Who Can Pay for Compliance: Donor Aid Governance and TRIPS-plus Commitments in North-South Trade Agreements*

Jihye Park†

Abstract

Developing countries that accept TRIPS-plus provisions in North-South trade agreements take on concentrated domestic costs, yet the donor aid they receive around signature varies sharply. When does aid operate as compensation for the concession? Prevailing accounts of TRIPS-plus diffusion emphasize market-access leverage, leaving donor side payments outside the bargain. This study argues that aid operates as TRIPS-plus compensation only when three conditions hold jointly. Two sit on the donor side. The donor's IP demands must be intrusive enough to generate politically salient adjustment costs, and its aid governance must be centralized enough to tie disbursements to discrete concessions rather than long-running developmental programming. The third sits on the recipient side, where domestic institutions must make the policy commitment credible to the donor. The United States satisfies the two donor-side conditions and the European Union satisfies neither, while recipient regime type governs the third. Using a panel of developing economies in the WTO from 1995 to 2024 and a PanelMatch design, I find that democratic countries signing TRIPS-plus agreements with the United States experience an immediate increase in US aid in the signature year on the order of 36%, concentrated among recipients with prior major-donor trade experience, while the observed autocratic signatories show no comparable increase. TRIPS-plus agreements with the European Union produce no sustained aid response from either regime type. Donor institutional coherence and the intrusiveness of IP demands sit at the center of TRIPS-plus diffusion.

Keywords: North-South trade agreements, TRIPS, intellectual property rights, foreign aid

*The earlier version of this paper, "Leveraging for Better Investment Grounds", was presented at 2022 IPES Conference. I appreciate the valuable feedback from the panel participants.

†Postdoctoral Researcher, Department of Political Science & International Relations, Université de Genève, Bd du Pont d'Arve 40, Genève, CH-1205.
jihye.park@unige.ch. Please do not circulate.

1 Introduction

The World Trade Organization's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) transformed intellectual property protection from a largely aspirational standard into an enforceable multilateral obligation. Over the subsequent three decades, the United States and the European Union embedded even stronger "TRIPS-plus" requirements in their preferential trade agreements (PTAs). These provisions extend patent monopolies beyond the baseline twenty-year term, grant pharmaceutical firms exclusive control over clinical trial data that delays the entry of cheaper generic alternatives, restrict governments' ability to issue compulsory licenses for essential medicines, and impose heightened enforcement obligations that raise compliance costs for developing-country regulatory agencies (Fink and Reichenmiller, 2006; Maskus, 2000; Shadlen, 2005). By prolonging monopoly protections and constraining the policy tools available to governments, TRIPS-plus rules secure rents for innovation-intensive firms in advanced economies while shifting concentrated adjustment costs onto developing-country public health systems, generic producers, and consumers of medicines. This asymmetry raises two questions that the literature has tended to run together. The first asks why emerging economies accept obligations that generate concentrated domestic losses for some of their most politically visible constituencies. The second asks, given that countries across the developing world do accept them, why the donor aid that follows signature varies so sharply from one recipient to the next. This paper takes up the second, and asks under what conditions that aid operates as compensation for the concession. The research design identifies who is compensated given adoption rather than what drives the decision to adopt.

Prevailing accounts in the literature emphasize the bargaining advantages that accrue to large import markets. Scholars show that the United States and the European Union routinely leverage their market size to extract deeper commitments from smaller partners, especially when agreements are negotiated under the shadow of unilateral preference withdrawal (Manger and Shadlen, 2014; Dür and Mödlhamer, 2022; Dür et al., 2023; Manger, 2009). These accounts explain why developing countries enter PTAs with major markets but say less about how those countries manage the concentrated domestic costs that intrusive obligations impose once signature is in sight. Foreign aid has been hinted at as a possible solution (Baccini and Urpelainen, 2012; Bearce and Tirone, 2010; Bueno de Mesquita and A. Smith, 2007; Bueno de Mesquita and A. Smith, 2009), yet its role as a side payment for intellectual property concessions has not been systematically theorized. The market-access frame and the aid-as-compensation frame have largely run on parallel

tracks.

This paper holds market-access leverage as a background scope condition and isolates the conditions under which aid acts as compensation for TRIPS-plus concessions. Market size explains why these agreements are negotiated at all, and the donor-side conditions developed here explain why a compensating transfer follows some signatures while others bring none. The argument is that aid functions as a side payment only when three conditions hold jointly. Two are donor-side. First, the donor's IP demands must be intrusive enough to generate politically salient adjustment costs, so that recipient governments have a real demand for offsetting transfers. Second, the donor's aid governance must be centralized enough to credibly tie disbursements to discrete policy concessions rather than channel them through developmental programming categories. The third is recipient-side. The recipient's domestic institutions must make the policy commitment credible to the donor, which in practice favors democratic recipients. Bermeo (2017) and Bermeo (2018) develop the analytical foundation for treating trade and aid as joint instruments of donor strategy in a globally connected world. Bueno de Mesquita and A. Smith (2009) formalize the underlying logic of aid as an exchange for policy concessions. Both literatures imply that the operative question is whether the intrusiveness of the demand and the institutional capacity to deliver are aligned. Without one or the other, the compensation channel does not operate.

The two donors at the center of TRIPS-plus diffusion differ on both margins. The United States is the global driver of maximalist TRIPS-plus standards, particularly in pharmaceuticals and enforcement (Sell, 2003; Fink and Reichenmiller, 2006; Drahos and Braithwaite, 2002; Morin, 2009). It also concentrates allocation authority over the aid budget in a single executive, which allows it to align disbursements with specific policy objectives whatever the number of implementing agencies involved (Fleck and Kilby, 2010; Milner and Tingley, 2010; Bermeo, 2018). The European Union takes a more flexible posture in its IP chapters, often allowing longer transition periods and preserving more policy space for developing-country partners (Roffe, 2014; Drexl, 2014; Maskus, 2014). It also operates through a fragmented aid architecture in which the European Commission and 27 member states maintain separate budgets, priorities, and implementation channels (Carbone, 2007; Carbone, 2013; Kim and Jensen, 2018; Dietrich, 2021; Knack and Rahman, 2007). Taking these accounts together, I argue that US TRIPS-plus signatures should be followed by discernible aid surges, especially for democratic recipients whose institutions support credible compensation (Carter and Stone, 2015; Milner and Tingley, 2010), while EU TRIPS-plus signatures should not.

Empirically, I construct a panel of self-declared developing economies in the WTO from 1995 to 2024. TRIPS-plus provisions are coded from the dataset of Morin and Surbeck (2020), US bilateral aid from the ForeignAssistance.gov database maintained by USAID, and EU bilateral aid from the OECD DAC2A. The research design uses PanelMatch (Imai et al., 2023) with Covariate Balancing Propensity Score weighting to estimate the average treatment effect on the treated of TRIPS-plus signature on subsequent aid flows, separately for democratic and autocratic recipients. Treating the within-democracy and within-autocracy effects as parallel arms of the same design makes them directly comparable. Democratic developing countries that sign TRIPS-plus agreements with the United States experience an immediate increase in US aid in the year of signature on the order of 36%, with no further effect in subsequent years. Autocratic signatories of US TRIPS-plus agreements see no positive surge and, if anything, mildly negative point estimates. Signatories of EU TRIPS-plus agreements show no sustained positive aid response from either regime type.

The remainder of the paper proceeds as follows. I start with developing the theory of compensatory aid, drawing on the literatures on aid as policy concession, donor institutional coherence, regime-conditioned aid allocation, and the political economy of TRIPS-plus depth. The next section introduces the data and the PanelMatch design and reports the within-democracy and within-autocracy estimates for both donors. Finally, I conclude and draw out implications for the diffusion of regulatory standards and the political economy of asymmetric trade relations.

2 A Conditional Theory of Compensatory Aid

The creation of the WTO placed TRIPS at the center of global intellectual property governance by introducing comprehensive and enforceable IP rules into the multilateral trading system. Unlike the earlier World Intellectual Property Organization framework, TRIPS endowed states with a dispute settlement mechanism that permitted binding adjudication and retaliatory sanctions (Helfer, 2004). The agreement reflected the preferences of the United States and the European Community, whose firms held the preponderance of global intellectual property assets and pressed for stronger standards as a means to expand innovation, foreign investment, and technology transfer. As Sell (2003) documents, pharmaceutical, software, and entertainment multinationals successfully lobbied the United States Trade Representative to pursue high-standard IP protections in both multilateral and preferential arenas. Following TRIPS, the United States consistently in-

corporated TRIPS-plus obligations into all PTAs negotiated after 1999 (Fink and Reichenmiller, 2006; Drahos and Braithwaite, 2002; Morin and Surbeck, 2020). These obligations include extended patent terms, exclusivity tied to regulatory delays, restricted compulsory licensing, 70 years of copyright protection, and stringent enforcement rules, and they go well beyond WTO requirements.

The distributional consequences of these obligations are well documented across three analytical strands. Theoretical models of innovation and technology transfer predict that stronger IP protections channel rents toward innovation-intensive economies and suppress local technological upgrading in developing countries (Maskus, 2000; Glass and Wu, 2007; McCalman, 2001). Ex ante simulation studies estimate that proposed IP reforms would raise drug prices, delay generic entry, and reduce consumer welfare (R. D. Smith et al., 2009). Ex post empirical analyses, building on firm-level and product-level data, show that the welfare consequences are substantial in practice. Branstetter et al. (2006) use US firm-level panel data to show that stronger IP rights raise intra-firm technology transfer to multinationals but do not measurably increase broader knowledge diffusion. Duggan et al. (2016) provide quasi-experimental evidence from India that pharmaceutical product patents introduced in compliance with TRIPS raise domestic drug prices without generating offsetting innovation. Shadlen (2005) documents in qualitative detail how developing countries that accepted deep integration commitments in exchange for preferential market access experienced constrained industrial policy space.

The welfare incidence of these provisions is broad. Consumers of patented medicines bear the largest aggregate losses, and in many developing economies few domestic firms compete head-to-head with IP holders of wealthy countries, so the losses fall on diffuse buyers. Political mobilization concentrates among a smaller and better organized set of actors. Generic pharmaceutical producers, health ministries, and patient associations are organized, informed, and capable of threatening ratification or implementation, whereas dispersed consumers rarely organize to comparable effect (Shadlen et al., 2011; R. D. Smith et al., 2009). Antoine et al. (2024) show that heightened public salience around trade negotiations mobilizes domestic resistance even when external bargaining power is lopsided. Governments contemplating TRIPS-plus signature therefore confront a familiar political economy problem. The benefits of signature accrue to a diffuse set of actors who gain from preferential access, while the costs fall on smaller and better organized groups whose mobilization can block the deal. The organized losers whose opposition can derail an agreement generate the political demand that a compensating transfer must satisfy. Peru's trade promotion agreement,

taken up below, shows how wide that coalition runs and what the transfer looks like when a donor supplies it.

The compensatory function of foreign aid has long been theorized in the political economy of trade reform. Bueno de Mesquita and A. Smith (2009) formalize aid as an exchange in which donors purchase policy concessions from recipient leaders, who in turn use the resources to compensate or buy off potential losers. Bueno de Mesquita and A. Smith (2007) and Bearce and Tirone (2010) provide complementary evidence on aid-for-policy bargains, and Baccini and Urpelainen (2012) demonstrate that aid assists governments in adopting PTAs that would otherwise provoke destabilizing opposition. Bermeo (2017) and Bermeo (2018) integrate these insights into a broader account of targeted development, in which trade and aid are joint instruments donors use to pursue policy objectives in countries with developmental potential. The TRIPS-plus case fits naturally within this framework, since the provisions impose concentrated costs on identifiable constituencies and the donor has a strong stake in adoption and implementation. These formulations share a fiscal assumption. The transfer is fungible revenue that the recipient leader receives and reallocates, and the recipient's credibility consists in refraining from diverting it. The mechanism developed below does not carry that assumption, because a transfer offsets the political cost of a concession whenever it reaches the affected constituencies, whatever route it takes to reach them. Whether aid actually operates as compensation, however, depends on conditions that hold for some donors and not others.

