of Argentina's 2001/2002 peso devaluation and financial crisis (see Appendix 2.4, especially Figure A-6).

[25] Our theory implies that large GVC-linked foreign investors would be more likely to file for ISDS in the first place, all else equal. While our research design does not facilitate testing this implication, we do note that large MNCs are most likely to file for ISDS (Van Harten, 2016). Still, even if large MNCs' GVC integration plays a role in their filing choice, it is also the case that a bias toward large MNCs fits with the considerable expense of arbitration (Franck, 2019).

is further difficult for us to establish this relationship in our setting of ISDS arbitration, given that host governments are loathe to reveal that pressure from MNC claimants drives their domestic policy decisions. Therefore, our research design focuses on creative ways to provide direct and indirect evidence in support of our theory. What we are able to test quantitatively is a key premise of our argument, that ISDS arbitrations disrupt host states' positions in GVCs. Given quantitative evidence in support of our premise, we provide qualitative evidence consistent with the main thrust of our theory. To do so, we analyze descriptive patterns in the data via medium-n analysis, focusing on evidence of predicted correlations even when taking other potential factors into account.

To be clear, we fully acknowledge that our evidence speaks to correlation rather than causality. Nonetheless, even documenting correlations is of pressing importance given widespread, public concerns over constraints on sovereignty generated by contemporary economic globalization. There are undeniable normative implications if host states that value the most development-enhancing form of economic integration while also committing to the status quo in investment protection are, in making those choices, also creating circumstances that grow MNC power.

5.1 Operationalizing GVC disruption

Empirically, GVC disruption manifests as lowered levels of trade in intermediate goods and services. Our main theoretical proposition is agnostic about the mechanism(s) by which an ISDS claimant could generate a decline in trade in intermediates. In fact, a large body of scholarship has examined whether, and under what conditions, foreign investor-host state disputes generate declines in various kinds of cross-border economic activity (Wellhausen, 2015*a*; Graham, Johnston and Kingsley, 2018; **?**; Haftel et al., 2018; Betz and Pond, 2019; Kim et al., 2019; Arel-Bundock, Peinhardt and Pond, 2020). An ongoing theoretical tension in this work precisely concerns the mechanisms linking disputes and cross-border activity. Specifically, does the mechanism operate at the national level, implying that disputes affect foreign market actors uniformly? Or, are effects heterogeneous across firms, such that the relevant mechanisms operate at disaggregated levels?

To find support for our theory, we must find one or more mechanism(s) by which ISDS claimants can impact levels of trade in intermediates. The benefit of our theory's agnosticism regarding the relevant mechanism(s) is that we can consider a set of mechanisms derived from the literature. This is an advantage, because evidence that these mechanisms impact related dependent variables imply that one or more of them should impact our dependent variable of interest. If none of these mechanisms derived from the related literature impact trade in intermediates, then it is highly unlikely that the threat of GVC disruption motivates policymakers to abandon disputed regulations.

First, we consider a mechanism *at the national-level*, which would be consistent with a strand of influential scholarship that links ISDS to aggregate, national-level FDI flows (Allee and Peinhardt, 2011; Aisbett, Busse and Nunnenkamp, 2018; Kerner and Pelc, 2021). Next, we draw on the fast-growing literature theorizing around heterogenous effects. Following directly from Shim, Jung and Owen (2021), we consider heterogeneous effects *across industries*, based on the mechanism that an ISDS claimant would be most likely to disrupt trade in intermediates in its own industry. In fact, our setting matches the theory in Shim, Jung and Owen (2021) quite well. That article establishes that risks to one MNC imply risks to co-industrial MNCs conditional on the industry having low fixed asset intensity.[26] We expect that, whatever the industry, the subset of activity captured by trade in intermediates has by the very nature of GVC integration low fixed asset intensity. We also explore the potential for shared risks and thus heterogeneous effects of GVC disruption *across investor nationalities*, although it is not as obvious how abandoning a given regulation would mitigate risks for one but not another group of co-national investors (Wellhausen, 2015*b*; Gertz, Jandhyala and Poulsen, 2018). We design tests based on *national-level, industry-level, and nationality-level* mechanisms in our quantitative analyses.

Lastly, it is perhaps obvious that heterogeneous effects could take place *at the firm-level.* That is, ISDS impacts GVC integration via the mechanism that the claimant's own trade in intermediates declines. Previous findings are consistent with this mechanism. In particular, Wellhausen (2019) provides firm-level empirical evidence that the vast majority of ISDS claimants go on to discontinue their activities in the host state, which would include discontinuing trade in intermediates (when applicable). This finding provides solid grounds to expect a firm-level mechanism to operate in our setting, but the complexities of our setting undermine our ability to provide systematic evidence. Thus, while we briefly present a firm-level proof-of-concept, our qualitative analyses again focus on *national-level, industry-level, and nationality-level* mechanisms.

[26] One MNC's problem is more likely to become its competitor's reward as industry fixed costs increase.

6 Quantitative Evidence

We examine trade in intermediate goods and services as our outcome variable of interest, which is the the common measure of GVC activity. Our empirical strategy is as follows: we begin by assembling panel datasets of states' intermediate imports. Because our theory is agnostic as to the mechanism through which lowered intermediate goods and services trade might travel, we follow the procedure outlined above in examining the outcome variable *in total*, *disaggregated by industry*, and *disaggregated by nationality (investor home state)* (1990-2015). To estimate the effect of ISDS on trade in intermediates, we use the nonparametric difference-in-differences estimator developed by Imai, Kim and Wang (2020).

Our key independent variable is an indicator of whether or not each host faced an ISDS claim in the given year. Our sample consists of 169 states, observed annually between 1990 and 2015. As is consistent with our theory, our sample includes OECD states.[27]. Figure 1 plots the distribution of ISDS arbitrations across host states and time. Note that Figure 1 covers the full set of ISDS arbitrations, and not the subset of arbitrations in which a specific regulation was disputed. We use the full set of ISDS arbitrations to probe the relationship between ISDS and trade in intermediates. Why? Our expectation is simply that ISDS arbitrations are associated with deceases in trade in intermediates, whatever the underlying nature of the dispute. We do not have compelling theoretical priors on what relationship, if any, exists between filed ISDS arbitrations and the likelihood that a specific regulation is in dispute. Nor do our data suggest obvious empirical patterns (see Appendix 1). Thus, it would be unconvincing to make an inferential leap from patterns in the subset of regulation-triggered ISDS arbitrations to the set of ISDS arbitrations as a whole.

Our first unit of analysis is at the *host state-year* level. The outcome variable is the logged value of the host state's imports of intermediates, drawn from the OECD's trade data, and the key independent variable is a binary indicator of whether an ISDS arbitration was filed against the host state in that year. Our second unit of analysis is at the *host state-claimant industry-year* level. Here, we examine 33 distinct industries as defined by two-digit International Standard Industrial Classification (ISIC) codes; examples include `Food products, beverages and tobacco; Publishing, Audiovisual and Broadcasting activities; Machinery equipment`. The full

[27] Again, results are robust to their exclusion (available on request)

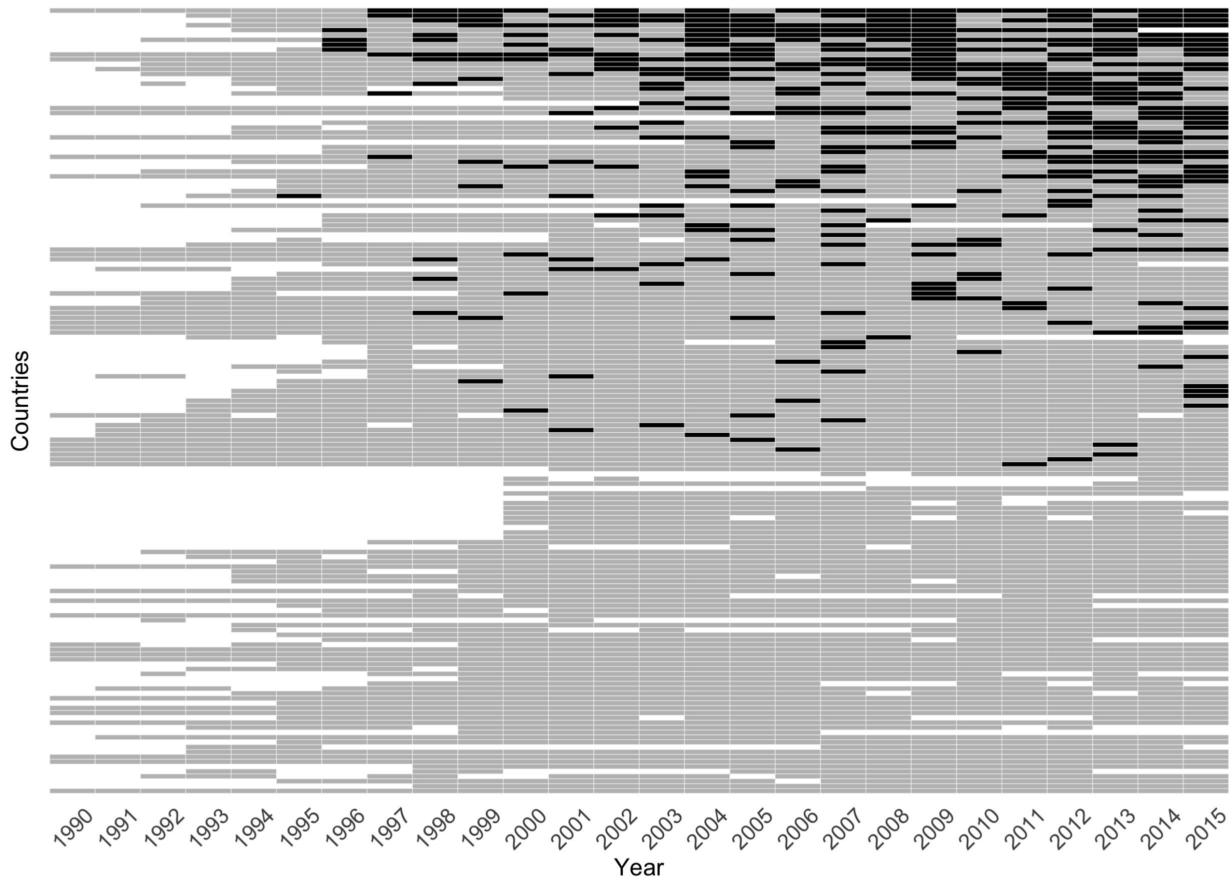


Figure 1: **Distribution of ISDS cases across host states and time**. Each row is a host state, each column is a year. White cells indicate that the state-year observation is missing; grey cells indicate that the host state was observed that year, but was not filed against in ISDS; black cells indicate that the host state was observed that year and that it was filed against. claim.

set of industries (see Appendix Table 2.1) speaks to the broad importance of trade in intermediate goods and services, the latter an increasingly important feature of global trade in itself (Weymouth, 2017; Baccini, Weymouth and Osgood, 2019). The key independent variable is a binary indicator of whether an ISDS arbitration was filed against a host state in a given industry in a given year. To create this variable, we first isolate each industry (at the ISIC two-digit level) that UNCTAD lists as being associated with each ISDS arbitration. While most cases are associated with a single industry, some are associated with and thus coded as occurring in as many as four. Our third unit of analysis is at the *host state-claimant home state-year* level. Because results at this level are not consistent across specifications, we move the presentation of these weaker (but not contradictory) results to Appendix 2.3.