The compensatory channel operates only when three conditions hold together. The first is a demand condition. The donor's IP demands must be intrusive enough to impose politically salient adjustment costs on organized domestic constituencies, so that the recipient government has a genuine need for those costs to be offset. Where the obligations are routine or readily absorbed within existing regulatory frameworks, that need is weak and no compensation is required. The second is a supply condition. The donor's aid apparatus must concentrate allocation authority in a principal that can tie a disbursement to a discrete policy concession, so that the donor can deliver a targeted transfer at the moment of commitment. The third is a credibility condition on the recipient side. The recipient's domestic institutions must make the policy commitment credible to the donor, which in practice favors democratic recipients (Martin, 2000; Mansfield et al., 2000). These three conditions correspond to demand, supply, and credibility, and they enter conjunctively. Each is necessary and none is sufficient on its own. A recipient that needs compensation cannot obtain it

from a donor unable to supply a targeted transfer. A donor able to supply one has no occasion to when its demands generate no politically costly adjustment. A donor and recipient aligned on demand and supply still produce no durable exchange when the recipient cannot credibly implement what it signs. The framework is therefore an interaction among three margins rather than a list of separate correlates of aid.

Because the conditions are jointly necessary, the theory makes predictions for donors beyond the two examined here. Consider a donor whose IP demands are intrusive but whose allocation authority is split among rival principals. Japan is the closest case. Its economic partnership agreements carry substantial IP obligations in the Morin and Surbeck (2020) coding, yet its aid budget is parcelled among ministries that each hold distinct budgets and priorities. The Ministry of Foreign Affairs, the Ministry of Finance, and the Ministry of Economy, Trade and Industry command their own ODA allocations, and no executive gathers these into a single hand the way a US administration directs its implementing agencies (Arase, 1995; Lancaster, 2006). The barrier to compensation therefore lies in the division of budget authority itself, above the Japan International Cooperation Agency that implements much of the assistance. A recipient that accepts a Japanese agreement, as Indonesia did in 2007, generates a demand for compensation that no Japanese principal can time to its signature, and no compensatory response should follow. A donor with concentrated aid authority but modest IP demands presents the reverse combination. It can supply a targeted transfer but faces little recipient demand for one, and again no response should follow. The compensatory pattern emerges only when intrusive demands and concentrated allocation authority coincide and the recipient can credibly implement.

This structure locates market-access leverage as a background scope condition rather than a competing explanation. The bargaining asymmetries that bring developing countries to the table with large markets are common to all of these donors and cannot by themselves account for the divergent aid response. Market size determines whether a TRIPS-plus agreement is negotiated at all. The three conditions determine whether aid is paid around its signature. The contribution here is to isolate the conditions under which the aid-as-compensation channel operates, holding the market-access bargaining environment as a shared backdrop.

Compensation is one of several mechanisms that could link a TRIPS-plus signature to a donor's aid, and the argument is stated against these rivals rather than in isolation from them. An emulation account would attribute IP adoption to the influence of peer adopters and would give

donor aid no particular role (Simmons et al., 2006). A coercion account would expect donors to wield the threat of aid withdrawal rather than the promise of aid increase (Mangini, 2024; Farrell and Newman, 2019). A geopolitical-reward account would tie transfers to a recipient's strategic alignment with the donor rather than to IP content, and would extend to autocratic partners as readily as democratic ones (Alesina and Dollar, 2000; Dreher et al., 2009). A bundled-side-payment account would trace any transfer to other chapters of the trade agreement rather than to the IP chapter specifically (Baccini and Urpelainen, 2012). What distinguishes the compensation account from these rivals is its conjunctive structure. It expects transfers only where an intrusive IP demand, a donor able to supply a targeted payment, and a credible recipient coincide, a combination that none of the alternative mechanisms requires.

The United States satisfies the first two conditions, and the case for treating it as the compensating donor begins with the intrusiveness of its demands. A large body of scholarship identifies the United States as the central global driver of maximalist TRIPS-plus standards, particularly in pharmaceuticals and enforcement (Sell, 2003; Fink and Reichenmiller, 2006; Drahos and Braithwaite, 2002). US PTAs typically contain extensive data exclusivity, restrictions on compulsory licensing, enhanced enforcement rules, and patent term extensions that delay the arrival of generics and constrain regulatory flexibility far more than the baseline TRIPS requirements. US agreements require patent linkage, which compels regulatory authorities to notify patent holders before approving generic competitors. Morin (2009) demonstrates that this strategy has produced a ratcheting effect in which US bilateral commitments establish new baselines that subsequently diffuse through multilateral forums, and Lindstrom (2010) and Turk (2010) document the take-it-or-leave-it posture the United States adopts in IP chapters, treating them as indivisible elements of the broader trade package. Table A.1 in the Appendix summarizes this substantive content alongside the lighter EU alternative. These demands generate the concentrated adjustment costs that create recipient demand for compensation, and the intrusiveness can be understood as a cross-donor aspect than a within-donor gradient. The willingness to supply compensation follows from the scale of the rents at stake. The IP-intensive industries that lobby for these standards in pharmaceuticals, software, and entertainment capture monopoly rents that dwarf the marginal aid outlays involved in easing a partner's compliance, and Sell (2010) documents how PhRMA and allied industry associations drove successive escalations in USTR demands across administrations. From the donor's vantage a targeted transfer measured in tens of millions of dollars is a modest price for locking in protections worth far more to its firms.

The United States also satisfies the supply condition, though the term centralization requires care. On one common meaning the United States does not operate a centralized aid apparatus at all. Its assistance is administered by many agencies, including USAID, the State Department, the Millennium Challenge Corporation, the Departments of Agriculture and Defense, and others, and by that measure US aid is institutionally dispersed (Lawson, 2016). The distinction that matters for compensation is allocation authority rather than administrative consolidation. A single executive, accountable to a single national legislature, can direct the aid budget toward a chosen policy objective and time a disbursement to coincide with a treaty commitment, whatever the number of implementing agencies through which the money ultimately flows. What the United States possesses is concentrated allocation authority under executive direction (Fleck and Kilby, 2010; Milner and Tingley, 2010). Bermeo (2018) demonstrates that targeted development strategies allow the United States to calibrate assistance toward countries undertaking reforms aligned with US commercial and geopolitical interests, and Bermeo (2017) extends the framework to a broader account of donor strategy in an interconnected world.

The compensatory transfer concentrates at the moment of commitment rather than during the pre-signature negotiation phase, and the timing follows from a commitment problem. Before a PTA is signed, the domestic costs of TRIPS-plus obligations remain prospective, opposition has not fully mobilized around concrete legislative changes, and the government retains the option to walk away. Resources transferred in advance risk being wasted if negotiations collapse or the partner refuses the IP chapter. Signature resolves this bilateral uncertainty by locking in the recipient's regulatory commitment and signaling to the donor that compensation will be met with compliance. The political demand for offsetting transfers therefore peaks at or immediately after signature, when governments must manage the concentrated losses borne by organized constituencies as implementation looms, and when donors can credibly link disbursements to an observable and irreversible policy act (Baccini and Urpelainen, 2012; Bueno de Mesquita and A. Smith, 2007). This maps onto a distinction the aid-conditionality literature has developed between ex ante threshold conditionality, in which recipients must satisfy eligibility criteria before aid flows, as under the Millennium Challenge Account, and ex post transactional conditionality, in which disbursements follow discrete policy acts (Öhler et al., 2012; Kilby, 2009). The compensation mechanism is of the transactional type. Dreher et al. (2008) show that US aid allocation responds to specific policy behaviors by recipients, which is the allocation logic on which a transactional side payment relies.

One caveat attaches to this timing logic. Public health advocacy and generic-industry lobbying can mobilize opposition well before formal commitment, so some demand for offsetting resources may arise earlier than the signature moment, and some technical cooperation for patent offices and regulatory agencies does flow during negotiation. That pre-signature assistance addresses institutional readiness for implementing the new obligations.

Peru illustrates the demand condition and the form the corresponding transfer takes. Peru signed its trade promotion agreement with the United States in April 2006 and ranks among the largest recipients of US trade capacity building assistance in the years surrounding that signature, standing twenty-first among all recipients in FY2007 (Langton, 2008). US trade capacity building obligations to Peru stood at 10.9 million dollars in FY2005, rose to 32.4 million in FY2006, the fiscal year containing the signature, and fell back to 8.8 million in FY2007. Trade capacity building is a category of aid tracked apart from general development programming and defined by its trade-related purpose. It is delivered through areas that run to customs operation and administration, trade facilitation, export promotion, trade-related agricultural development, human resources and labor standards, environmental sector trade and standards, and competition policy and foreign investment. The list contains no area for intellectual property, and none for pharmaceuticals or health. The trade capacity building committee established under the agreement was directed toward small and medium-sized enterprises, rural farmers, transport, and telecommunications (Office of the United States Trade Representative, 2005).

The breadth of the affected coalition is the demand condition in concrete form, and the account given by Peru's own head negotiator for the intellectual property chapter shows how wide that coalition ran (García, 2008). The Ministry of Commerce and Tourism accredited 131 institutions to the negotiation, among them twenty-three regional governments, twelve ministries, forty management unions, and three work unions. The Ministry of Health took part directly in the intellectual property table and its minister joined the final two rounds. The national generic producers, organized as ADIFAN, published a ten-point objection in July 2005 that asked for intellectual property to be withdrawn from the negotiation altogether and opposed test-data exclusivity, patent term extension, and restrictions on compulsory licensing. ForoSalud, a civil society forum on public health, tied delayed generic entry to patients under treatment for tuberculosis, HIV, diabetes, hypertension, and cancer. An intrusive intellectual property chapter raises the political price of the agreement as a whole, and a transfer that answers that price is addressed to a coalition of

this kind rather than to any single industry within it. Dietrich (2013) documents that US assistance frequently arrives through non-state implementers rather than through recipient budgets.

The case is offered as illustration and warrants a cautious reading, as the record does not disclose which constituencies receive the transfer. It establishes that an organized coalition of prospective losers formed around the intellectual property chapter, that its membership ran well past the pharmaceutical sector, and that trade-related assistance showed a stark surge in the signature year. It does not trace the transfer to those constituencies, and the negotiator's own assessment is that ADIFAN and ForoSalud were widely regarded as advancing a political agenda, which reduced their influence over the outcome. The three impact studies commissioned in Peru disagreed with one another about whether the chapter would raise medicine prices at all. Peru's domestic politics of the intellectual property chapter are legible in the record, and the incidence of the assistance that followed is not.

The recipient side supplies the third condition, and it explains why the compensatory channel should not operate uniformly even within the universe of US TRIPS-plus signatories. Two rationales are at play. First, donors require credible implementation. Democratic recipients face stronger institutional incentives to follow through on the commitments they sign, because their leaders are constrained by electoral accountability and legislative oversight that raise the cost of abandoning ratified commitments (Baccini and Urpelainen, 2014; Martin, 2000; Mansfield et al., 2000). The canonical accounts locate recipient credibility elsewhere, in the recipient government's forbearance from diverting fungible aid (Bueno de Mesquita and A. Smith, 2009; Baccini and Urpelainen, 2012). That version of the credibility condition presumes the transfer enters the recipient budget, and the condition invoked here concerns the durability of the policy commitment rather than the custody of the funds.

Second, donor-side rules of aid allocation systematically advantage democracies. Carter and Stone (2015) locate the binding constraint on US aid in political support within Congress for aid to particular countries rather than in the size of the aid budget. Congress has built a detailed appropriation process through which members shape commitments while delegating discretion over disbursements to the executive, and providing aid to autocratic governments is controversial enough that the executive looks first to democracies when it seeks to purchase a policy concession. An aid linkage to a discrete concession is therefore credible when directed toward a democratic recipient and costly to sustain when directed toward an autocratic one. Milner and Tingley (2010) provide

complementary evidence on the legislative politics of US aid. More broadly, Alesina and Dollar (2000) find that donors reward recipient democracy and democratization with larger aid allocations. The compensatory response should therefore appear most clearly for democratic signatories of US PTAs. Autocratic signatories are far less likely to benefit from comparable transfers, both because they face fewer institutional obstacles to defection, which lowers donor confidence in compliance, and because aid to autocracies is harder to mobilize within the US allocation process.

Implementation credibility also has a pre-history component. Recipients that have already navigated formal trade commitments with major OECD donors carry an observable record of regulatory delivery that makes targeted disbursements safer to extend, while recipients whose first major-donor PTA is the very agreement under negotiation present a thinner credibility signal. The reputational logic is familiar from work on compliance with formal international commitments, where a government's record of honoring past obligations informs how counterparts assess its future ones (Simmons, 2000). It meets a donor side already disposed to read such records, since aid allocation has grown more selective on observable institutional performance across the period studied here (Dollar and Levin, 2006).

H1. Democratic developing countries that sign TRIPS-plus agreements with the United States receive larger volumes of US bilateral aid.

The European Union sits below the United States on both donor-side margins, and the difference begins with intrusiveness. EU agreements do carry obligations that exceed the TRIPS baseline, so the contrast drawn here is between a heavier and a lighter TRIPS-plus package rather than between a demanding donor and an undemanding one. Comparative analyses confirm that the European Union takes a more flexible approach in its IP chapters, one that accommodates the regulatory traditions of partner countries (Roffe, 2014; Seuba, 2014; Maskus, 2014; Drexl, 2014). EU Economic Partnership Agreements with African, Caribbean, and Pacific states include IP provisions but typically allow longer transition periods and preserve greater policy space than comparable US agreements. Where the EU does pursue ambitious TRIPS-plus standards, its priorities differ. EU agreements emphasize geographical indication protection for agricultural products and longer data exclusivity periods under the eight-plus-two-plus-one framework, rather than the patent linkage and enforcement mechanisms that most directly constrain generic pharmaceutical entry. The political adjustment cost of accepting an EU package is therefore smaller than the cost of a US package, and recipient demand for compensation is correspondingly weaker.

EU allocation authority is dispersed in the same measure. Carbone (2007) documents that EU development policy operates through an architecture in which the European Commission and twenty-seven member states maintain distinct aid budgets, strategic priorities, and implementation channels. Carbone (2013) characterizes this as competing logics of EU aid, with a developmental logic remaining the more institutionally entrenched, and Carbone (2012) shows that coherence between EU trade and development objectives remains aspirational rather than institutionally guaranteed. Kim and Jensen (2018) confirm empirically that EU aid patterns reflect dispersed preferences among multiple principals rather than coordinated strategic allocation, and Dietrich (2021) shows more generally that donor institutional structures systematically shape whether aid is used to pursue policy objectives, with developmental logics tending to dominate where authority is dispersed across many principals. The dispersion of EU allocation authority tilts the operating logic of its aid toward long-running developmental programming, and away from the policy-concession instruments that a unified executive can deploy at the moment of treaty signature. Because the European Union satisfies neither the demand nor the supply condition, its aid should not respond to TRIPS-plus signature, and because these are donor-side failures the prediction holds regardless of recipient regime type.

H2. Signatories of TRIPS-plus agreements with the European Union receive no comparable compensatory increases in EU bilateral aid, regardless of regime type.

3 Empirical evidence

3.1 Data and Identification

The sample consists of self-declared developing economies in the WTO observed annually from 1995 to 2024. Anchoring the definition of "developing country" in each economy's self-declared status at the WTO reflects how countries themselves position their development needs and directly determines eligibility for the concessional trade schemes within which TRIPS-plus PTAs are negotiated.

The treatment of interest is the signature of a TRIPS-plus PTA. I draw the binary indicator from the TRIPS-plus dataset of Morin and Surbeck (2020), which codes whether each PTA between a major developed economy and a developing country contains any TRIPS-plus

provisions. The dataset is comprehensive across the TRIPS-plus universe and captures the depth of obligations across distinct intellectual property domains, and the binary indicator is sufficient for the present design because the relevant question is whether the moment of signature triggers a compensatory aid response. The binary measure does not capture within-US variation in the depth of IP demands, though the near-uniform maximalism of US IP chapters leaves little such variation to exploit.

I date treatment to the calendar year in which a TRIPS-plus PTA is signed. Signature is the discrete and observable act that the theory identifies as the point of commitment, when the recipient's regulatory concession becomes public and irreversible and the donor can attach a transfer to it. Negotiation opens years earlier and ratification often follows years later, so signature sits in the middle of an extended process. It is nonetheless the moment at which the bilateral bargain is struck, which is why the compensatory logic locates the transfer there rather than at entry into force. Annual observation cannot distinguish an agreement signed in January from one signed in December, and this coarseness may introduce measurement noise around year boundaries. To demonstrate that the measurement-related concern does not bias the results, I show in the pre-treatment placebos implemented below that aid does not begin rising in the years before the signature year.

The outcome is bilateral aid disbursements from each donor to each recipient. The analysis uses donor-specific data sources rather than a single harmonized dataset, mirroring the institutional asymmetry at the core of the theoretical argument.[1]

The estimator is PanelMatch (Imai et al., 2023). PanelMatch is well suited to settings in which treatment adoption is staggered, non-random, and shaped by prior political and economic characteristics that also affect the outcome, and participation in TRIPS-plus agreements satisfies all three conditions. Standard difference-in-differences designs risk bias when treated and untreated units follow different pre-treatment paths. PanelMatch addresses this by constructing matched sets

[1] US aid disbursements are sourced from the ForeignAssistance.gov database maintained by USAID, which records the full universe of US official development assistance as reported by the administering agency. EU aid disbursements originate from the OECD DAC2A ("Aid (ODA) disbursements to countries and regions") database, which aggregates flows from the European Commission and individual member states. The United States operates a reporting apparatus in which USAID captures disbursement timing and recipient-level detail with greater granularity than DAC aggregate reporting (Fleck and Kilby, 2010; Bermeo, 2018). No comparable single-source database exists for EU aid because authority over development assistance is divided between the Commission and twenty-seven member states, each maintaining distinct budgets and reporting cycles (Carbone, 2007; Kim and Jensen, 2018). Using each donor's most institutionally appropriate source thus mirrors the contrast in aid governance that the theory highlights, and it is consistent with the broader comparative aid literature (Fleck and Kilby, 2010; Bermeo, 2018; Carter and Stone, 2015; Kim and Jensen, 2018; Dietrich, 2021; Alesina and Dollar, 2000).

of treated and comparable control units with similar treatment histories and covariate profiles before treatment occurs, approximating the sequential ignorability assumption required for causal inference. The matching is refined with Covariate Balancing Propensity Score (CBPS) weighting on lagged log aid, log GDP per capita, log GDP, and GDP growth. These variables capture the macroeconomic conditions that shape donor allocation and that may also correlate with TRIPS-plus signature.

To test the regime-conditioning prediction, I estimate the treatment effect separately for democratic and autocratic recipients. Rather than including democracy as a moderator inside a single estimator, which conflates regime status with treatment status, I use two parallel within-regime treatments. The within-democracy treatment indicator equals one in country-years in which a democratic developing country has signed a TRIPS-plus PTA with the donor and zero otherwise, and the within-autocracy indicator is defined analogously. Both arms use the same lag-lead structure and the same CBPS-weighted refinement, producing two ATT trajectories that are directly comparable across regime types. Democracy is constructed from the Polity V dataset (Marshall and Gurr, 2018), with Polity scores above zero coded as democratic. The threshold does not drive the result. Re-estimating all four arms under the stricter conventional Polity cutoff of 6, and again under a V-Dem electoral-democracy cutoff of 0.5 (Coppedge et al., 2026), leaves the within-democracy US estimate numerically identical, because every democratic US signatory clears each of these thresholds in its signature year. Table A.10 in the Appendix reports the full set. The choice of zero nonetheless follows from what the theory asks of recipient institutions. Both rationales for the regime distinction turn on whether the executive faces institutional constraints that make a policy commitment durable and whether the recipient is a politically appropriable target for congressional appropriations, and both operate at the boundary between constrained and unconstrained executives rather than at the top of the scale. In a developing-country sample a cutoff of 6 places partial democracies that have meaningful executive constraints on the autocratic side of that boundary, which mixes two institutional types inside the autocracy arm and blunts the contrast the design is built to draw. The lag is 4 years and the lead window is 0 through 3 years after signature, symmetric around the moment of treatment. Inference uses bootstrapped intervals.

The number of treated units differs across the four arms, reported as follows. The within-democracy US arm rests on 9 treated countries, the within-autocracy US arm on 3, the within-democracy EU arm on 31, and the within-autocracy EU arm on 3, with the full counts of treated

units and matched control sets in Table A.9 in the Appendix. Every arm rests on a small treated set, and the two autocracy arms are smaller still. With three treated countries an arm is exposed to case composition as much as to statistical precision, since a single unrepresentative signatory can move the estimate and no amount of additional bootstrap resampling would reveal it. The two autocracy arms are therefore reported as descriptive comparisons rather than as estimates carrying the same evidentiary weight as the democracy arms. The US autocracy arm comprises Bahrain, Morocco, and Oman, and the EU autocracy arm Haiti, Peru, and Eswatini, so readers can judge how far these cases travel. What the nulls in these arms can support is a statement about the observed signatories rather than about autocratic recipients as a class. Aid to autocratic recipients is allocated on terms that differ from aid to democracies, and Carter and Stone (2015) show that the credibility of an aid linkage to a policy concession rises with the recipient's democracy. Park (2026) reports the same regime asymmetry in aid compensation for TRIPS-plus commitments. The pre-treatment placebo in Section 3.3 shows aid to these autocratic recipients already moving on a path of its own well before any signature.

The identifying assumption is sequential ignorability conditional on the matched set. Treatment is as good as random within the pool of country-years matched on prior treatment history, lagged outcomes, and CBPS-weighted covariates (Imai et al., 2023). Selection is the most natural objection to any observational study of trade and aid, so I state how the design responds to it. Donors choose which developing countries to approach based on strategic alignment, market size, regime trajectory, prior trade volume, and the existing aid relationship. Recipient governments choose whether to accept the IP chapter based on internal coalitions, lobbying intensity, and the value of preferential access. Both sides may react to common temporal shocks such as US Trade Promotion Authority renewal cycles, donor administration changes, and global business-cycle conditions. PanelMatch addresses each of these channels through a distinct component of its construction.

The matching procedure builds the control pool for each treated country-year from non-treated country-years with identical treatment histories over the prior four years, so a country that signs in year t is compared only to countries that have not yet signed with the same donor as of year t. The matched controls must also share lagged outcomes over the three preceding years, which is the substantive answer to the selection-into-PTAs concern. Donors selecting partners on grounds correlated with future aid leave fingerprints on the pre-treatment aid path itself, and matching

on that path holds those fingerprints fixed and absorbs the selection they generated. The CBPS-weighted refinement then balances treated and control sets on lagged GDP, GDP per capita, and GDP growth, the macroeconomic variables most commonly invoked in donor allocation models (Alesina and Dollar, 2000; Fleck and Kilby, 2010; Bermeo, 2018).

Two further sources of confounding are absorbed by the structure of the comparison. Time-invariant unobservables, including geography, colonial history, language, and baseline aid eligibility under congressional mandates, drop out of the within-unit comparison. Common temporal shocks drop out because treated and control country-years are drawn from the same calendar year, so domestic political and administrative shifts, as well as macroeconomic fluctuations cannot drive the ATT. The residual class of confounders the design cannot absorb is narrow. It consists of time-varying unobservables that shift both treatment and outcome and that are uncorrelated with the three-year pre-treatment aid trajectory and the matched covariates. Many such confounders would leave a trace in the pre-treatment leads, which the placebo estimator below tests directly. A contemporaneous shock that moved both the timing of the agreement and aid without disturbing the pre-treatment trajectory would not be detected. One boundary condition deserves note. The placebo window reaches back to $t-4$, so a donor that began raising aid to prospective signatories more than four years before signature would produce anticipation outside the tested range, and the placebo cannot rule that longer horizon out.

3.2 TRIPS-Plus and Compensatory Aid

Figure 1 reports the PanelMatch estimates for the four arms of the design. Each panel shows the ATT trajectory at $t+0$ through $t+3$ for one combination of donor and recipient regime. The within-democracy and within-autocracy treatments are estimated separately with the same lag, lead, refinement method, and CBPS-weighted covariates, so the four panels are directly comparable. Filled markers denote estimates that are statistically significant, hollow markers denote those that are not, and vertical bars show the bootstrapped intervals. Table A.4 in the Appendix reports the full estimates, bootstrapped standard errors, and the number of treated and matched control units for each arm.