Finally, though our estimator is non-parametric, we still adjust for a number of confounders: GDP growth (from the World Bank's World Development Indicators), Regime type (as measured by V-Dem's additive polyarchy index), FDI stocks (from UNCTAD), the number of bilateral investment treaties to which the state is party (logged, from UNCTAD), and general economic openness (as measured by the KOF Overall Globalization index).

6.0.1 Estimation Strategy

Our goal is to estimate the effect of a binary, time-varying treatment (being filed against in ISDS) on a continuous outcome variable (logged intermediate imports). With this setup, the standard empirical approach would be to estimate an OLS regression of outcome on treatment with unit and time fixed effects (the "two-way fixed effects" approach). Because linear regression with two-way fixed effects is equivalent to the difference-in-differences estimator in the case of two groups and two time periods, the former has been referred to as a generalized diff-in-diff. However, recent studies have demonstrated that two-way fixed effects models perform poorly in settings where treatment is applied to different units at different times and in settings where treatment "turns off" and back on again over time (Callaway and Sant'Anna, 2020; Goodman-Bacon, 2021). In brief, the reason is that they generate inappropriate comparisons: units that were treated at time $t-1$ serve as the comparison group for units that were treated at time t, resulting in an estimate that does not map to any desired estimand. As our treatment – ISDS arbitration – is applied to different units at different times, and turns on and off again for the same units over time, standard fixed effects estimators are not appropriate.

Instead, we use the nonparametric estimator developed by Imai, Kim and Wang (2020) (hereafter IKW). The IKW estimator involves three main steps: first, each treated observation it is matched with a set of other observations M_{it} that had the same treatment history for the previous L time periods but did *not* receive treatment at time t. Next, the set is "refined" to ensure that the counterfactual observations are similar to the treated observations in terms of their covariate and outcome variable histories. The refinement can be done using either inverse propensity score weighting (which upweights more similar counterfactual observations) or Malahanobis distance-based matching procedures (which exclude poor matches from the matched set). Finally, the counterfactual sets for each treated observation are inserted into the following nonparametric difference-in-differences estimator:

$$\hat{\delta}(F,L) = \frac{1}{\sum_{i=1}^{N}\sum_{t=L+1}^{T-F} D_{it}} \sum_{i=1}^{N}\sum_{t=L+1}^{T-F} D_{it}\Big\{(Y_{i,t+F} - Y_{i,t-1}) - \sum_{i' \in M_{it}} w_{it}^{i'}(Y_{i',t+F} - Y_{i',t-1})\Big\} \tag{3}$$

Further details on the IKW procedure can be found in Imai, Kim and Wang (2020). The intuition, however, is that each treated observation is matched with a set of other observations (which are highly comparable on past treatment, outcome, and covariate histories) that serve as counterfactuals. The term in curly brackets represents the difference-in-differences estimate that is calculated for each treated unit by comparing its pre- and post-treatment outcomes with those of the counterfactuals;[28] the estimated quantity, $\hat{\delta}$, is simply the average of the individual diff-in-diff estimates and can be interpreted as a weighted average treatment effect on the treated (ATT). L is the researcher-determined length of the treatment history, and F is the researcher-determined number of time periods post-treatment at which the outcome is measured. The IKW estimator is ideal for our setting, as it solves the problem of inappropriate comparisons while being tolerant of missing data and allowing for covariate adjustment.

For both the host state-year and the host state-industry-year analyses, we set $L = 4$ and report estimates of $\hat{\delta}$ in the year that the ISDS case was filed as well as the four subsequent years. We also report the results for both the matching-based refinement and the inverse propensity score-weighting refinement. Standard errors are calculated by a block bootstrapping procedure with 1,000 iterations. All analyses were implemented using IKW's `PanelMatch` R package.

6.0.2 Results

Figure 2 displays the results. The right panel reports results based on the host state-year level of analysis; the plot shows the effect of receiving an ISDS claim on a state's (logged) total intermediate imports across all industries. In this specification, we do not find support for our premise: ISDS arbitration have no statistically distinguishable effect on host states' overall intermediate imports. This is regardless of whether the matched sets are refined via inverse propensity

[28]If the inverse propensity score weighting refinement is used, $w_{it}^{i'}$ represents the nonnegative weight given to each observation in the matched set. If the matching-based refinement is used, then all observations in the matched set are weighted equally and thus $w_{it}^{i'} = \dfrac{1}{|M_{it}|}$.

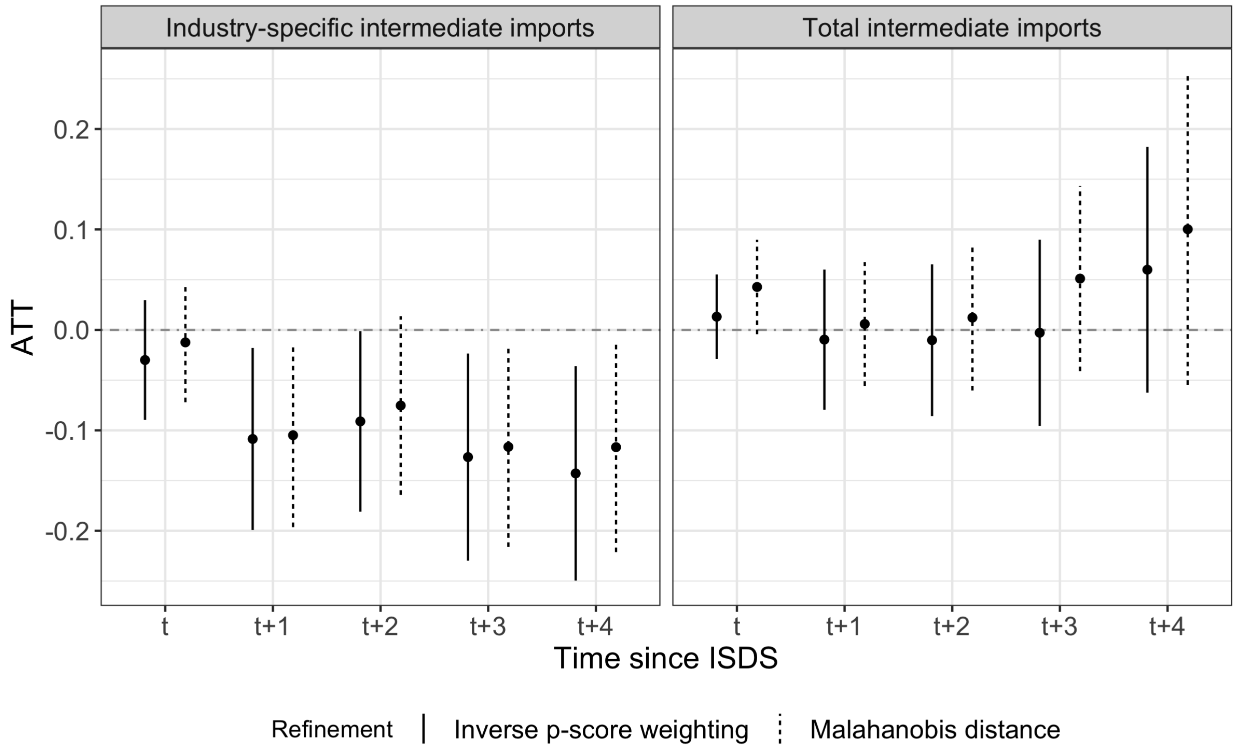


Figure 2: **ISDS disrupts global value chains in the associated industries, but not outside them**. ATTs estimated via Equation 3 and presented alongside 95% confidence intervals. Results can be found in tabular form in Tables A-9 and A-10.

score weighting or Mahalanobis distance matching. Null results at the host state-year level of aggregation are not entirely surprising, as past work has found that investors react most strongly to disputes that occur within their own industry (Shim, Jung and Owen, 2021). Still, these null results place an important upper bound on ISDS arbitration's ability to disrupt GVCs.

The left panel reports results at the host state-claimant industry-year level of analysis; the plot shows the effect of receiving an ISDS claim on the host state's (logged) intermediate imports in the industry of the claimant that filed the dispute.[29] In contrast to the total intermediate imports results, receiving an ISDS claim does appear to have a negative and significant impact on GVC trade within the industries involved in the dispute. Regardless of whether the weighting or matching-based refinement is used, the estimated ATT of ISDS arbitration on industry-specific imports is negative and significant in the year after the case was filed. The effect size is also substantively meaningful, constituting a reduction in imports of approximately 12% after one year.

[29] Results cover multiple industries and multiple claimants as appropriate.

Further, there is evidence that the disruption is not short-lived: even four years after the ISDS case was initiated, the negative effect on intermediate imports in the relevant industr(ies) remains significant and of similar magnitude.

Does ISDS arbitration specifically disrupt imports of intermediates at the industry level, or does it simply disrupt all trade in that industry? If intermediate imports are merely proxying for total imports, then the effect that we find may not be one of GVC disruption at all (and indeed may be spurious). As a placebo test, we re-estimate the previous analyses taking as our outcome variable the host state's (logged) imports of final goods rather than of intermediates. Final goods are typically imported for domestic consumption, meaning that exporters of final goods should be more interested in their trade partners' consumer markets than their property rights protections. Thus, if we find that ISDS arbitration negatively affects host state imports of final goods as well, it would cast doubt on our proposed mechanism. The results, presented in the lefthand panel Figure 3, provide some reassurance: in contrast to the industry-specific intermediate-goods and-services results, receiving an ISDS claim seems to have no significant negative relationship with on host state's imports of final goods in the affected industry. We also reproduce the host state-year specification, using final goods rather than intermediate imports, and we continue to find null effects. These null results constitute further evidence that ISDS leads upstream suppliers in a given industry to divert their GVCs away from the host state, rather than simply depressing trade flows (of whatever type) in the aggregate.