The pattern matches H1 closely. Democratic developing countries that sign TRIPS-plus agreements with the United States experience an immediate and statistically significant increase

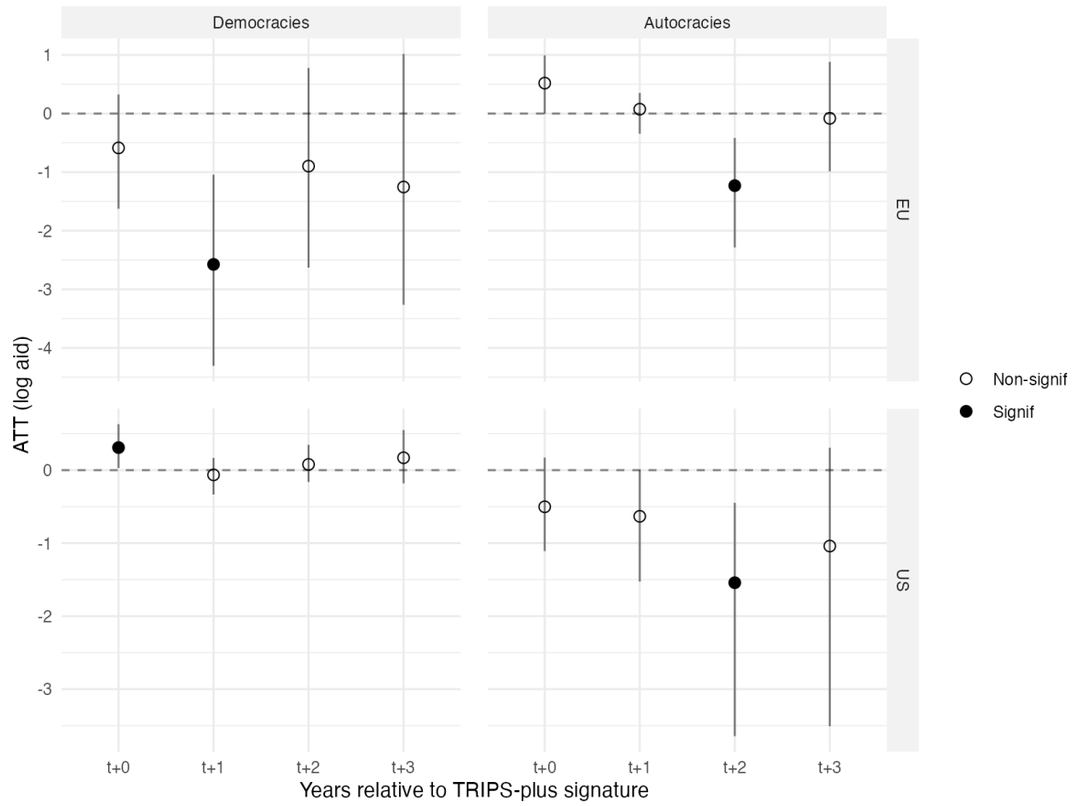

Figure 1: Aid disbursement and TRIPS-plus signature: PanelMatch ATTs by donor and recipient regime type.

Alt-text. A four-panel chart of ATT trajectories from $t+0$ to $t+3$. The US within-democracy panel shows a positive significant estimate at $t+0$ that falls to zero by $t+1$. The US within-autocracy, EU within-democracy, and EU within-autocracy panels show no sustained positive response. Filled markers are significant, hollow markers are not, and vertical bars are bootstrapped intervals.

in US aid in the year of signature. The point estimate at $t+0$ corresponds to an increase of 36% in US aid relative to matched control democracies that did not sign ($\exp(0.31) - 1 \approx 0.36$). The effect dissipates rapidly, and ATT estimates at $t+1$ through $t+3$ are statistically indistinguishable from zero. This front-loaded profile is consistent with the compensation logic that Baccini and Urpelainen (2012) document for trade reforms more generally. The transfer arrives at the moment of commitment and does not recur, which is the timing a compensatory side payment would take, and once the agreement is concluded aid levels stabilize.[2] A single-year pulse of this kind is consistent both with a forward-looking side payment and with a one-time political signal sent at the moment

[2]The mechanism requires that compensation reach the constituencies bearing the adjustment costs, and it carries no requirement about the fiscal conduit. Dietrich (2013) shows that donors calibrate the conduit to recipient governance, engaging the government where governance is stronger and bypassing it through non-state implementers where governance is weak, so her account expects engagement with the established democracies studied here. The available data bound that expectation rather than confirm it. Every activity-level ForeignAssistance.gov disbursement record carries an implementing-partner name and category across the full coverage window, which opens in FY2001 and so spans every treated signature. For the agencies that disburse most assistance to this sample the recorded partner is the disbursing agency itself, covering all Defense disbursements and 98% of State disbursements to the treated democracies, and those records leave the downstream conduit unrecoverable. Implementing partners that are governments outside the United States account for 2.4% of disbursed dollars in the signature year, while US agencies recorded as their own implementers account for a further 71%, placing the recipient-government share of the transfer somewhere between 2% and 73%. The OECD channel-of-delivery code enters the CRS in 2004 and approaches completeness for US assistance in 2007, so it covers the treated signatures only in part. The design therefore bounds the conduit rather than resolving it, and it does not identify which constituencies ultimately receive the transfer.

of agreement, and the design does not adjudicate between the two readings. The thirty-six percent increase is an average effect across a heterogeneous pool of nine democracies. A leave-one-out analysis shows that no single country drives it, with the $t + 0$ estimate remaining between 0.23 and 0.43 as each treated country is dropped in turn. The effect concentrates among the subset of recipients with prior major-donor trade experience, and jointly excluding the five reform-credential democracies (Chile, Colombia, Costa Rica, the Dominican Republic, and Peru) reduces the pooled $t+0$ estimate to a statistically insignificant 0.08. Table A.11 in the Appendix reports both exercises. The split by prior PTA experience below returns to this concentration, which the theory anticipates through the implementation-credibility condition.

The within-autocracy arm of the US case shows the regime contrast the theory predicts. Autocratic developing countries that sign US TRIPS-plus agreements receive no immediate aid surge. The ATT at $t + 0$ is negative and statistically insignificant, and point estimates at later leads remain negative, with a statistically significant negative effect at $t + 2$. Among the observed autocratic signatories of US agreements there is no evidence of a comparable signature-year increase, and the point estimates run in the opposite direction. The credibility condition anticipates this contrast. Democratic recipients are credible implementers of the commitments embedded in the IP chapter, and they enjoy the institutional advantage of being easier targets for US aid appropriations (Carter and Stone, 2015; Milner and Tingley, 2010). This arm rests on three treated countries, so its intervals are wide and its composition matters as much as its precision. It is reported as a descriptive comparison, and the absence of a surge across Bahrain, Morocco, and Oman is consistent with the credibility condition without establishing that autocratic recipients as a class are never compensated. The placebo below shows that US autocracies which eventually sign were on a statistically significant downward US-aid trajectory at $t - 4$ and $t - 3$ that has flattened by $t - 2$, while US democracies show no pre-treatment movement at any lead. Bilateral aid to the two groups already follows different paths before either signs anything. Autocratic signatories therefore receive no compensating aid, which is what the credibility condition implies and what Park (2026) finds across US TRIPS-plus commitments more broadly.

The two EU panels speak to H2. The within-democracy arm shows no positive aid response at $t+0$, with a negative and statistically insignificant point estimate in the year of signature and a negative and statistically significant estimate at $t + 1$. The within-autocracy arm shows a positive point estimate at $t + 0$ that does not reach statistical significance and a statistically sig-

nificant negative effect at $t+2$. This EU autocracy arm rests on three treated countries, and the placebo analysis below shows that its $t+0$ point estimate continues an upward trajectory in EU aid that was already statistically significant at $t-4$ and has faded by $t-2$. The signature year adds nothing to a movement that predates it. Both autocracy arms share this structure, with aid deviating sharply from the matched controls four years out and converging by the eve of signature, while both democracy arms hold flat across every pre-treatment lead. Aid to autocratic recipients answers to a schedule of its own rather than to a discrete policy concession, and neither arm is discounted for the size of its treated set. The qualitative message of the EU panels is consistent across regime categories. Signing a TRIPS-plus agreement with the European Union does not trigger a sustained compensatory aid surge, which is what the theory expects when obligations are less intrusive and aid governance is too dispersed to coordinate transfers around a discrete concession (Carbone, 2007; Kim and Jensen, 2018; Dietrich, 2021; Knack and Rahman, 2007).

Together the four panels are consistent with the joint conditions the theory sets out, and it is worth being precise about what that comparison can and cannot separate. The design varies recipient credibility independently, through the democracy and autocracy arms within each donor. It does not vary the two donor-side conditions independently, because the United States has more intrusive demand and it is the donor with the more concentrated allocation authority, while the European Union sits below it on both margins at once. The donor contrast therefore supports the conjunctive account without attributing the difference to intrusiveness or to allocation authority separately, or to their interaction. Separating them would require a donor that combines intrusive demands with fragmented authority, of which Japan is the closest case discussed above, or concentrated authority with modest demands, and the sample contains neither. What the four panels do show is that the compensatory pattern appears only where an intrusive and institutionally concentrated donor meets a credible recipient.

The four arms also bear on what the transfer compensates. A deep agreement with a major economy concentrates adjustment costs on many groups at once, among them import-competing agriculture, textile producers, and firms sheltered by government procurement rules, and each of them could in principle attract a side payment. That exposure varies little across the comparisons drawn here. European Union agreements reach comparable regulatory depth and impose agricultural and services adjustment on developing partners on a similar scale, and signatories of either regime type receive no compensating surge. Autocratic signatories of US agreements accept the

same template and carry the same array of injured sectors, and their point estimates run negative. What does vary across the four arms is the intrusiveness of the donor's IP demands and the regime type of the recipient, and the aid response follows those two margins. The estimate is best read as the aid response to a package whose intrusiveness the TRIPS-plus content indexes, and it assigns no fixed share of the increment to any single injured constituency.

3.3 Identification checks and robustness

This subsection reports the checks that bear on the identifying assumption and on the substantive interpretation of the headline result. The first three address anticipation and the specificity of the aid response to TRIPS-plus content. The remainder probe a capacity-building rival and an omitted external financier.

Pre-treatment placebo. The signature-year effect should reflect the act of commitment rather than a trend already underway before signature. If aid to eventual signatories were already rising in the pre-treatment years, the $t+0$ estimate could not be read as a response to the commitment itself. I implement the placebo through PanelMatch's `placebo_test` function, which holds the matched-set construction fixed and recomputes ATTs at $t-4$, $t-3$, and $t-2$ (Imai et al., 2023). Figure 2 extends the four-arm result with these pre-treatment leads, and Table A.5 in the Appendix reports the full estimates. The headline US within-democracy result passes cleanly, with no pre-treatment ATT distinguishable from zero and point estimates ranging from -0.25 to -0.16 in log aid units. The EU within-democracy arm also passes, with all three pre-treatment estimates near zero. US autocracies that eventually sign were on a statistically significant downward US-aid trajectory at $t-4$ and $t-3$ that has flattened to -0.068 by $t-2$. EU autocracies were on a statistically significant upward EU-aid trajectory at $t-4$ that likewise fades by $t-2$, so the positive ATT at $t+0$ for that arm continues a movement already underway. Both autocracy arms therefore depart sharply from their matched controls four years before signature and converge by the eve of it, while both democracy arms hold flat at every pre-treatment lead.

This contrast bears on interpretation as much as on identification. Carter and Stone (2015) show that political support in Congress for aid to particular countries binds US allocation more tightly than the size of the aid budget does, and that supporting transfers to autocratic governments is unpopular enough there that autocracies receive US aid in the first place only when

they matter to American foreign policy. Aid to those recipients is tied to long-term objectives such as regional stability and military basing rights, which makes it costly to redirect toward any discrete policy concession, and an influence strategy built on aid is credible only when it is aimed at a democracy (Milner and Tingley, 2010).

Aid to autocratic recipients therefore moves with strategic considerations on a schedule of its own, and the volatile pre-treatment path in columns two and four is what that account predicts. The null at signature is consistent with aid to these recipients answering to a schedule of that kind rather than to a discrete policy concession, and three treated countries in each arm cannot establish that the channel is closed to autocratic recipients as a general matter.

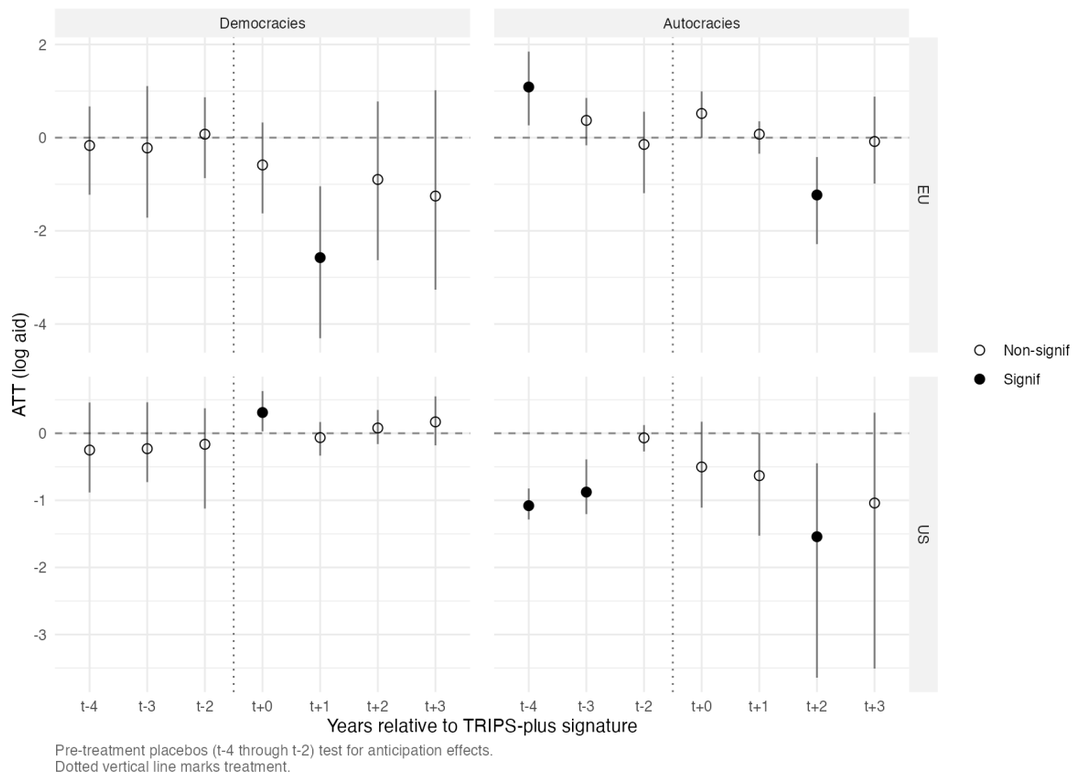

Figure 2: Aid disbursement and TRIPS-plus signature, extended with pre-treatment placebos. Pre-treatment ATTs at $t-4$ through $t-2$ test for anticipation effects. The dotted vertical line marks treatment.

Alt-text. The same four panels extended leftward with pre-treatment placebo estimates at $t-4$, $t-3$, and $t-2$. The US and EU within-democracy arms show flat pre-treatment estimates near zero. A dotted vertical line marks the treatment year.

Recipient credibility and the concentration of the surge. A further concern asks how the analysis separates compensation for TRIPS-plus content from compensation for the broader US PTA package. It should be said at the outset that the check reported here does not settle that question. The cleanest direct test would compare US PTAs with and without TRIPS-plus content, and no US PTA in the sample lacks such content, so no within-donor comparison of that kind is available. What the following split can do is discriminate between two accounts of which recipients

are paid. The reason the credibility condition makes a prediction here is that a donor extending a targeted transfer around a signature is exposed to the risk that the recipient does not implement what it has signed. A recipient that has already carried a formal trade commitment with a major OECD donor has a record on precisely that risk, and a recipient whose first such agreement is the one under negotiation does not. A generic-bundle account predicts the strongest response among first-time PTA partners, who are newly entering formal trade relations with major donors, while the implementation-credibility condition predicts the opposite concentration among the experienced.

I split the US within-democracy treated cell by whether the recipient had a prior PTA with any major OECD donor, coded from the Design of Trade Agreements database (Dür et al., 2014), and re-estimate each subsample. Figure 3 reports the result, with Table A.6 in the Appendix giving the estimates. The surge concentrates entirely among recipients with prior major-donor experience (Chile, Colombia, Costa Rica, the Dominican Republic, and Peru), whose $t + 0$ ATT is 0.59 in log aid units and statistically significant, corresponding to roughly an eighty percent rise. The without-prior subsample (El Salvador, Guatemala, Honduras, and Panama) shows a small and statistically indistinguishable estimate of 0.09. The direction cuts against the generic-bundle reading, since a response to formal trade engagement as such would appear most strongly among the newcomers, and the opposite holds.

These five countries are the same ones whose joint exclusion reduces the pooled estimate to 0.08 in the influence analysis reported above, so the two exercises describe one concentration rather than two independent findings. What the split establishes is that the surge tracks recipient credibility in the way the theory predicts. It does not show that the transfer compensates IP losers specifically, and prior-PTA recipients differ from newcomers in income, administrative capacity, and the size of the existing aid relationship as well as in credibility, so the split locates the concentration without isolating its cause. The estimate is properly read at the level of the package, whose political price the intellectual property chapter raises.

Non-TRIPS-plus PTA placebo for the EU. The EU null could reflect a general EU reluctance to couple aid with trade agreements, or it could be specific to TRIPS-plus content. To distinguish these, I re-estimate the design on the EU panel with the placebo treatment set to PTAs that the European Union signed with developing-country partners but that lack TRIPS-plus provisions. The dataset of Morin and Surbeck (2020) identifies eight such country-years, mostly

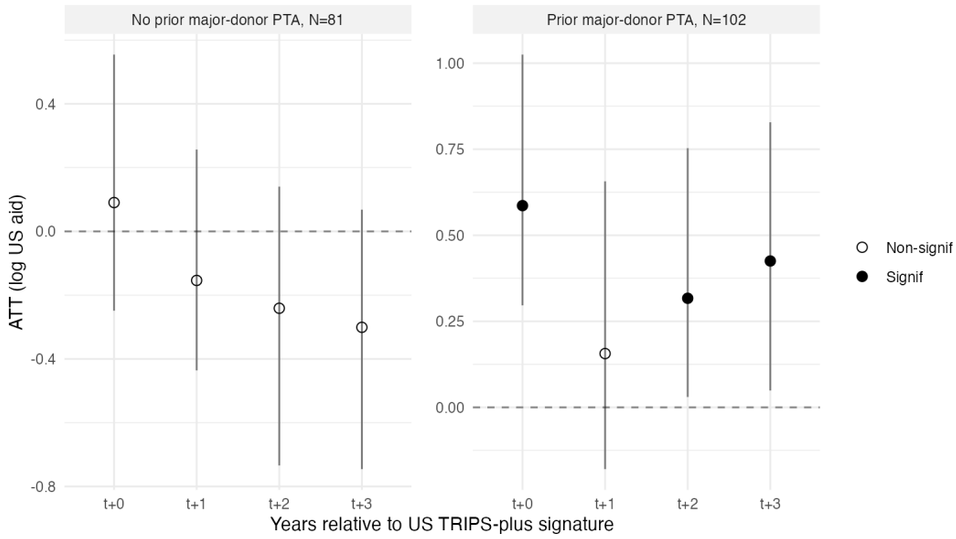

Figure 3: US aid response to TRIPS-plus signature, within-democracy estimates split by whether the recipient had a prior PTA with any major OECD donor.

Alt-text. Two panels of US within-democracy aid ATTs, split by prior major-donor PTA experience. The with-prior group shows a large positive significant $t + 0$ estimate, and the without-prior group shows a small estimate indistinguishable from zero.

Economic Partnership Agreements concluded with African, Caribbean, and Pacific states between 2008 and 2009, together with the early Chile-EC Association Agreement of 2002.

Figure 4 reports the result, with Table A.7 in the Appendix giving the estimates. EU aid responds positively and persistently to non-TRIPS-plus PTA signatures, with pooled ATTs of $+1.66$ at $t+1$, $+1.16$ at $t+2$, and $+1.30$ at $t+3$, all statistically significant. This check does double duty. It shows that EU aid is responsive to PTA signatures in the abstract, so the headline EU null is not an artifact of the EU declining to pair aid with trade agreements. It also reveals the channel through which EU aid flows, since the eight signatures sit within the Cotonou Partnership framework that bundles trade preferences with development assistance for ACP states.

EU aid rises around these signings because the agreements are themselves part of an integrated development relationship. EU TRIPS-plus PTAs involve a different category of partners in Latin America, the Caribbean, Eastern Europe, and the Mediterranean that do not sit within the Cotonou bundling. This comparison also serves as a partial answer to the concern that US and EU partner populations are simply different, since it holds the donor fixed and varies only the TRIPS-plus content of the agreement, isolating the role of that content within the EU's own portfolio.

The partner populations behind the two donor arms nonetheless differ, and this is the most consequential limitation of the comparison. The United States signed its TRIPS-plus PTAs predominantly with Latin American democracies that carried established reform records, while the

EU's TRIPS-plus partners skew toward a different geographic and institutional profile, and no within-arm matching can balance populations that do not overlap. A more direct check restricts attention to the recipients that signed TRIPS-plus PTAs with both donors. Only eight countries did so, all of them democracies, which leaves the autocracy comparison unidentified in the overlap sample and the democracy comparison resting on a thin base. Within that overlap the contrast persists, with the US within-democracy $t{+}0$ estimate remaining positive and close to the full-sample magnitude while the EU within-democracy estimate remains non-positive, so the donor divergence is not merely an artifact of disjoint partner pools. The comparison should still be read with the partner-composition caveat in mind.

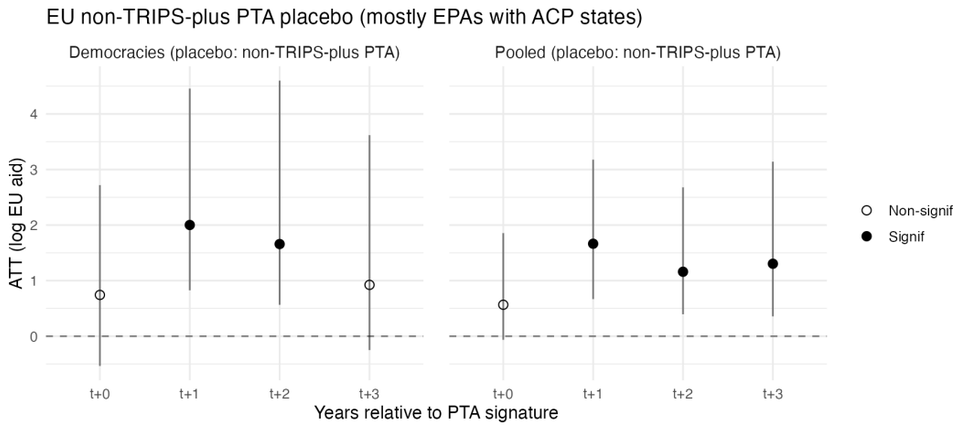

Figure 4: EU aid response to PTA signatures that do not contain TRIPS-plus provisions, mostly EPAs with ACP states.

Alt-text. A single panel of EU aid ATTs following EU PTA signatures that lack TRIPS-plus provisions. Estimates are positive and significant at $t+1$ through $t+3$, in contrast to the null EU response to TRIPS-plus signatures.

MFN sequencing in EU TRIPS-plus signatures. The marginal cost of accepting EU TRIPS-plus provisions depends on whether the recipient already holds a US TRIPS-plus PTA. The GATT exception to most-favored-nation treatment under Article XXIV applies to tariff preferences and does not extend to TRIPS, which is non-discriminatory by design. A country that has already accepted US TRIPS-plus obligations therefore faces lower marginal adjustment when signing an EU TRIPS-plus PTA, so the EU response should be more muted in the with-prior-US sub-population.

I split the EU panel by prior US TRIPS-plus status and re-estimate each sub-sample with the within-democracy treatment. Figure 5 reports the result, with Table A.8 in the Appendix giving the estimates. Both sub-samples show non-positive EU aid responses, consistent with the headline EU null. The with-prior-US group shows somewhat smaller absolute coefficients than the without-prior-US group ($t{+}1$ ATT of -2.01 versus -2.94), in the direction the sequencing argument predicts, though the difference is not statistically distinguishable. The result offers modest support

for the sequencing logic and confirms that the EU null is not confined to a sub-population that already holds US obligations.

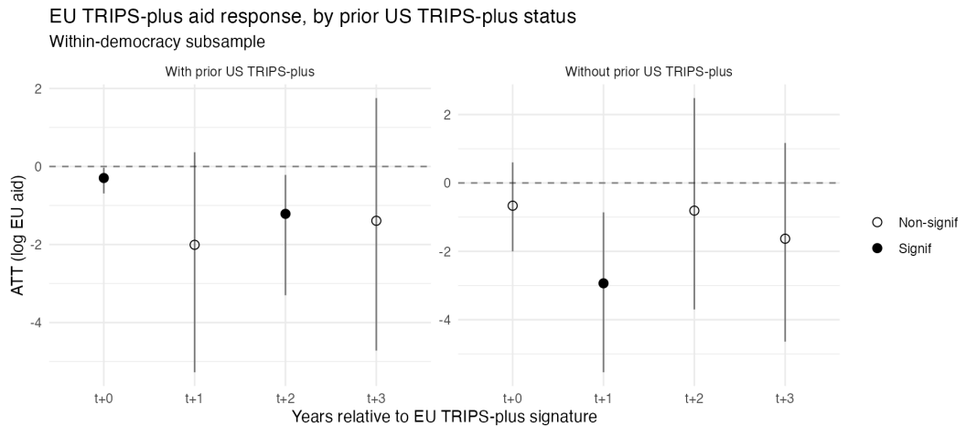

Figure 5: EU aid response to TRIPS-plus signature, split by prior US TRIPS-plus status. Within-democracy subsamples.