Our results further corroborate previous findings that a firm's mode of integration with the global economy shapes its preferences. As Kim et al. (2019) show, MNCs and exporters that are deeply integrated in GVCs are much more concerned about investment protection than autonomous exporters (i.e., those mostly involved with the export of finished goods) and domestic firms.[30] Our findings indicate that the importance that highly-integrated firms grant to investment protection may be also associated with their ability to disrupt trade in intermediates in the host state as we theorize, which is crucial for many economies' employment and development strategies.

[30]Highly-integrated firms themselves acknowledge an important connection between GVCs and investment protection. As a United States Council for International Business document from 2014 states: "A key message is that in this increasingly GVC-driven world, effective investment protection and promotion is a vital enabling framework." https://www.uscib.org/docs/2014_10_fdi_pillars.pdf

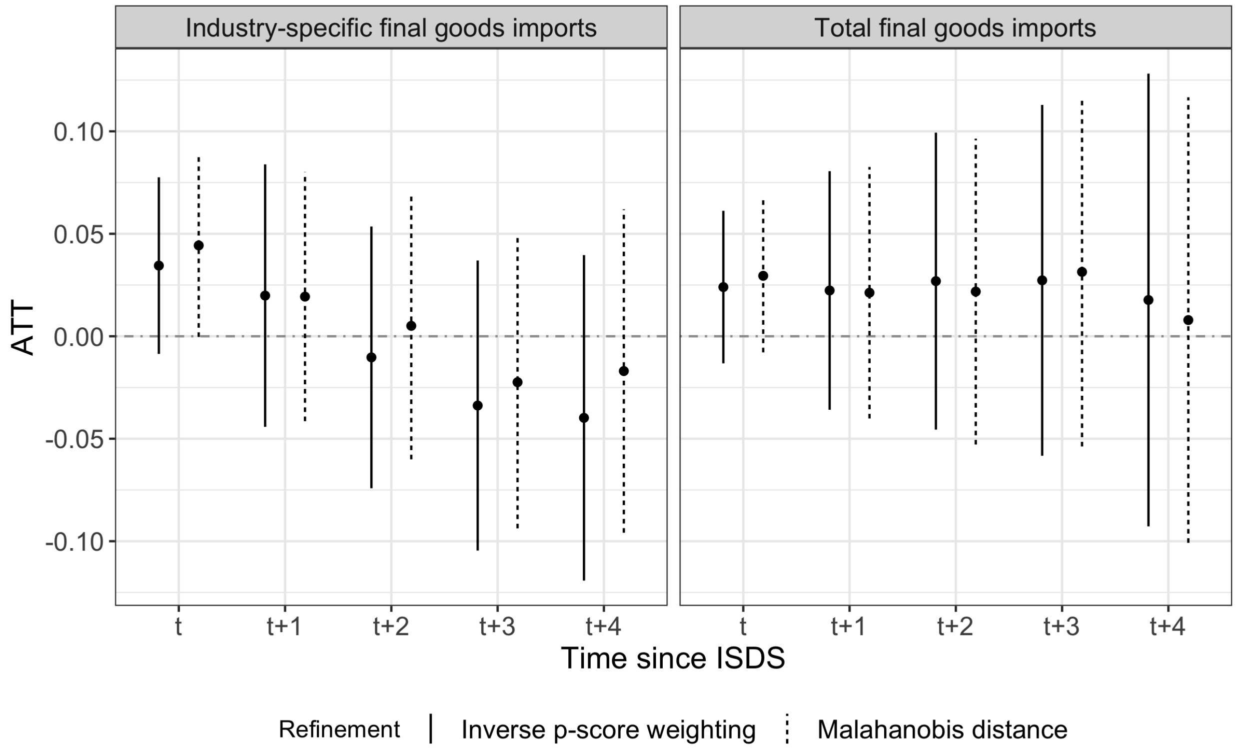


Figure 3: **ISDS has no effect on total or industry-specific trade in final goods**. ATTs estimated via Equation 3 and presented alongside 95% confidence intervals. Results can be found in tabular form in Tables A-11 and A-12.

6.0.3 Robustness

In addition to potential *national-level and industry-level* mechanisms linking ISDS to lower levels of trade in intermediates, the literature also suggests the possibility of a *nationality-level* mechanism. Past studies have found that foreign investors are more sensitive to host state mistreatment of co-national firms (Johns and Wellhausen, 2016), and that the incidence of an ISDS filing in a given bilateral setting is associated with lower future bilateral FDI flows from the home to the host state (Wellhausen, 2015*b*). A similar logic might apply when defining the outcome variable as bilateral trade in intermediates. For example, an ISDS claim filed by an investor from a given home state might send a strong, negative signal to upstream exporters from that home state, due to social ties (Cruz and Graham, 2021), media coverage, or some other channel. However, as reported in Appendix 2.3, we do not find sufficiently convincing evidence of such a nationality-level mechanism; ISDS claims do not disproportionately reduce trade in intermediates at the bilateral level between the claimant's home state and the host state.

Next, specialists in particular might wonder about the role of Argentina in our data, specifically because of the set of ISDS filings triggered by the 2001 Emergency Law that expired in 2018, such that these cases are coded as 1 for an abandoned regulation. In brief, one might be concerned that the large number of cases filed against Argentina in response to this controversial law could be driving our results. However, we argue that these cases belong in the sample: while they are distinct in their number, they are not qualitatively different from other ISDS cases and we should therefore expect them to have the same average effect on GVC trade. Moreover, our results are robust to excluding Argentina from the sample (see Appendix 2.4).

7 Qualitative Evidence

Having shown that host states' concerns that being sued by an MNC are associated with GVC disruption are well-founded, we now turn to provide evidence in support of our argument that higher trade in intermediate goods and services is associated with a higher likelihood of pro-claimant regulatory change by the host state. Specifically, we employ a medium-n analysis, in which we consider whether descriptive statistics in our data are consistent with observable implications of our argument.

Our focus is on ISDS arbitrations in which the host state received a pro-state tribunal ruling. A pro-state ruling means that the host state is not liable for compensation to the claimant. The pro-state ruling further implies the host state need not abandon the regulation to avoid losses in future ISDS arbitrations over the same regulation. Moreover, abandoning a regulation following a pro-state ruling is clearly inconsistent with international norms. Conforming this logic, we find that host states are significantly less likely to abandon a regulation when receiving a pro-state ruling (20% of cases in which a regulation has been abandoned by the host) relative to abandonment after an investor win (33%).[31]

What is particularly notable is precisely that in those 20% of our cases (i.e., 20 instances), the host state abandoned the disputed regulation even though it won – while, again, it had no obligation to do so under international law or current norms. Table 2 provides details on the 20 instances in which the host state abandoned the regulation despite winning. We highlight the

[31]Significant difference in chi-squared test of independence (p-value = 0.06) See again Table 1.

heterogeneity within this group of arbitrations. First, notice that the 12 host states in this group include three developing countries but also nine OECD-member countries that abandoned regulations despite winning. This heterogeneity in host states suggests that abandoning-despite-winning is not obviously correlated with poorer or more economically vulnerable host states. Second, claimants are incorporated in 11 different host states. While claimants are of US-origin in six cases, heterogeneity in host states suggests that this is not only a story of US investors having more leverage over regulation in host states.[32] Third, cases take place in six industries, including the primary, secondary and tertiary sectors. This variation suggests that obsolescing-bargain dynamics and investor immobility do not obviously account for patterns. Fourth, the relevant arbitrations were filed throughout the study period, such that learning (on the part of claimants or host states) is also not an obvious explanation. Rather, the data suggest that some other explanation is missing from the parameters considered in Table 2.

Table 2: Pro-state ruling + Abandoned regulation. Description and (count).

Host State	**Home State**	**Industry**	**Filing Year**
Argentina (4)	Belgium (1)	Agriculture, forestry and fishing (2)	1995 (2)
Canada (3)	Canada (3)	Chemical and pharma products (2)	1999 (2)
Egypt (1)	Chile (1)	Electricity, gas, steam and AC supply (7)	2000 (1)
Ghana (1)	Croatia (1)	Mining and quarrying (2)	2002 (1)
Hungary (1)	Germany (2)	Motor vehicles and trailers (1)	2003 (1)
Moldova (1)	Greece (1)	Other activities (6)	2004 (1)
Malaysia (1)	Luxembourg (1)		2005 (3)
Saint Kitts and Nevis (1)	Netherlands (1)		2006 (1)
Slovenia (1)	Poland (1)		2007 (1)
Spain (1)	United Kingdom (2)		2008 (2)
Turkey (2)	United States (6)		2009 (1)
United States (3)			2011 (1)
			2012 (2)
			2013 (1)

How plausible is our argument centered on risks to GVC integration as a meaningful determinant of regulatory abandonment? Ideally, we could use this subset of puzzling cases to provide systematic evidence that (1) the host government evaluated costs to GVC integration that would result from keeping the disputed regulation, (2) it chose to abandon the disputed regulation because those costs were too high, (3) the relevant GVC-linked firms observed and understood this

[32] Nonetheless, the presence of claimants from a number of wealthy states is in line with results in (Allee and Peinhardt, 2011, p. 247) indicating that a pro-state ruling has ambiguous effects on future FDI, such that reputation with other potential investors is not a clear motivation for state actions around ISDS.

choice, and (4) GVC integration was not disrupted. If in all 20 cases we could establish that risks to GVC integration played a role, we would have more confidence in our argument regarding GVC integration, as opposed to the factors in Table 2 or other potential explanations. Our best approximation is to do the following: First, we provide the narrative of one of these puzzling cases as a basic proof of concept. This demonstrates that our argument linking ISDS to GVC disruption and abandonment can operate *at the level of the claimant firm.* Second, we mirror our quantitative approach in evaluating support for our argument based on the three other mechanisms suggested by the literature, at the *national level, across industries*, and *across investor nationalities.*