Alt-text. Two panels of EU within-democracy aid ATTs, split by whether the recipient already held a US TRIPS-plus PTA. Both panels show non-positive responses, with somewhat smaller magnitudes in the with-prior-US group.

Capacity building for the IP apparatus. The intellectual property apparatus is the machinery that administers the new obligations, meaning the patent office, its examiners, the registries, and the bodies that enforce the rights once granted. Assistance that builds it serves the holders of those rights, who are predominantly the donor's own firms. Money of that kind works in the opposite direction from compensation, because it strengthens enforcement of the very obligations the injured groups opposed. If the signature-year increase turned out to consist of such assistance, the compensation reading would fail and a donor-serving reading would take its place. This exercise asks whether it does.

Every disbursement in the activity-level records carries an OECD purpose code, and no purpose code in the CRS classification names intellectual property. I therefore remove from the outcome an envelope of codes that over-covers any assistance of this kind. It comprises trade policy and administrative management (33110), whose scope includes implementation of multilateral trade agreements, trade facilitation (33120), which covers customs and other border agencies, regional trade agreements (33130), multilateral trade negotiations (33140), trade education and training (33181), business policy and administration (25010), whose scope includes property rights and competition policy, legal and judicial development (15130), and small and medium-sized enterprise development (32130). Together these account for 4.3% of US disbursements over the coverage window.

The $t + 0$ ATT on the remaining aid is 0.312, against 0.310 on the unrestricted activity-file series. The treatment variable, the matched sets, and the CBPS covariate weights are identical across the two specifications, so the definition of the outcome is the only quantity that varies. The signature-year increase therefore survives the removal of every code under which apparatus assistance could be recorded, which establishes that the surge is something other than money for building the apparatus.

Two limits attach to that result. The exercise removes the donor-serving reading and leaves the compensation reading standing, and it stops short of confirming it, because the activity records identify the purpose, the delivery modality, and the implementing partner of each disbursement without identifying who ultimately benefits. A reader may also object that earmarked apparatus money frees other resources for the government to spend as it chooses, so that such assistance could compensate indirectly. The envelope removed here is 4.3% of disbursements over the coverage window, which leaves that indirect channel little to work with. The same records place the share of the signature-year transfer passing through the recipient government somewhere between 2% and 73%, as the footnote above sets out. Table A.12 in the Appendix reports the full set of restricted-outcome estimates discussed below.

Restricting the outcome to a bucket, rather than removing one from it, locates where the response sits. The governance and general budget support codes give a $t + 0$ ATT of 1.121, statistically indistinguishable from zero. The trade and IP apparatus codes give 3.290 at $t + 0$, also indistinguishable from zero, and 3.794 at $t + 3$, which is statistically significant. Both series sit at exactly zero in a substantial share of the country-years in the estimation panel, 18% for governance and 32% for the apparatus, so their coefficients register movement onto the extensive margin and carry no reading as a proportional change in dollars.

The delivery modality gives a denser comparison. Technical assistance as the outcome returns a statistically significant $t+0$ ATT of 0.212, and project-type assistance returns 0.325, which falls short of significance, against 0.310 on the unrestricted activity-file series. Each modality tracks the total, and the signature-year response spreads across the portfolio instead of concentrating in a single channel of delivery.

Crossing the two axes shows how the apparatus money arrives. Over the fiscal years spanned by the signature windows, FY2003 through FY2010, the treated democracies received

272.7 million dollars carrying apparatus purpose codes, of which 242.5 million arrived as funded projects and 30.2 million as technical cooperation. The project cell carries a statistically significant $t+0$ ATT of 4.490, and the effect persists at 5.015 for $t+1$ and 5.627 for $t+3$, both significant. The technical cooperation cell sits at exactly zero in 59% of the country-years in the estimation panel, and no lead returns a statistically significant estimate.

The apparatus money therefore arrives overwhelmingly as funded projects rather than as technical cooperation, and the project cell persists through $t+3$ while total aid shows a single-year pulse, which matches the horizon on which institution building is funded. Project-type assistance and technical cooperation are delivery modalities rather than sectors, and neither identifies the recipients of the funds or their political incidence, so the split is reported here as a description of how the apparatus component is delivered and carries no inference about who is compensated.

Chinese development finance. The panel spans the rise of China as an alternative financier, which raises the possibility that the US aid surge reflects geopolitical hedging by recipients balancing Chinese influence rather than compensation for IP concessions. I merge recipient-year Chinese official finance commitments from the AidData Global Chinese Development Finance dataset (Dreher et al., 2022) and examine the treated democracies.

The concern runs opposite to the data. The treated democracies received almost no Chinese finance in the years around signature, with seven of the nine at zero across the pre-treatment window, against a sample average in the hundreds of millions of dollars per year. These are pre-BRI Latin American economies, several of which recognized Taiwan and appear nowhere in the Chinese finance record. Adding lagged Chinese finance to the covariate set leaves the $t+0$ estimate unattenuated, as Table A.13 in the Appendix reports. The US surge cannot reflect hedging against Chinese finance that these recipients were not receiving.

4 Conclusion

TRIPS recast the global rules of intellectual property by turning what had been largely aspirational norms into enforceable commitments. In the three decades since its adoption, the United States and the European Union have both pushed past that floor, adding TRIPS-plus provisions to successive preferential trade agreements. US chapters go substantially further than

EU chapters, particularly on patent linkage, pharmaceutical data exclusivity, and enforcement, and Table A.1 in the Appendix sets the two templates side by side. These provisions lock in persistent rents for intellectual-property-intensive industries based in advanced economies and shift concentrated adjustment costs onto generic producers, public health systems, and consumers in lower-income partners. Across the developing world many economies accept these rules. This study asks which of them are compensated for the concession and why donor responses diverge so sharply.

This study sets out the conditions under which foreign aid operates as compensation for TRIPS-plus adoption and shows that the pattern of aid responses lines up with them. The argument is that aid functions as a credible side payment when three conditions are met jointly, two on the donor side and one on the recipient side. The donor's IP demands must be intrusive enough to generate politically salient adjustment costs in the recipient country, and the donor's aid governance must be centralized enough to tie disbursements to a discrete policy concession rather than channel them through long-running developmental programming. The United States satisfies both conditions through its maximalist IP demands and its concentrated allocation authority over the aid budget, deploying aid and trade as joint instruments of donor strategy in the manner described by Bermeo (2017) and Bermeo (2018). The European Union satisfies neither. Its IP chapters are lighter than their US counterparts on the provisions that bear most directly on generic entry, and authority over development assistance is fragmented across the Commission and twenty-seven member states in a way that anchors EU aid in developmental categories rather than in policy-concession instruments (Carbone, 2013; Dietrich, 2021). The third condition sits with the recipient, whose institutions must make the commitment credible to the donor, and regime type carries that condition in the results.

The empirical results support these claims. PanelMatch estimates show that democratic developing countries signing TRIPS-plus agreements with the United States receive a sharp aid surge which roughly amounts to 36% in the year of signature, with no further effect at later leads. The observed autocratic signatories of US TRIPS-plus agreements show no comparable increase, and the within-autocracy point estimates run in the opposite direction, though each autocracy arm rests on three treated countries and is reported as a descriptive comparison. Signatories of EU TRIPS-plus agreements show no sustained positive aid response from either regime type. The pattern is consistent with the substantive intrusiveness of US TRIPS-plus demands, with the capacity of the United States to coordinate aid in support of specific policy concessions, with the

lighter TRIPS-plus obligations typically found in EU PTAs, and with the developmental anchoring of EU aid that fragmentation imposes. A within-US split by recipient PTA experience further locates the US surge among democracies with prior major-donor PTA partners, consistent with an implementation-credibility filter rather than a generic compensation-for-PTA-package effect.

The findings have broader implications for research on asymmetric trade relations and the diffusion of regulatory standards. First, donor institutional coherence is a key political resource shaping policy outcomes in developing countries. Fragmented donors are limited in their ability to use aid strategically even when they possess significant market leverage. Second, recipient regime type filters the compensatory channel further. Democratic institutions provide both implementation credibility on the recipient side and lower legislative costs on the donor side, especially in a US allocation environment shaped by congressional appropriations (Carter and Stone, 2015; Milner and Tingley, 2010). Third, the framework speaks to a broader theoretical agenda on how donors combine trade and aid as joint instruments of strategy in an interconnected world (Bermeo, 2017; Bermeo and Leblang, 2015). The TRIPS-plus case offers a clean test of when that joint-instrument logic activates and when it does not.

The mechanism carries a policy implication that the present moment brings into relief. The compensation channel documented here depends on a donor's capacity to concentrate allocation authority and to time transfers to policy concessions. As the institutional foundations of US development assistance come under strain and its allocation machinery is reorganized, that capacity can no longer be taken for granted. A donor that loses the ability to deliver targeted transfers loses the instrument that made intrusive IP demands politically absorbable for its partners, which bears on whether the next generation of regulatory commitments is secured through compensation rather than through coercion or left unmade.

The findings also speak to the design of preferential trade agreements and to the trade regime more broadly. The propositions that follow are implications the theory suggests for adoption and for the depth of commitments, neither of which is an outcome in this design, and they are offered as directions for further work rather than as results established here. Deep regulatory chapters should travel more easily when the demanding party can pair them with side payments, which would make the depth of commitment a donor can extract partly a function of its fiscal and institutional ability to compensate. Standards would then diffuse unevenly, advancing where a donor can both demand and compensate and stalling where the demand outruns the capacity to deliver. For the

multilateral system this would imply that the reach of TRIPS-plus norms depends less on their normative appeal than on the political economy of the donors that carry them, so that shifts in donor aid institutions would reshape which regulatory standards spread and which do not.

Taken together, this study locates the political economy of compensation alongside market-access leverage at the center of TRIPS-plus diffusion. Aid operates as compensation for IP concessions only where donor obligations and donor governance line up, and where the recipient side offers an institutional environment that can credibly implement the policy commitment. This suggests why the United States might exercise a distinctive influence over TRIPS-plus adoption while the European Union does not, though adoption itself lies outside what the present design estimates. What the analysis establishes is narrower and firmer. Among developing countries that accept TRIPS-plus obligations, an aid response in the year of signature appears for democratic signatories of US agreements and for no other combination of donor and regime observed here.

References

Alesina, Alberto and David Dollar (2000). "Who Gives Foreign Aid to Whom and Why?" In: *Journal of Economic Growth* 5.1, pp. 33–63.

Antoine, Elise, Ece Özlem Atikcan, and Adam William Chalmers (2024). "Politicisation, business lobbying, and the design of preferential trade agreements". In: *Journal of European Public Policy* 31.1, pp. 239–268.

Arase, David (1995). *Buying Power: The Political Economy of Japan's Foreign Aid*. Boulder, CO: Lynne Rienner Publishers.

Baccini, Leonardo and Johannes Urpelainen (2012). "Strategic side payments: Preferential trading agreements, economic reform, and foreign aid". In: *The Journal of Politics* 74.4, pp. 932–949.

— (2014). "International institutions and domestic politics: can preferential trading agreements help leaders promote economic reform?" In: *The Journal of Politics* 76.1, pp. 195–214.

Bearce, David H. and Daniel C. Tirone (2010). "Foreign aid effectiveness and the strategic goals of donor governments". In: *Journal of Politics* 72.3, pp. 837–851.

Bermeo, Sarah Blodgett (2017). "Aid Allocation and Targeted Development in an Increasingly Connected World". In: *International Organization* 71.4, pp. 735–766.

— (2018). *Targeted development: Industrialized country strategy in a globalizing world*. Oxford University Press.

Bermeo, Sarah Blodgett and David Leblang (2015). "Migration and Foreign Aid". In: *International Organization* 69.3, pp. 627–657.

Branstetter, Lee G., Raymond Fisman, and C. Fritz Foley (2006). "Do Stronger Intellectual Property Rights Increase International Technology Transfer? Empirical Evidence from U.S. Firm-Level Panel Data". In: *Quarterly Journal of Economics* 121.1, pp. 321–349.

Bueno de Mesquita, Bruce and Alastair Smith (2007). "Foreign aid and policy concessions". In: *Journal of Conflict Resolution* 51.2, pp. 251–284. ISSN: 00220027.

— (2009). "A Political Economy of Aid". In: *International Organization* 63.2, pp. 309–340.

Carbone, Maurizio (2007). *The European Union and international development: The politics of foreign aid*. Routledge.

— (2012). "Beyond Aid: Policy Coherence and Europe's Development Policy". In: *International Development Policy* 3, pp. 161–173.

— (2013). "Between EU Actorness and Aid Effectiveness: The Logics of EU Aid to Sub-Saharan Africa". In: *International Relations* 27.3, pp. 341–355.

Carter, David B and Randall W Stone (2015). "Democracy and multilateralism: the case of vote buying in the UN General Assembly". In: *International Organization* 69.1, pp. 1–33.

Coppedge, Michael et al. (2026). *V-Dem [Country-Year/Country-Date] Dataset v16*. Varieties of Democracy (V-Dem) Project.

Dietrich, Simone (2013). "Bypass or Engage? Explaining Donor Delivery Tactics in Foreign Aid Allocation". In: *International Studies Quarterly* 57.4, pp. 698–712.

— (2021). *States, Markets, and Foreign Aid*. Cambridge University Press.

Dollar, David and Victoria Levin (2006). "The Increasing Selectivity of Foreign Aid, 1984–2003". In: *World Development* 34.12, pp. 2034–2046.

Drahos, Peter and John Braithwaite (2002). *Information Feudalism: Who Owns the Knowledge Economy?* London: Earthscan.

Dreher, Axel, Peter Nunnenkamp, and Rainer Thiele (2008). "Does US aid buy UN general assembly votes? A disaggregated analysis". In: *Public Choice* 136.1-2. ISSN: 00485829.

Dreher, Axel, Jan-Egbert Sturm, and James Raymond Vreeland (2009). "Development aid and international politics: Does membership on the UN Security Council influence World Bank decisions?" In: *Journal of Development Economics* 88.1, pp. 1–18.

Dreher, Axel et al. (2022). *Banking on Beijing: The Aims and Impacts of China's Overseas Development Program*. Cambridge: Cambridge University Press. ISBN: 978-1-108-47410-8.

Drexl, Josef (2014). "Intellectual Property and Implementation of Recent Bilateral Trade Agreements in the EU". In: *EU Bilateral Trade Agreements and Intellectual Property: For Better or Worse?* MPI Studies on Intellectual Property and Competition Law. Springer, pp. 265–291.

Duggan, Mark, Craig Garthwaite, and Aparajita Goyal (2016). "The Market Impacts of Pharmaceutical Product Patents in Developing Countries: Evidence from India". In: *American Economic Review* 106.1, pp. 99–135.

Dür, Andreas, Leonardo Baccini, and Manfred Elsig (2014). "The design of international trade agreements: Introducing a new dataset". In: *The Review of International Organizations* 9, pp. 353–375.

Dür, Andreas and Christoph Mödlhamer (2022). "Power and innovative capacity: Explaining variation in intellectual property rights regulation across trade agreements". In: *International Interactions* 48.1, pp. 23–48.

Dür, Andreas et al. (2023). "Interest group preferences towards trade agreements: Institutional design matters". In: *Interest Groups & Advocacy* 12.1, pp. 48–72.

Farrell, Henry and Abraham L Newman (2019). "Weaponized interdependence: How global economic networks shape state coercion". In: *International Security* 44.1, pp. 42–79.

Fink, Carsten and Patrick Reichenmiller (2006). "Tightening TRIPS: Intellectual property provisions of US free trade agreements". In: *Trade, Doha, and Development: A Window into the Issues*. Ed. by Richard Newfarmer. Washington, DC: World Bank, pp. 289–303.

Fleck, Robert K. and Christopher Kilby (2010). "Changing Aid Regimes? U.S. Foreign Aid from the Cold War to the War on Terror". In: *Journal of Development Economics* 91.2, pp. 185–197.

García, Luis Alonso (2008). *Intellectual Property, Bilateral Agreements and Sustainable Development: Intellectual Property in the US-Peru Trade Promotion Agreement*. Intellectual Property, Bilateral Agreements and Sustainable Development Series 3. Center for International Environmental Law.

Glass, Amy Jocelyn and Xiaodong Wu (2007). "Intellectual property rights and quality improvement". In: *Journal of Development Economics* 82.2, pp. 393–415.

Helfer, Laurence R. (2004). "Regime Shifting: The TRIPs Agreement and New Dynamics of International Intellectual Property Lawmaking". In: *Yale Journal of International Law* 29.1, pp. 1–83.

Imai, Kosuke, In Song Kim, and Erik H Wang (2023). "Matching methods for causal inference with time-series cross-sectional data". In: *American Journal of Political Science* 67.3, pp. 587–605.

Kilby, Christopher (2009). "The Political Economy of Conditionality: An Empirical Analysis of World Bank Loan Disbursements". In: *Journal of Development Economics* 89.1, pp. 51–61.

Kim, Youngwan and Christian Jensen (2018). "Preferences and institutions: constraints on European Union foreign aid distribution". In: *Journal of European Integration* 40.2, pp. 177–192. ISSN: 14772280.

Knack, Stephen and Aminur Rahman (2007). "Donor Fragmentation and Bureaucratic Quality in Aid Recipients". In: *Journal of Development Economics* 83.1, pp. 176–197.

Lancaster, Carol (2006). *Foreign Aid: Diplomacy, Development, Domestic Politics*. Chicago: University of Chicago Press.

Langton, Danielle (2008). *Trade Capacity Building: Foreign Assistance for Trade and Development*. CRS Report RL33628. Congressional Research Service.

Lawson, Marian L. (2016). *Foreign Aid: An Introduction to U.S. Programs and Policy*. CRS Report R40213. Congressional Research Service.

Lindstrom, Beatrice (2010). "Scaling back TRIPS-plus: An analysis of intellectual property provisions in trade agreements and implications for Asia and the Pacific". In: *NYUJ Int'l L. & Pol.* 42.3, pp. 917–980.

Manger, Mark S (2009). *Investing in protection: The politics of preferential trade agreements between north and south*. Cambridge University Press.

Manger, Mark S and Kenneth C Shadlen (2014). "Political trade dependence and North–South trade agreements". In: *International studies quarterly* 58.1, pp. 79–91.

Mangini, Michael-David (2024). "How effective is trade conditionality? Economic coercion in the Generalized System of Preferences". In: *The Review of International Organizations*.

Mansfield, Edward D, Helen V Milner, and B Peter Rosendorff (2000). "Free to trade: Democracies, autocracies, and international trade". In: *American political science review* 94.2, pp. 305–321.

Marshall, Monty G. and Ted Robert Gurr (2018). *Polity V: Political Regime Characteristics and Transitions, 1800-2018*. Center for Systemic Peace.

Martin, Lisa L (2000). *Democratic commitments: Legislatures and international cooperation*. Vol. 227. Princeton University Press Princeton.

Maskus, Keith E. (2000). "Intellectual Property Rights and Economic Development". In: *Case Western Reserve Journal of International Law* 32.3, pp. 471–506.

— (2014). "Assessing the Development Promise of IP Provisions in EU Economic Partnership Agreements". In: *EU Bilateral Trade Agreements and Intellectual Property: For Better or Worse?* Springer, pp. 171–188.

McCalman, Phillip (2001). "Reaping what you sow: an empirical analysis of international patent harmonization". In: *Journal of International Economics* 55.1, pp. 161–186.

Milner, Helen V and Dustin H Tingley (2010). "The political economy of US foreign aid: American legislators and the domestic politics of aid". In: *Economics & Politics* 22.2, pp. 200–232.

Morin, Jean-Frédéric (2009). "Multilateralizing TRIPs-Plus Agreements: Is the US Strategy a Failure?" In: *The Journal of World Intellectual Property* 12.3, pp. 175–197.

Morin, Jean-Frédéric and Jenny Surbeck (2020). "Mapping the New Frontier of International IP Law: Introducing a TRIPs-plus Dataset". In: *World Trade Review* 19.1, pp. 109–122.

Office of the United States Trade Representative (2005). *Peru TPA Facts*. Tech. rep. Office of the United States Trade Representative.

Öhler, Hannes, Peter Nunnenkamp, and Axel Dreher (2012). "Does Conditionality Work? A Test for an Innovative US Aid Scheme". In: *European Economic Review* 56.1, pp. 138–153.

Park, Jihye (2026). "Aid, lending, and TRIPS". In: *The Review of International Organizations*. Advance online publication.

Roffe, Pedro (2014). "Intellectual Property Chapters in Free Trade Agreements: Their Significance and Systemic Implications". In: *EU Bilateral Trade Agreements and Intellectual Property: For Better or Worse?* MPI Studies on Intellectual Property and Competition Law. Springer, pp. 17–40.

Sell, Susan K. (2003). *Private Power, Public Law: the Globalization of Intellectual Property Rights*. Cambridge: Cambridge University Press.

— (2010). "The Rise and Rule of a Trade-Based Strategy: Historical Institutionalism and the International Regulation of Intellectual Property". In: *Review of International Political Economy* 17.4, pp. 762–790.

Seuba, Xavier (2014). "Implementation Issues Arising from Intellectual Property Chapters Contained in Trade Agreements Between the EU and Developing Countries". In: *EU Bilateral Trade Agreements and Intellectual Property: For Better or Worse?* Springer, pp. 293–303.

Shadlen, Kenneth C (2005). "Exchanging development for market access? Deep integration and industrial policy under multilateral and regional-bilateral trade agreements". In: *Review of international political economy* 12.5, pp. 750–775.

Shadlen, Kenneth C et al. (2011). "Globalization, Intellectual Property Rights, and Pharmaceuticals: Meeting the Challenges to Addressing Health Gaps in the New International Environment". In: *Intellectual Property, Pharmaceuticals and Public Health*. Edward Elgar.

Simmons, Beth A (2000). "International Law and State Behavior: Commitment and Compliance in International Monetary Affairs". In: *American Political Science Review* 94.4, pp. 819–835.

Simmons, Beth A, Frank Dobbin, and Geoffrey Garrett (2006). "Introduction: The International Diffusion of Liberalism". In: *International Organization* 60.4, pp. 781–810.

Smith, Richard D, Carlos Correa, and Cecilia Oh (2009). "Trade, TRIPS, and pharmaceuticals". In: *The Lancet* 373.9664, pp. 684–691.

Turk, Matthew (2010). "Bargaining and Intellectual Property Treaties: The Case for a Pro-Development Interpretation of TRIPS but Not TRIPS Plus". In: *NYUJ Int'l L. & Pol.* 42.3, p. 981.

A Appendix

Table A.1: Comparison of TRIPS-Plus Provisions in US and EU Trade Agreements

Provision	**United States**	**European Union**
Patent Protection		
Patent term extension	Required; compensates for regulatory and patent office delays (typically 3–5 years additional)	Required via Supplementary Protection Certificates (SPCs); up to 5 years extension
Patentable subject matter	Broad scope; includes plants, animals, and surgical methods in some FTAs	Generally narrower; excludes plants and animals consistent with TRIPS flexibilities
Second-use patents	Explicitly permitted in most FTAs	Not typically required
Compulsory licensing	Restricted to national emergencies, anti-competitive remedies, and public non-commercial use (pre-2007 FTAs); flexibilities restored in post-May 2007 FTAs	Generally preserves TRIPS flexibilities; fewer explicit restrictions on compulsory licensing grounds
Patent linkage	Required; regulatory authorities must notify patent holders before approving generics	Not required; EU relies on judicial enforcement rather than regulatory linkage
Data Exclusivity		
Pharmaceutical test data	5 years for new chemical entities; 3 years for new clinical information	8 years data exclusivity + 2 years market exclusivity + 1 year for new indication (8+2+1 formula)
Biologics	No biologics-specific exclusivity in bilateral FTAs with developing countries; standard 5-year NCE provisions apply	Covered under same 8+2+1 framework as small molecules
Protection against reliance	Prohibits reliance on originator data for generic approval during exclusivity period	Similar prohibition; additionally bars generic marketing for 2 years after data exclusivity expires
Other Key Provisions		
Geographical indications	Opposes expansion beyond wines and spirits; prefers trademark-based protection	Strongly promotes GI protection for agricultural and non-agricultural products; requires partner countries to protect listed EU GIs
Enforcement	Extensive provisions: criminal penalties for IP infringement, border measures, statutory damages, *ex officio* enforcement	Criminal enforcement for commercial-scale infringement; emphasis on civil and border measures
Exhaustion of rights	Generally supports national exhaustion (restricting parallel imports) in FTAs	More flexible; some agreements silent on exhaustion, preserving policy space
Traditional knowledge	Limited provisions	Increasingly includes provisions on genetic resources and traditional knowledge disclosure

Note: US provisions reflect the standard FTA template, though post-May 2007 agreements (Peru, Colombia, Panama) include modified pharmaceutical provisions following the bipartisan trade deal. EU provisions reflect the standard Association Agreement and Economic Partnership Agreement templates. Both donors' provisions exceed the TRIPS Agreement minimum standards ("TRIPS-plus"), but differ in emphasis: the US prioritizes patent linkage, enforcement, and restrictions on compulsory licensing, while the EU emphasizes longer data exclusivity periods and geographical indication protection.