First, as a proof of concept, consider the *Mesa Power v. Canada* arbitration, a case that resulted in a pro-state ruling and in the host state abandoning the regulation, and thus belongs to our most puzzling group of cases. In this ISDS arbitration, the US claimant accused Canada of changing its renewable energy regulatory framework without proper notice and due process. Mesa Power owned and controlled four wind farm locations in the province of Ontario. The claimant alleged that its investment decision was made based on Ontario's Green Energy Act of 2009, a regulatory framework aimed at facilitating the development of renewable energy in the province. In 2011, the Ontario Power Authority modified parts of the Act without notice. Mesa Power argued that this sudden regulatory change harmed its ability to secure new contracts while providing undue advantages to its competitors, both foreign and domestic. While the ISDS arbitration was ongoing, the Green Energy Act was amended several times. The modifications were very much in line with the claimant's interests, as they scrapped the "made-in-Ontario" requirements the Act originally had and loosened some technical specifications.[33] The tribunal ultimately decided the case in favor of Canada in 2016. In 2017, a newspaper article described a "mea culpa" under the headline, "Ontario energy minister admits mistake with green energy program."[34]

In 2019, amidst several controversies, the Green Energy Act was repealed entirely.[35] Our

[33] For a review on the amendments to the Act, see *Canada: Ontario's Minister Of Energy Announces Changes To Feed-In Tariff Program.*

[34] Available at `https://globalnews.ca/news/3272095/ontario-energy-minister-admits-mistake-with-green-energy-program/`

[35] *Bill 34, Green Energy Repeal Act, 2018*. The Green Energy Repeal Act was also adopted in response to a WTO ruling in a dispute initiated by Japan in 2010 (DS 412). Japan argued that Ontario's renewable energy programs conceded several undue advantages to domestic equipment suppliers. Although we cannot determine the relative weight the WTO ruling and the ISDS claim each had in pushing Canada towards regulatory change, we see that these two events could be reinforcing each other. This is supported by qualitative work that deeply investigates how government officials - and specifically in Canada - account for litigation risk stemming from both ISDS and the WTO (Van Harten and Scott, 2016).

expectation is that this repeal is also consistent with the ISDS claimant (Mesa Power) preferences, as it fits our criteria of a change in the specific, disputed regulation at any point after the initial ISDS filing. We indeed see support for our expectation that this 2019 abandonment is a further move in the pro-claimant direction. Although the situation is not yet resolved, to date there are clear indications that energy procurement in Ontario will move towards a much more competitive bidding process, which is consistent with the claimant's preferences.[36]

While the process leading to regulatory change in this (or any) instance was clearly multi-causal, we find support for our expectation that high GVC integration would be threatened by maintaining the disputed regulation, and that this threat played a role in Canada's decision. As Meckling and Hughes (2017) argue, the renewable energy industry is highly verticalized, i.e., comprised by several firms each specializing in specific stages of the production process and located in multiple countries. The authors focus on the solar photovoltaics industry, whose supply chain consists of upstream firms supplying raw materials, on manufacturing firms that produce equipment, wafers, cells, and modules and on downstream players that provide systems integration and project development (Meckling and Hughes, 2017, p. 228). Similarly, the wind energy sector - Mesa Power's sector - is also highly fragmented (Nahm, 2017). A report by a risk management company to the government of Alberta states that the wind energy supply chain includes more than 65 industries at the six-digit NAICS code level. The report identifies that Alberta lacks capacity in many areas along the sector's GVC and thus it is highly dependent on imports of intermediates.[37] It should not be any different in any other provinces. Thus, the *Mesa Power v. Canada* case clearly shows how the high level of GVC integration in the claimant's industry (our independent variable) is associated with regulation abandonment (our dependent variable), under the most puzzling scenario (a pro-state ruling).

Next, we mirror our quantitative approach in examining patterns in the data suggested by other means of political risk transmission: total amounts of trade in intermediates, co-industrial GVC integration, and co-national GVC integration. Figure 4 plots the average value of each of our three trade-in-intermediates variables according to two factors: whether the host state won

[36]For more information see *Ontario Repeals the Energy Act*.

[37]See *Alberta Wind Energy Supply Chain Study Final Report*, Available at `https://canwea.ca/wp-content/uploads/2017/09/Delphi-AB-Wind-Supply-Chain-Study-Final-Report.pdf`

or lost the case, and whether the host state abandoned or kept the disputed regulation.[38] That is, each bar averages the applicable trade variable across the set of ISDS arbitrations that falls in that category. Table 4 shows that GVC trade, using any of our three measures, is the highest for these 20 puzzling instances of abandoning-despite-winning that account for the leftmost "Win, Cancel" column. For the other combinations of ISDS and regulation outcomes, GVC trade drops off significantly. (The denominators are as follows: "Win, Keep" (76 cases), "Lose, Cancel" (37), and "Lose, Keep" (77).) The very low average value of GVC trade in the "Lose, Keep" category is also notable. Even if keeping a regulation ruled unlawful generates high risks of further litigation, low average GVC trade suggests low risks to the kinds of cross-border economic activity of greatest interest to the host state. The pattern is consistent with our expectations that, in the context of low GVC trade, a host state may find it cost-effective to choose "Keep" even given a loss.

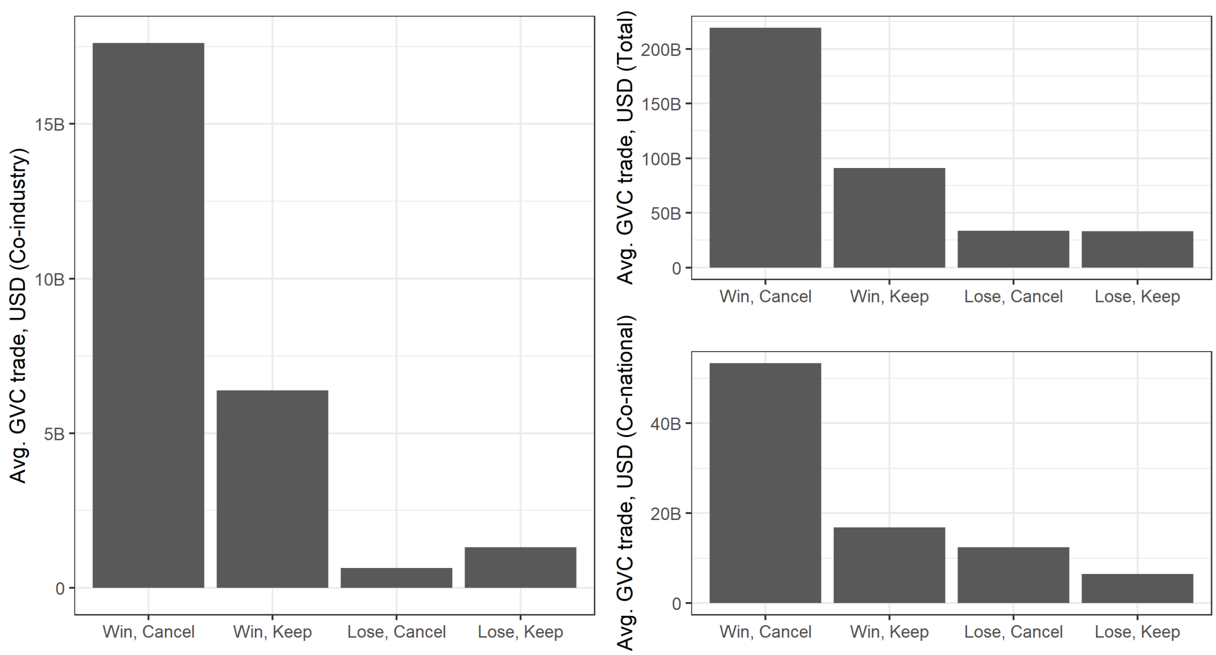


Figure 4: **Average co-industry, total, and co-national imports of intermediate goods and services in host, by ISDS and regulation outcomes.** Puzzling cases of abandoning-despite-winning ("Win, Cancel") are associated with high levels of GVC integration; cases of keeping a disputed regulation despite an adverse ruling ("Lose, Keep") are associated with low levels.

Our last medium-n examination focuses on the ISDS arbitrations that remained pending at the end of the study period (2018). Of these, the host state had already abandoned the regulation

[38]We collapse settlements into investor wins.

in 13 instances (12%). That is, even without knowing the outcome, the host state moved the regulatory environment in the pro-claimant direction. Why would a host state do this? It would be consistent with our argument if the risk of GVC disruption in this subset of pending cases is particularly high. If so, the host state would be incentivized to abandon the disputed regulation in order to avoid costs from GVC disruption – even in the presence of uncertainty over the (eventual) ISDS outcome. Consistent with our argument, Figure 5 shows that the average co-industry and co-national GVC trade in "Pending, Cancel" cases is higher than GVC integration in the set of "Pending, Keep" cases. However, because the small n of "Pending, Cancel" cases, these differences are not statistically significant. Finally, the pattern with regard to total GVC trade is not consistent with our argument.

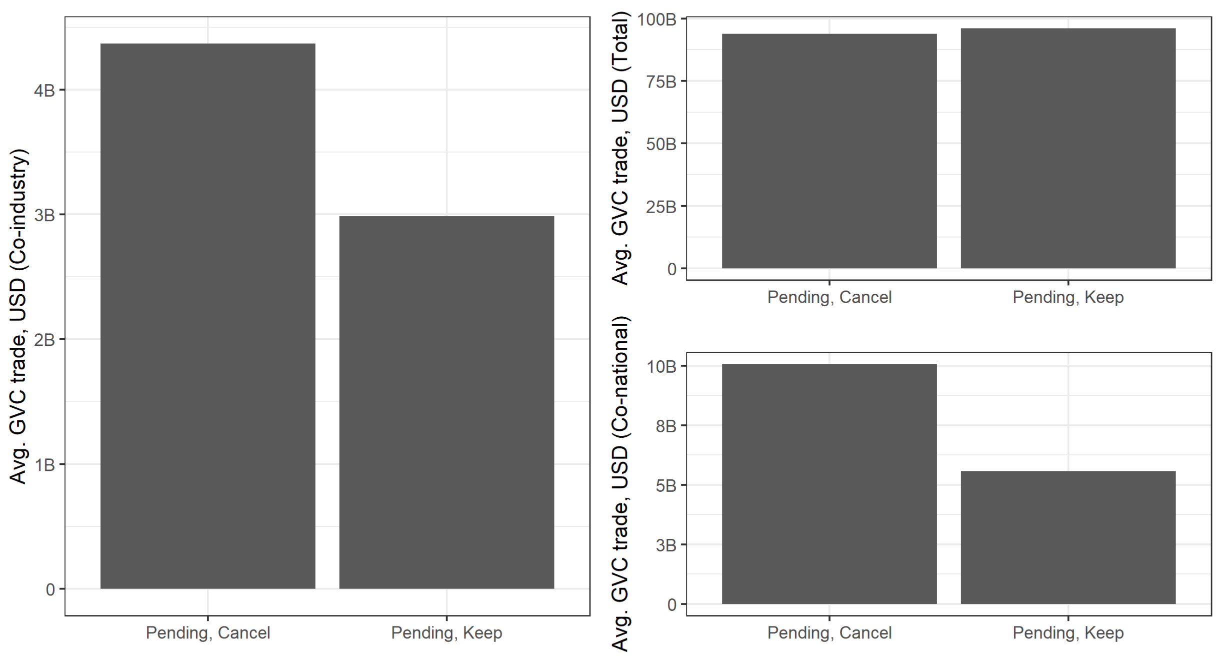


Figure 5: **Average co-industry, total, and co-national imports of intermediate goods and services in host for the subset of Pending Cases.** The host abandoning the regulation is associated with higher levels of GVC trade for 2 of 3 measures, but differences are not statistically significant.

8 Conclusions

In this article we examine the effects of GVC integration on domestic regulatory policy change, using ISDS as a setting to identify controversial regulations as well as their MNC challengers. When faced with ISDS arbitration, we argue that host states weigh the cost of forgoing their chosen regulatory policy against the potential cost of GVC disruption. Quantitatively, we find the strongest evidence that GVC disruption is heterogeneous by industry. The effect is substantial, as we find a reduction in imports of intermediates of nearly 12% one year after the relevant ISDS claim is filed. This supports the premise of our more general theory, that ISDS arbitrations do disrupt GVC integration in the host economy.

We support our quantitative analyses with qualitative medium-n evidence of patterns in the data that are consistent with observable implications of argument. Crucially, the most puzzling cases in our dataset – those in which the host state abandons a regulation even when won the ISDS arbitration – are the set of cases associated with the highest levels of GVC integration whether measured at the national-, industry-, or bilateral-level. Taken together, the evidence supports the article's specific claim that an MNC that can credibly disrupt GVC integration in the host state has more leverage to get the host state to abandon what it sees as an unwelcome regulation. More broadly, the evidence is consistent with our motivating premise: the longstanding concern that international market actors can constrain host state sovereignty is valid, even under the very particular form that economic globalization takes today.

GVC integration has been found to have incredible potential to spur economic growth and development in the host state. Benefits include resources to upgrade production processes; reliable long-term partners; increased employment both directly and through spillover effects; technology transfer; opportunities to move up the supply chain; economic diversification with the promise of reliable export markets; access to finance; and more. It follows that GVC integration has been a particularly sought-after goal of host states choosing economic openness. Yet our findings imply that the states benefiting from this kind of integration are those especially vulnerable to the power of MNCs to constrain host state sovereignty and move regulations toward their preferences.

It is worth emphasizing that our setting of Investor-State Dispute Settlement (ISDS) has characteristics that could mitigate the dynamic of an integration-sovereignty trade-off. In ISDS, both claimant MNCs and respondent host states have agreed *ex ante* to third party arbitration. The burden is on claimants to prove that a disputed regulation in some way violates their property rights or otherwise constitutes an unlawful action by the host state under the applicable treaty. Host states can be found "innocent," such that the regulation is not ruled to be illegitimate. Host states can be found "guilty," meaning that they are required to pay compensation to the claimant investor for costs associated with the unlawful regulation. Crucially, even when found "guilty," host states have absolutely no obligation under the law to abandon the disputed regulation. Furthermore, although international organizations and non-market actors have found much to criticize about the status quo of ISDS, those same actors encourage host states not to abandon disputed regulations. Critics celebrate the fact that agreeing to ISDS meant agreeing to change regulations as a prime benefit of its design. Despite all this, we document that a wide swath of host states sued in ISDS – found "innocent," "guilty," or even before any resolution is reached – have abandoned the disputed regulation regardless. Neither law nor norms can explain this. Thus, our data alone makes the contribution of identifying exactly those cases in which this touted benefit of ISDS design proved irrelevant.

One way of looking at our findings is to imagine a bright side for international coordination. If deep GVC integration can underpin and push international regulatory coordination, it may provide a structural counterweight to contemporary challenges to the legitimacy of international coordination as a goal (Johns, Pelc and Wellhausen, 2019). Threats to maintaining heterogeneous regulations may push host states to instead choose regulations that improve international public goods provision. Whether it is normatively good for structural features of the international economy to be doing this work is an open question. Whether GVC-integrated MNC claimants do such public-good-enhancing work as they sue states is, we think, less of an open question.

Finally, our results highlight the challenges that lie ahead of states in a global economy fraught with threats to further integration. The COVID-19 pandemic brought to light growing pressures on home governments to bring production structures back from overseas.[39] This suggests diminishing positive development effects of GVC integration for host states, as GVC instability counteracts the longer-term benefits for which GVCs are otherwise well-known.

Broadly, our findings are consistent with the premise most famously articulated by Susan Strange, that deep economic integration risks the erosion of sovereignty. From this perspective could summarize the large and growing body of literature that finds that economic integration is consistent with (or even reinforcing of) sovereignty as a literature focused on "loopholes." The

[39] See, for instance, UNCTAD's report "How COVID-19 is changing global value chains" - `https://unctad.org/news/how-covid-19-changing-global-value-chains`

term “loophole” need not carry normative weight: surely, documenting and explaining the savvy means by which states maintain autonomy despite the constraints of economic globalization are substantively meaningful in shaping outcomes in the international political economy. Still, there remains the nagging adage that the exception(s) prove the rule.

References

Aisbett, Emma, Matthias Busse and Peter Nunnenkamp. 2018. "Bilateral investment treaties as deterrents of host-country discretion: the impact of investor-state disputes on foreign direct investment in developing countries." *Review of World Economics* 154(1):119–155.

Allee, Todd and Clint Peinhardt. 2011. "Contingent credibility: The impact of investment treaty violations on foreign direct investment." *International Organization* 65(3):401–432.

Arel-Bundock, Vincent. 2017. "The Unintended Consequences of Bilateralism : Treaty Shopping and International Tax Policy." *International Organization* 71(2):349–371.

Arel-Bundock, Vincent, Clint Peinhardt and Amy Pond. 2020. "Political Risk Insurance: A New Firm-level Data Set." *Journal of Conflict Resolution* 64(5):987–1006.

Baccini, Leonardo, Stephen Weymouth and Iain Osgood. 2019. "The Service Economy: U.S. Trade Coalitions in an Era of Deindustrialization." *The Review of International Organizations* 14(2):261–296.

Bailey, Michael A, Anton Strezhnev and Erik Voeten. 2017. "Estimating Dynamic State Preferences from United Nations Voting Data." *Journal of Conflict Resolution* 61(2):430–456.

Bauerle Danzman, Sarah. 2019. *Merging Interests: When Domestic Firms Shape FDI Policy.* Cambridge: Cambridge University Press.

Bauerle Danzman, Sarah. 2020. "Foreign Direct Investment Policy, Domestic Firms, and Financial Constraints." *Business and Politics* 22(2):279–306.

Betz, Timm and Amy Pond. 2019. "Foreign Financing and the International Sources of Property Rights." *World Politics* 71(3):503–541.

Busch, Marc L. 2007. "Overlapping Institutions, Forum Shopping, and Dispute Settlement in International Trade." *International Organization* 61(4):735–761.

Callaway, Brantly and Pedro H.C. Sant'Anna. 2020. "Difference-in-Differences with multiple time periods." *Journal of Econometrics* pp. 1–45.

Cruz, Cesi and Benjamin A T Graham. 2021. "Social ties and the political participation of firms." *The Review of International Organizations* (March):1–26.

Cutler, A. Claire and David Lark. 2020. "The hidden costs of law in the governance of global supply chains: the turn to arbitration." *Review of International Political Economy* 0(0):1–30.
URL: *https://doi.org/10.1080/09692290.2020.1821748*

Distelhorst, Greg and Richard M. Locke. 2018. "Does Compliance Pay? Social Standards and Firm-level Trade." *American Journal of Political Science* 62(3):695–711.

Franck, Susan D. 2019. *Arbitration Costs: Myths and Realities in Investment Treaty Arbitration*. Oxford: Oxford University Press.

Gertz, Geoffrey. 2018. "Commercial diplomacy and political risk." *International Studies Quarterly* 62(1):94–107.

Gertz, Geoffrey, Srividya Jandhyala and Lauge N.Skovgaard Poulsen. 2018. "Legalization, diplomacy, and development: Do investment treaties de-politicize investment disputes?" *World Development* 107:239–252.

Goodman-Bacon, Andrew. 2021. "Difference-in-differences with variation in treatment timing." *Journal of Econometrics* .

Graham, Benjamin A.T., Noel P. Johnston and Allison F. Kingsley. 2018. "Even Constrained Governments Steal: The Domestic Politics of Transfer and Expropriation Risks." *Journal of Conflict Resolution* 62(8):1784–1813.
URL: *http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2106621*

Gulotty, Robert. 2020. *Narrowing the Channel: The Politics of Global Supply Chains*. Chicago: University of Chicago Press.

Hafner-Burton, Emilie M, Sergio Puig and David G Victort. 2017. "Article Against Secrecy : The Social Cost of International Dispute Settlement." *Yale Journal of International Law* 42(2):280–338.

Hafner-Burton, Emilie M, Zachary C Steinert-Threlkeld and David G Victor. 2016. "Predictability Versus Flexibility- Secrecy in International Investment Arbitration." *World Politics* 68(3):413–453.

Haftel, Yoram Z., Alexander Thompson, Haftel Yoram Z. and Alexander Thompson. 2018. "When Do States Renegotiate Investment Agreements? The Impact of Arbitration." *Review of International Organizations* 13(1):25–48.

Hansen, Wendy L and Neil J Mitchell. 2000. "Disaggregating and Explaining Corporate Political Activity : Domestic and Foreign Corporations in National Politics." *American Political Science Review* 94(4):891–903.

Imai, Kosuke, In Song Kim and Erik Wang. 2020. "Matching Methods for Causal Inference with Time-series Cross-Sectional Data.".