Table A.2: Descriptive statistics - EU aid recipients

Treatment and outcome	Mean	SD	Min	Max	*N*
TRIPS-plus signed (dummy)	0.015	0.120	0	1	2,387
EU aid (logged)	16.35	7.377	-20.08	22.52	2,112
Matching covariates	Mean	SD	Min	Max	*N*
GDP per capita (logged)	8.934	0.998	6.752	11.784	2,316
GDP (logged)	24.63	2.048	20.16	30.56	2,316
GDP growth (%)	4.009	5.123	-36.392	63.440	2,365
Democracy	0.658	0.474	0	1	2,387

Table A.3: Descriptive statistics - US aid recipients

Treatment and outcome	Mean	SD	Min	Max	*N*
TRIPS-plus signed (dummy)	0.005	0.100	0	1	3,150
US aid (logged)	17.25	2.599	-15.74	23.48	2,498
Matching covariates	Mean	SD	Min	Max	*N*
GDP per capita (logged)	8.833	0.966	6.289	10.960	2,960
GDP (logged)	24.38	2.002	20.01	30.20	2,960
GDP growth (%)	3.817	5.412	-36.392	106.280	3,001
Democracy	0.696	0.460	0	1	2,760

Table A.4: PanelMatch ATTs by donor and recipient regime type

	EU aid		US aid	
	Democracies	Autocracies	Democracies	Autocracies
	(1)	(2)	(3)	(4)
$t+0$	-0.587	0.519	0.309^{+}	-0.502
	(0.599)	(0.306)	(0.181)	(0.389)
$t+1$	-2.575^{**}	0.074	-0.064	-0.632
	(0.989)	(0.227)	(0.150)	(0.490)
$t+2$	-0.897	-1.231^{*}	0.078	-1.542^{*}
	(1.045)	(0.568)	(0.161)	(1.104)
$t+3$	-1.253	-0.082	0.170	-1.040
	(1.329)	(0.553)	(0.221)	(1.244)
Treated unit-years	385	19	183	86

Bootstrapped standard errors in parentheses (1,000 iterations)
*Signif. codes: **: 0.01, *: 0.05, +: 0.1*

Table A.5: Pre-treatment placebo ATTs at $t-4$, $t-3$, $t-2$

	EU aid		US aid	
	Democracies	Autocracies	Democracies	Autocracies
	(1)	(2)	(3)	(4)
$t-4$	-0.168	1.087^{*}	-0.250	-1.079^{**}
	(0.597)	(0.477)	(0.426)	(0.145)
$t-3$	-0.221	0.371	-0.230	-0.877^{**}
	(0.872)	(0.325)	(0.361)	(0.259)
$t-2$	0.074	-0.146	-0.165	-0.068
	(0.550)	(0.524)	(0.546)	(0.121)
Treated unit-years	385	19	183	86

Bootstrapped standard errors in parentheses (1,000 iterations)
*Signif. codes: **: 0.01, *: 0.05, +: 0.1*

Table A.6: US within-democracy ATTs split by prior major-donor PTA experience

	With prior major-donor PTA (1)	Without prior major-donor PTA (2)
$t+0$	0.586**	0.090
	(0.220)	(0.259)
$t+1$	0.156	-0.154
	(0.268)	(0.227)
$t+2$	0.317+	-0.241
	(0.240)	(0.275)
$t+3$	0.425+	-0.301
	(0.265)	(0.270)
Treated unit-years	102	81

Bootstrapped standard errors in parentheses (1,000 iterations)
Major-donor PTAs include US, EU and member states, EFTA, Canada, Japan, Korea, Australia, New Zealand
*Signif. codes: **: 0.01, *: 0.05, +: 0.1*

Table A.7: EU aid response to non-TRIPS-plus PTA signatures

	Pooled (1)	Within-democracy (2)
$t+0$	0.566	0.743
	(0.746)	(1.250)
$t+1$	1.664**	2.002**
	(0.889)	(1.470)
$t+2$	1.160*	1.658**
	(0.860)	(1.570)
$t+3$	1.304*	0.924
	(1.112)	(1.520)
Treated unit-years	128	108

Bootstrapped standard errors in parentheses (1,000 iterations)
*Signif. codes: **: 0.01, *: 0.05, +: 0.1*

Table A.8: EU MFN sequencing: within-democracy ATTs split by prior US TRIPS-plus status

	With prior US TRIPS-plus (1)	Without prior US TRIPS-plus (2)
$t+0$	-0.295+	-0.666
	(0.214)	(0.811)
$t+1$	-2.008	-2.935**
	(1.878)	(1.427)
$t+2$	-1.214*	-0.810
	(1.056)	(1.918)
$t+3$	-1.391	-1.631
	(2.059)	(1.783)
Treated unit-years	95	290

Bootstrapped standard errors in parentheses (1,000 iterations)
*Signif. codes: **: 0.01, *: 0.05, +: 0.1*

Table A.9: Treated cases and matched sets by research arm

Arm	Treated countries	Treated country-years	Matched sets (non-empty)	Mean matched-set size	Control country-years
US, democracy	9	9	9	98.0	393
US, autocracy	3	3	3	101.0	202
EU, democracy	31	32	31	73.0	393
EU, autocracy	3	3	3	85.7	257

Note: Treated country-years are treatment onsets usable by PanelMatch with a four-year lag window. Matched sets are refined with CBPS weighting. Control country-years count unique control country-year pairs across non-empty matched sets.

Table A.10: Robustness of the four-arm $t + 0$ ATTs to alternative democracy codings

	EU		US	
Democracy measure	Democracies	Autocracies	Democracies	Autocracies
Polity2 > 0 (baseline)	-0.587	0.519	0.309^{+}	-0.502
	(0.599)	(0.306)	(0.181)	(0.389)
Polity2 ≥ 6	-0.720	1.562	0.309^{+}	-0.502
	(0.706)	(1.622)	(0.181)	(0.389)
V-Dem polyarchy ≥ 0.5	-1.019	0.463^{*}	0.309^{+}	-0.389
	(0.744)	(0.360)	(0.181)	(0.283)

Note: $t + 0$ ATT in log aid units with bootstrapped standard errors in parentheses (1,000 iterations). Signif. codes: **: 0.01, *: 0.05, +: 0.1. Treated country-years per cell, ordered EU democracies, EU autocracies, US democracies, US autocracies, are baseline 32/3/9/3, Polity2$\geq$6 28/12/9/3, and V-Dem 24/9/9/5. The US within-democracy estimate is numerically identical across all three codings because every democratic US signatory clears each threshold in its signature year.

Table A.11: Influence diagnostics for the US within-democracy TRIPS-plus effect

Sample	$t + 0$ ATT	Bootstrapped SE	Refinement
Full sample	0.309^{+}	(0.181)	CBPS.weight
Drop Chile	0.311^{+}	(0.206)	CBPS.weight
Drop Colombia	0.244	(0.193)	CBPS.weight
Drop Costa Rica	0.313	(0.192)	CBPS.weight
Drop Dominican Republic	0.302	(0.195)	CBPS.weight
Drop El Salvador	0.273	(0.205)	CBPS.weight
Drop Guatemala	0.294	(0.184)	CBPS.weight
Drop Honduras	0.337^{+}	(0.196)	CBPS.weight
Drop Panama	0.426^{*}	(0.207)	CBPS.weight
Drop Peru	0.232	(0.170)	CBPS.weight
Drop reform-credential five	0.081	(0.240)	CBPS.weight
Joint exclusion, dynamic effects			
t+0	0.081	(0.240)	CBPS.weight
t+1	-0.134	(0.273)	CBPS.weight
t+2	-0.047	(0.269)	CBPS.weight
t+3	-0.155	(0.238)	CBPS.weight

Each row re-estimates the canonical PanelMatch specification (lag 4, CBPS-weight refinement, leads 0–3, 1,000 block-bootstrap iterations) after excluding the listed country entirely. The joint exclusion drops Chile, Colombia, Costa Rica, the Dominican Republic, and Peru. Bootstrapped standard errors in parentheses. Signif. codes: **: 0.01, *: 0.05, +: 0.1.

Table A.12: Capacity-building apparatus: PanelMatch ATTs on restricted US aid outcomes

	$t+0$	$t+1$	$t+2$	$t+3$
A. Removing an over-inclusive apparatus envelope from the outcome				
Total aid (activity file)	0.310^{+}	-0.059	0.084	0.175
	(0.180)	(0.149)	(0.161)	(0.221)
Aid excluding apparatus codes	0.312^{+}	-0.049	0.068	0.152
	(0.182)	(0.150)	(0.162)	(0.220)
Aid excluding apparatus and narcotics	0.190^{+}	-0.041	0.115	0.182
	(0.118)	(0.165)	(0.173)	(0.223)
B. Restricting the outcome to a purpose bucket				
Governance and budget support	1.121	1.146	2.441	2.535
	(1.440)	(1.369)	(1.884)	(2.045)
Trade and IP apparatus	3.290	3.027	3.143	3.794^{+}
	(2.821)	(2.536)	(2.647)	(2.141)
C. Restricting the outcome to a delivery modality				
Technical assistance	0.212^{+}	0.122	0.069	0.043
	(0.114)	(0.148)	(0.162)	(0.174)
Project-type	0.325	-0.233	-0.046	0.145
	(0.242)	(0.199)	(0.191)	(0.288)
D. Apparatus purpose crossed with delivery modality				
Apparatus × technical assistance	0.139	-1.243	4.347	2.958
	(4.693)	(4.928)	(3.321)	(2.670)
Apparatus × project-type	4.490^{+}	5.015^{+}	3.812	5.627^{+}
	(2.186)	(2.364)	(2.437)	(1.982)

Each cell re-estimates the canonical US within-democracy specification (lag 4, CBPS-weight refinement, leads 0–3, 1,000 block-bootstrap iterations) with the outcome restricted as labeled, holding the treatment, matched sets, and covariate weights fixed. Outcomes use the sign-preserving log $\text{sign}(x)\log(1+|x|)$. All arms rest on the 183 treated unit-years of the US within-democracy arm. The apparatus envelope comprises OECD purpose codes 33110, 33120, 33130, 33140, 33181, 25010, 32130, and 15130 (4.3% of US disbursements); governance comprises the 151xx codes less 15130 plus general budget support 51010. Governance sits at zero in 18% of estimation-panel country-years, the apparatus in 32%, and apparatus technical cooperation in 59%, so coefficients on those series register movement onto the extensive margin rather than a proportional change in dollars. Over FY2003 through FY2010 the treated democracies received $272.7 million carrying apparatus purpose codes, $242.5 million as funded projects and $30.2 million as technical cooperation. Bootstrapped standard errors in parentheses. Signif.: + marks a bootstrap percentile interval that excludes zero (90% level).

Table A.13: US within-democracy $t+0$ ATT with and without Chinese finance controls

Lead	Baseline	+ Chinese finance lags
$t+0$	0.309^{+}	0.855
	(0.181)	(1.114)
$t+1$	-0.064	0.502
	(0.150)	(1.101)
$t+2$	0.078	1.007
	(0.161)	(1.733)
$t+3$	0.170	0.915
	(0.221)	(1.622)
SMD lag 1–3 log(1 + Chinese finance), treated vs CBPS-weighted controls: -1.343		
Treated window mean 0.5 vs sample mean 449.0 (mUSD 2021/yr)		

Note: Point estimates in log aid units with bootstrapped standard errors in parentheses (1,000 iterations). Signif. codes: **: 0.01, *: 0.05, +: 0.1. Chinese finance is AidData GCDF 3.0 official finance commitments (Dreher et al., 2022). Treated democracies received almost no Chinese finance in the signature window, so the augmented specification is imprecise despite an unattenuated point estimate.