John, Taylor St. 2018. *The Rise of Investor-State Arbitration: Politics, Law, and Unintended Consequences*. Oxford: Oxford University Press.

Johns, Leslie, Calvin Thrall and Rachel L Wellhausen. 2020. "Judicial Economy and Moving Bars in International Investment Arbitration." *The Review of International Organizations* 15(4):923–945.

Johns, Leslie, Krzysztof J Pelc and Rachel L Wellhausen. 2019. "How a Retreat from Global Economic Governance May Empower Business Interests." *The Journal of Politics* 81(2):731–738.

Johns, Leslie and Rachel L. Wellhausen. 2016. "Under one roof: Supply chains and the protection of foreign investment." *American Political Science Review* 110(1):31–51.

Keohane, Robert and David G. Victor. 2011. "The Regime Complex for Climate Change." *Perspectives on Politics* 9(1):7–23.

Kerner, Andrew and Krzysztof J Pelc. 2021. "Do Investor-State Disputes (Still) Harm FDI?" *British Journal of Political Science* .

Kim, In Song, Helen V. Milner, Thomas Bernauer, Iain Osgood, Gabriele Spilker and Dustin Tingley. 2019. "Firms and Global Value Chains: Identifying Firms' Multidimensional Trade Preferences." *International Studies Quarterly* 63(1):153–167.

Kim, Soo Yeon and B Peter Rosendorff. 2021. "Firms, states, and global production." *Economics & Politics* n/a(n/a).

Locke, Richard. 2012. *The Promise and Limits of Private Power*. Cambridge: Cambridge University Press.

Malesky, Edmund J and Layna Mosley. 2018. "Chains of Love ? Global Production and the Firm-Level Diffusion of Labor Standards." *American Journal of Political Science* 62(3):713–728.

Markus, Stanislav. 2012. "Secure Property as a Bottom-Up Process: Firms, Stakeholders, and Predators in Weak States." *World Politics* 64:242–277.

Meckling, Jonas and Llewelyn Hughes. 2017. "Globalizing solar: Global supply chains and trade preferences." *International Studies Quarterly* 61(2):225–235.

Milner, Helen V. 2014. "Introduction: The global economy, FDI, and the regime for investment." *World Politics* 66(1):1–11.

Mitchell, Neil J, Wendy L Hansen, Eric M Jepsen, Neil J Mitchell, Wendy L Hansen and Eric M Jepsen. 2015. "and Foreign The Determinants of Domestic Activity Corporate Political." 59(4):1096–1113.

Moehlecke, Carolina. 2020. "The chilling effect of international investment disputes: Limited challenges to state sovereignty." *International Studies Quarterly* 64(1):1–12.

Moehlecke, Carolina and Rachel L. Wellhausen. N.d. "Political Risk and International Investment Law.".

Nahm, Jonas. 2017. "Renewable futures and industrial legacies: Wind and solar sectors in China, Germany, and the United States." *Business and Politics* 19(1):68–106.

Peinhardt, Clint and Rachel Wellhausen. 2016. "Withdrawing from Investment Treaties but Protecting Investment." *Global Policy* 7(4):571–576.

Pelc, Krzysztof J. 2017. "What Explains the Low Success Rate of Investor-State Disputes?" *International Organization* 71(03):559–583.

Pelc, Krzysztof J and Johannes Urpelainen. 2015. "When do international economic agreements allow countries to pay to breach?" *Review of International Organizations* 10(2):231–264.

Poulsen, Lauge N. Skovgaard. 2015. *Bounded Rationality and Economic Diplomacy: The Politics of Investment Treaties in Developing Countries*. Cambridge: Cambridge University Press.

Poulsen, Lauge Skovgaard, Emma Aisbett, Lauge N. Skovgaard Poulsen and Emma Aisbett. 2013. "When the Claim Hits: Bilateral Investment Treaties and Bounded Rational Learning." *World Politics* 65(2013):273–313.

Raustiala, Kal and David G Victor. 2004. "The Regime Complex for Plant Genetic Resources." *International Organization* 58(2):277–309.

Salamon, Lester M and John J Siegfried. 1977. "Economic Power and Political Influence : The Impact of Industry Structure on Public Policy Economic Power and Political Influence." *American Political Science Review* 71(3):1026–1043.

Schiller, Christoph. 2017. "Global Supply-Chain Networks and Corporate Social Responsibility.".

Schultz, Thomas and Cédric Dupont. 2014. "Investment arbitration: Promoting the rule of law or over-empowering investors? A quantitative empirical study." *European Journal of International Law* 25(4):1147–1168.

Sell, Susan K. and Aseem Prakash. 2004. "Using Ideas Strategically: The Contest Between Business and NGO Networks in Intellectual Property Rights." *International Studies Quarterly* 48(1):143–175.

Shim, Gyu Sang, Yoo Sun Jung and Erica Owen. 2021. "Heterogeneity in How Investors Respond to Disputes: Greenfield FDI and Co-Industrial Disputes." *Journal of Politics* pp. 1–35.

Simmons, Beth A. 2014. "Bargaining over BITs, arbitrating awards: The regime for protection and promotion of international investment." *World Politics* 66(1):12–16.

Strange, Susan. 1983. *Casino Capitalism*. Hoboken: Blackwell Publishing.

Strange, Susan. 1996. *The Retreat of the State: The Diffusion of Power in the World Economy.* Cambridge: Cambridge University Press.

Thompson, Alexander, Tomer Broude and Yoram Z Haftel. 2019. "Once Bitten, Twice Shy? Investment Disputes, State Sovereignty, and Change in Treaty Design." *International Organization* 73(4):859–880.

Thrall, Calvin. 2021. "Spillover Effects in International Law: The Case of Tax Planning and Investor-State Dispute Settlement.".

Van Harten, Gus. 2012. "Arbitrator Behaviour in Asymmetrical Adjudication : An Empirical Study of Investment Treaty Arbitration." *Osgoode Hall Law Journal* 50(1):211–268.

Van Harten, Gus. 2016. "Who Has Benefited Financially from Investment Treaty Arbitration ? An Evaluation of the Size and Wealth of Claimants." *Osgood Legal Studies Research Paper Series* p. 20.

Van Harten, Gus and Dayna Nadine Scott. 2016. "Investment Treaties and the Internal Vetting of Regulatory Proposals : A Case Study from Canada." *Journal of International Dispute Settlement* 7(1):96–12.

Vogel, David. 2008. "Private Global Business Regulation." *Annual Review of Political Science* 11(1):261–282.

Waibel, Michael, Asha Kaushal, Kyo-Hwa (Liz) Chung and Claire Balchin. 2010. *The Backlash against Investment Arbitration : Perceptions and Reality.* New York: Kluver Law International.

Wellhausen, Rachel. 2015*a*. "Bondholders v. Direct Investors? Competing Responses to Expropriation." *International Studies Quarterly* 59(4):750–764.

Wellhausen, Rachel. 2015*b*. *The Shield of Nationality: When Governments Break Contracts with Foreign Firms.* New York: Cambridge University Press.

Wellhausen, Rachel L. 2016. "Recent Trends in Investor–State Dispute Settlement." *Journal of International Dispute Settlement* 7(1):117–135.

Wellhausen, Rachel L. 2019. "International Investment Law and Foreign Direct Reinvestment." *International Organization* 73(4):839–858.

Weymouth, Stephen. 2012. "Firm lobbying and influence in developing countries : a multilevel approach." *Business and Politics* 14(4):1–26.

Weymouth, Stephen. 2017. "Service Firms in the Politics of US Trade Policy." *International Studies Quarterly* 61(4):935–947.

1 Appendix: Descriptive Statistics

Table A-3: **Branch(es) of host state national government tied to disputed and abandoned regulations, by case.** (Filed 1987-2017, assessed 2018.) The majority of disputed and abandoned regulations are tied to legislative and/or executive actions.

Branch	Disputed (count)	Abandoned (count)
Legislative	94	38
Executive	180	29
Legislative and Executive	37	12
Judicial	51	6
Judicial and Executive	5	1
Judicial and Legislative	3	1
Total	*370*	*87*

Table A-4: **Method of disputed regulation abandonment, by case.** (Filed 1987-2017, assessed 2018.) The most common method by which host states abandoned regulations is expiration.

Method	Abandoned (count)
Expiration	34
Repealed	13
Court action	16
Repealed and replaced	14
Amended	10
Total: Changed	*87*
Total: No change	*180*
Total: Insufficient evidence	*134*

Table A-5 organizes cases by home state. A claimant's home state is determined by the IIA invoked by the claimant; where the claimant does not invoke a treaty indicating its home state, it is determined by the foreign investor's incorporation. Note that some cases involve claimants from multiple states; for this reason, cases in Table A-5 do not sum to 87. The ranking suggests that OECD countries known for higher levels of outward FDI are generally associated with more regulatory abandonment in the context of ISDS arbitration. This mirrors the pattern of ISDS more generally, in which investors from these home states initiate more claims than others (Wellhausen, 2016; Van Harten, 2016).

At the same time, Table A-5 raises questions about "nationality-shopping" (Peinhardt and Wellhausen, 2016). Foreign investors often have ownership claims in multiple states, which often allows them to access IIAs from a home state that might not be the one popularly understood

Table A-5: **Comparing cases of regulation abandonment to total cases, by claimant investor home country.** (1987-2017, assessed 2018.) The pattern suggests that more regulation abandonment is associated with cases brought by investors from OECD countries associated with more outward FDI and more ISDS cases in general.

Home Country	Abandoned (count)	Total cases (count)	% Abandoned
United States	26	154	16.9%
Netherlands	9	86	10.5%
United Kingdom	9	72	12.5%
Canada	7	46	15.2%
France	7	41	17.1%
Germany	7	52	13.5%
Spain	6	39	15.4%
Luxembourg	4	32	12.5%
Chile	2	7	28.6%
Greece	2	16	12.5%
Bahamas	1	2	50%
Belgium	1	15	6.7%
Bermuda	1	2	50%
Croatia	1	2	50%
Cyprus	1	18	5.6%
Italy	1	35	2.9%
India	1	4	25%
Mauritius	1	7	14.3%
Panama	1	3	33.3%
Poland	1	6	16.7%
Qatar	1	3	33.3%
Russia	1	16	6.3%
Sweden	1	7	14.3%
Switzerland	1	25	4%

as the home of the firm. For example, relatively permissive Dutch BITs have been under fire for facilitating shopping; in one case infamous in Venezuela, the Netherlands served as the home state for Exxon to sue the state, despite Venezuela not having a BIT with the United States.[40]

Table A-6 categorizes the number of cases associated with an abandoned regulation by industry. We follow the OECD standard in using the International Standard Industrial Classification of All Economic Activities (ISIC) Rev 4, using ISIC's industry classifications rather than the individual codes.[41] Around 40% of the cases where there has been an abandoned regulation belong to Electricity, Gas, Water Supply, Sewerage, Waste, and Remediation services. This is a tertiary, aggregated industry, and arguably very well-connected via a broad conceptualization of economic integration, since utility services are inputs into all other industries. Under our argument, one reason the host state would abandon disputed regulations in this industry is to minimize negative spillovers that would stem from the interruption of provision of such key, and effectively universal, inputs. We again emphasize the importance of Argentina; out of the 32 cases in this industry, 16 were filed against Argentina in response to the particular 2001 Emergency Law. However, as demonstrated in Appendix 2.4, effects are robust to excluding Argentina. Several of the other notable industries are ones in which trade in intermediate GVC goods is at least anecdotally of importance, especially as compared to industries such as real estate and health and social work that are associated with zero cases.

Table A-7 organizes the count of ISDS cases associated with an abandoned regulation by host state. Again, Argentina accounts for an important number of cases. Also notable are cases involving Canada, the United States, and Mexico, which is consistent with deep economic integration among these three members of NAFTA and the repeated use of NAFTA's ISDS clause.[42] It is particularly noteworthy that the United States is on the list at all, not to mention so high: the United States has famously never lost a case (to date), but it has nonetheless abandoned regulations. This is further evidence of the importance of our research question, given normative

[40]Mobil Cerro Negro Holding, Ltd., Mobil Cerro Negro, Ltd., Mobil Corporation and others v. Bolivarian Republic of Venezuela (ICSID Case No. ARB/07/27).

[41]ISIC defines an industry as "the set of all production units engaged primarily in the same or similar kinds of productive activity." See `https://unstats.un.org/unsd/classifications/Econ/Download/In%20Text/ISIC_Rev_4_publication_English.pdf`

[42]The renegotiated USMCA scales down ISDS by limiting the scope of possible arbitration against the United States and Mexico and excluding Canada, although Canada has a variety of ISDS-enabling treaties with other countries. See Bodea, Cristina, Andrew Kerner, and Fangjin Ye, "There's a hidden cost in Trump's new trade agreement with Canada and Mexico" *Washington Post: Monkey Cage* (2 January 2019).

Table A-6: **Comparing cases of regulation abandonment to total cases, by claimant investor industry.** (1987-2017, assessed 2018.) The pattern suggests that more abandoned regulations are associated with utilities.

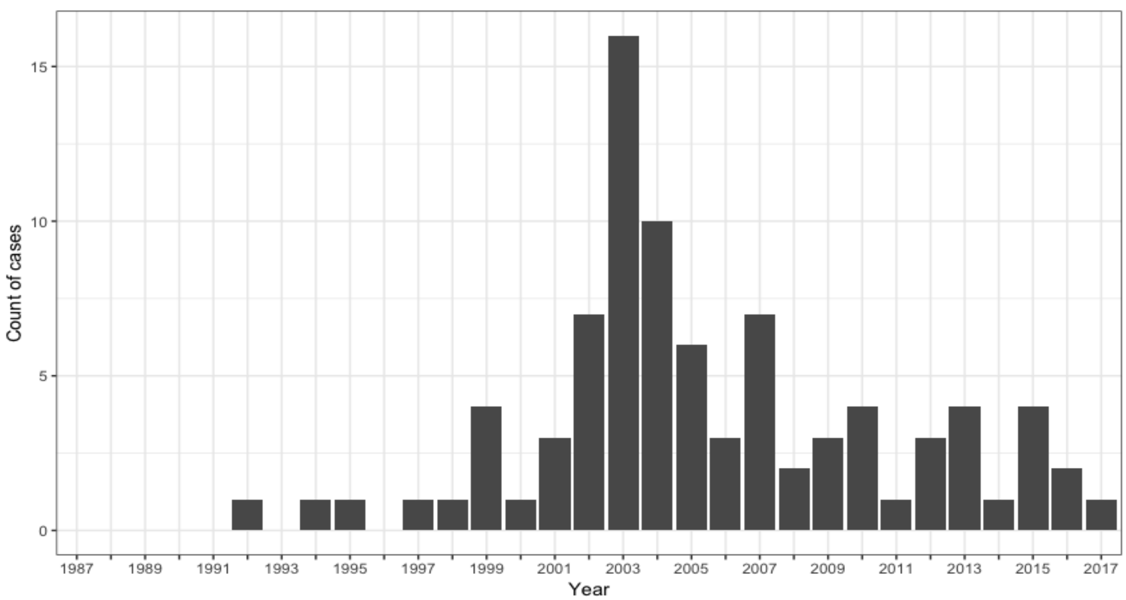
Industry	Abandoned (count)	Total cases (count)	% Abandoned
Electricity, gas, water supply, sewerage, waste and remediation services	32	167	19.2%
Mining and extraction of energy producing products	10	70	14.3%
Financial and insurance activities	7	66	10.6%
Telecommunications	7	39	17.9%
Agriculture, forestry and fishing	6	26	23.1%
Chemicals and pharmaceutical products	5	19	26.3%
Food products, beverages and tobacco	4	36	11.1%
Mining and quarrying of non-energy producing products	2	52	3.8%
Transportation and storage	2	32	6.3%
Construction	2	62	3.2%
Wholesale and retail trade; repair of motor vehicles	2	13	15.4%
Other business sector services	2	18	11.1%
Motor vehicles, trailers and semi-trailers	1	2	50.0%
Public admin. and defence; compulsory social security	1	2	50.0%
Publishing, audiovisual and broadcasting activities	1	12	8.3%
Mining support service activities	0	4	0.0%
Textiles, wearing apparel, leather and related products	0	6	0.0%
Other non-metallic mineral products	0	9	0.0%
Basic Metals	0	15	0.0%
Electrical equipment	0	2	0.0%
Machinery and equipment	0	5	0.0%
Other transport equipment	0	3	0.0%
Other manufacturing; repair and installation of machinery and equipment	0	3	0.0%
Accomodation and food services	0	8	0.0%
Real Estate Activities	0	27	0.0%
Human health and social work	0	3	0.0%
Arts, entertainment, recreation and other service activities	0	9	0.0%

concerns that ISDS in general favors the US.

Table A-7: **Comparing cases of regulation abandonment to total cases, by host state respondent.** (1987-2017, assessed 2018.) NAFTA countries are important, as well as Argentina.

Host Country	Abandoned (count)	Total cases (count)	% Abandoned
Argentina	35	59	59.3%
Canada	6	21	28.6%
United States	5	15	33.3%
Mexico	4	23	17.4%
Turkey	3	11	27.2%
Venezuela	3	42	7.1%
Belize	3	4	75.0%
Egypt	3	29	10.3%
India	2	21	9.5%
Peru	2	13	15.4%
Poland	2	25	8.0%
Spain	2	34	5.9%
Zimbabwe	2	3	66.7%
Bolivia	1	15	6.7%
Ghana	1	3	33.3%
Hungary	1	14	7.1%
Indonesia	1	7	14.3%
Latvia	1	7	14.3%
Malaysia	1	3	33.3%
Moldova	1	8	12.5%
Mongolia	1	4	25.0%
Nicaragua	1	1	100.0%
Philippines	1	5	20.0%
Romania	1	13	7.7%
Saint Kitts and Nevis	1	1	100.0%
Slovenia	1	3	33.3%
Sri Lanka	1	4	25.0%
Ukraine	1	21	4.8%

Figure A-6: **Count of cases associated with an abandoned regulation, by year of filing.** (1987-2017, assessed 2018.) Earlier cases are not disproportionately associated with abandoned regulations. The spike in cases in 2003 are associated with Argentina's Emergency Law.



2 Appendix: Quantitative Analysis

2.1 Industry Data

Table A-8: **Unique industries included in industry-level analysis.**

D01 - Crop and animal production, hunting
D02 - Forestry and logging
D03 - Fishing and aquaculture
D05 - Mining of coal and lignite
D06 - Extraction of crude petroleum and natural gas
D07 - Mining of metal ores
D08 - Other mining and quarrying
D10 - Food products
D11 - Beverages
D12 - Tobacco products
D13 - Textiles
D14 - Wearing apparel
D15 - Leather and related products
D16 - Wood and products of wood and cork, except furniture
D17 - Paper and paper products
D18 - Printing and reproduction of recorded media
D19 - Coke and refined petroleum products [CD]
D20 - Chemicals and chemical products [CE]
D21 - Basic pharmaceutical products and pharmaceutical preparations [CF]
D22 - Rubber and plastics products
D23 - Other non-metallic mineral products
D24 - Basic metals
D25 - Fabricated metal products, except machinery and equipment
D26 - Computer, electronic and optical products [CI]
D27 - Electrical equipment [CJ]
D29 - Motor vehicles, trailers and semi-trailers
D30 - Other transport equipment
D31T32 - Furniture, other manufacturing [CM]
D35 - Electricity, gas, steam and air conditioning supply [D]
D36T99 - Other activities
D37T39 - Waste collection, treatment and disposal activities; materials recovery
D58 - Publishing
D59T60 - Audiovisual and broadcasting

2.2 PanelMatch estimates in tabular format

	DV: Industry-specific intermediate imports				
	t	$t+1$	$t+2$	$t+3$	$t+4$
	(1)	(2)	(3)	(4)	(5)
Panel A: Propensity score weighting refinement					
ISDS	−0.030	−0.109**	−0.091**	−0.127**	−0.143***
	(0.030)	(0.046)	(0.046)	(0.053)	(0.054)
Panel B: Mahalanobis matching refinement					
ISDS	−0.012	−0.105**	−0.075*	−0.116**	−0.117**
	(0.030)	(0.047)	(0.045)	(0.051)	(0.053)
Treated country-industry-years: 272					
Average matched (control) set size: 2,861					

Table A-9: **Estimates from Figure 2, left panel.**

	DV: Total intermediate imports				
	t	$t+1$	$t+2$	$t+3$	$t+4$
	(1)	(2)	(3)	(4)	(5)
Panel A: Propensity score weighting refinement					
ISDS	0.013	−0.010	−0.010	−0.003	0.060
	(0.021)	(0.036)	(0.039)	(0.047)	(0.062)
Panel B: Mahalanobis matching refinement					
ISDS	0.043	0.006	0.012	0.051	0.100
	(0.024)	(0.031)	(0.037)	(0.047)	(0.079)
Treated country-years: 163					
Average matched (control) set size: 43					

Table A-10: **Estimates from Figure 2, right panel.**

	DV: Industry-specific final good imports				
	t	$t+1$	$t+2$	$t+3$	$t+4$
	(1)	(2)	(3)	(4)	(5)
Panel A: Propensity score weighting refinement					
ISDS	0.034	0.020	−0.010	−0.034	−0.040
	(0.022)	(0.033)	(0.033)	(0.036)	(0.041)
Panel B: Mahalanobis matching refinement					
ISDS	0.044*	0.019	0.005	−0.022	−0.017
	(0.023)	(0.031)	(0.033)	(0.036)	(0.040)
Treated country-industry-years: 272					
Average matched (control) set size: 2,861					

Table A-11: **Estimates from Figure 3, left panel.**

	DV: Total final goods imports				
	t	$t+1$	$t+2$	$t+3$	$t+4$
	(1)	(2)	(3)	(4)	(5)
Panel A: Propensity score weighting refinement					
ISDS	0.024	0.022	0.027	0.027	0.018
	(0.019)	(0.030)	(0.037)	(0.044)	(0.056)
Panel B: Mahalanobis matching refinement					
ISDS	0.029	0.021	0.022	0.031	0.008
	(0.019)	(0.031)	(0.038)	(0.043)	(0.055)
Treated country-years: 163					
Average matched (control) set size: 43					

Table A-12: **Estimates from Figure 3, right panel.**

2.3 Bilateral Trade in Intermediates

For the bilateral sample, we use the OECD's data on bilateral trade in intermediate goods and services. Our new outcome variable is (logged) intermediate exports from the investor(s)' home state(s) to the host state.[43] To make sure that we are identifying investors' actual home states, rather than the states in which they have incorporated their holding companies, we use Thrall (2021)'s coding of investor nationality rather than the nationalities that are listed on official case documents.[44] We also include a set of covariates: home and host state GDP per capita (logged), the population-weighted distance between home and host, the UN voting ideal point difference between home and host (Bailey, Strezhnev and Voeten, 2017), as well as variables indicating whether home and host have signed a BIT and a PTA together. We conduct the analysis using IKW's estimator (Equation 3) with the same specifications as previous models.

Figure A-7 presents the results. Unlike previous models, the choice of method that is used to refine the set of counterfactual observations that are selected for each treated observation meaningfully affects the results. When Mahalanobis distance matching is used, the ATTs are not statistically significant and are close to zero in magnitude. However, when inverse propensity score weighting is used the ATT declines steadily over time, nearing statistical significance ($.05 < p < 0.1$) and similar magnitude to the monadic industry-specific effect by the fourth year after the case was filed. Due to their sensitivity to the weighting scheme, we interpret these results as inconclusive; they provide neither strong evidence in support of nor strong evidence against the claim that ISDS arbitration negatively impacts bilateral trade in intermediates between the host state and the claimant's home state. Results when excluding OECD host states are equivalent (available upon request).

[43]This measure is non-missing for approximately 74% of the dyad-years in our sample.

[44]For example, a U.S. oil company may use its Dutch shell company subsidiary to file a case against Argentina. While official case statistics would record the investor as being from the Netherlands, Thrall (2021) would code the investor as American.

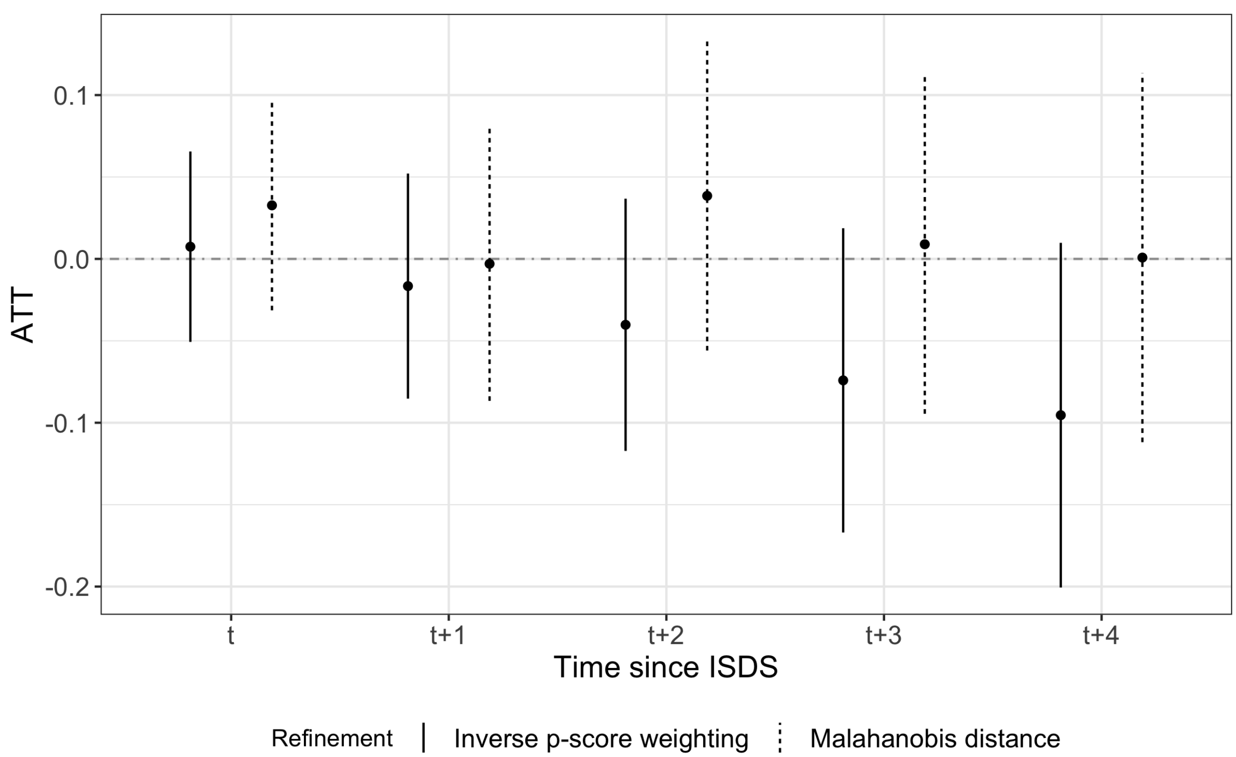


Figure A-7: **ISDS may have some negative effect on bilateral trade in intermediates, but it is sensitive to model specification**. ATTs estimated via Equation 3 and presented alongside 95% confidence intervals.

2.4 Argentina Emergency Law Cases

A potential concern with our main results is that they are driven by the large number of cases filed against Argentina in response to its 2001 Emergency Law (which, among other things, imposed capital controls and "pesification" on foreign investors). If this were the case, it would suggest that we may be picking up GVC disruption that was caused by Argentina's policies rather than by ISDS itself. To illustrate that our results are not driven by Emergency Law cases, we re-estimate our models after excluding Argentina from the sample. The results are nearly identical to the main estimates (Figure A-8); robustness with regard to other estimates available on request.

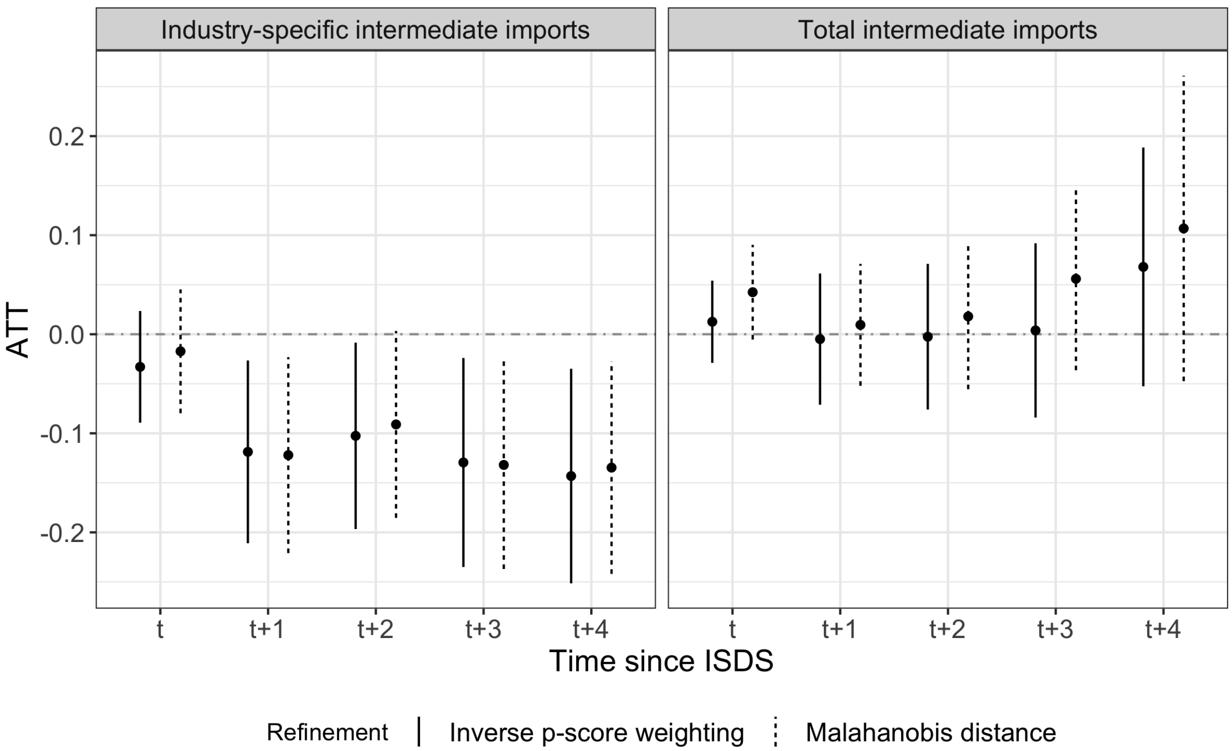


Figure A-8: **ISDS disrupts global value chains in the associated industries, but not outside them. Estimated per Figure 2 with Argentina excluded from the sample**.