Aid, Lending, and TRIPS

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Abstract

The rise of superstar firms has accompanied the expansion of an international intellectual property (IP) regime that extends beyond the standards established in the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). Despite sustained resistance from developing countries, the United States has successfully promoted TRIPS-plus provisions through preferential trade agreements, with other advanced economies following. This study attributes US success in diffusing TRIPS-plus standards to the strategic deployment of development finance, conditioned on the domestic political feasibility of aid and the regime type of the recipient country. Using National Trade Estimate (NTE) reports from 1995 to 2022 published by the US Trade Representative, I construct a semantic proxy for US assessments of IP protection in partner countries harnessing a state-of-the-art stance detection large language model. Countries facing greater IP-related criticism incorporate more TRIPS-plus commitments into their preferential trade agreements with the United States in exchange for development finance. Compensation varies by regime type. Democracies receive increased foreign aid, while autocracies benefit more from International Finance Corporation lending to the private sector. Placebo tests reveal that among TRIPS-plus commitments, test data exclusivity, US pharmaceutical elites' top priority that blocks generic drugs past patent expiration, uniquely mobilizes both instruments.

Keywords: TRIPS, foreign aid, multilateral lending, North-South relations, preferential trade agreements (PTAs), text-as-data, large language models

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1 Introduction

The incorporation of intellectual property rights into international trade law, most notably through the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) and subsequent TRIPS-plus arrangements, established a multilateral baseline rather than a ceiling for US intellectual property (IP) policy. For IP-intensive US corporate elites, TRIPS represented a lowest common denominator that secured enforceable minimum standards but fell short of the level of protection they sought. As a result, the United States treated TRIPS as a foundation on which to build, turning to bilateral and regional trade agreements to pursue more intensive protections through TRIPS-plus provisions. A substantial literature shows that this trajectory was driven not simply by intergovernmental bargaining, but by sustained pressure from US multinational corporations in pharmaceuticals, software, chemicals, and entertainment. Beginning with the Trade Act of 1974 and its subsequent amendments in 1984 and 1988, the United States created institutional mechanisms, including Section 301, the National Trade Estimate (NTE) Report, and the Special 301 process, that embedded corporate preferences within trade enforcement and agenda-setting. These instruments converted firm-level grievances into actionable trade priorities, supplying the domestic bureaucratic infrastructure through which the United States could promote IP standards beyond TRIPS in subsequent bilateral and regional agreements.

These "IP-intensive US corporate elites" are not a diffuse business constituency but a coordinated and well-organized set of actors whose institutional footprint pervades US trade policy. The pharmaceutical and biotechnology sectors, represented by the Pharmaceutical Research and Manufacturers of America (PhRMA) and the Biotechnology Innovation Organization (BIO), have been the most visible and persistent advocates. Palmedo (2020) documents that USTR included between 75 and 100 percent of PhRMA's prioritized countries in the Special 301 Watch List every year between 2009 and 2020. The software, entertainment, and publishing industries are coordinated through the International Intellectual Property Alliance (IIPA), an umbrella organization that files detailed country-level Watch List recommendations on behalf of the Motion Picture Association, the Recording Industry Association of America, the Entertainment Software Association, and the Association of American Publishers. The agrochemical and specialty chemical

industries add a further layer of pressure through trade associations such as the American Chemistry Council and CropLife America. Historically, the Intellectual Property Committee, a coalition of thirteen US multinationals convened in 1986, was the architect of the TRIPS Agreement itself (Sell, 2003). Throughout this paper, references to IP-intensive US corporate elites denote this institutionally dense network of firms and industry associations whose submissions, advisory committee participation, and direct congressional lobbying structure USTR's evaluation of foreign IP regimes.

The resulting TRIPS-plus agreements often impose deep IP commitments on developing countries, despite substantial evidence that such standards may hinder their growth and technological upgrading. As the literature suggests, emerging economies typically lack the capacity to resist these pressures outright. Instead, they are often incentivized to cooperate through economic side payments, including preferential market access, bilateral aid, and multilateral development finance. While existing research highlights the role of these side payments as a bargaining tool in trade agreements, less attention has been paid to how these varying sources of payments are calibrated to domestic political constraints in the donor country, and how recipient regime type forms part of the calculus. In this paper, I argue that the United States strategically alternates between bilateral aid and multilateral lending, particularly through the International Finance Corporation (IFC), as a function of the political feasibility of aid and the institutional context of the recipient country. Specifically, when dealing with autocracies, where aid may be politically sensitive or difficult to justify domestically, IFC lending offers a more flexible alternative for compensating IP-related commitments. Significant US influence on multilateral lending institutions, hinged upon strategic interests, has been substantiated by the vast existing literature (Kersting & Kilby, 2016, 2021; Kilby, 2013; Stone, 2002, 2008).

To empirically evaluate this argument, I introduce a novel text-based proxy for US evaluations of IP regimes in emerging economies, derived from 28 years (1995–2022) of country-level sections on IP rights protection in the NTE reports published by the United States Office of Trade Representative (USTR). Using state-of-the-art stance detection methods based on the DeBERTa-v3-large language model, I construct a continuous evaluation score for each country-year that reflects the extent of US concern over IP enforcement. This approach moves beyond conventional

sentiment analysis by capturing evaluative stances embedded in government-issued technical texts, offering a replicable and fine-grained measure of perceived IP rights protection environment in major developing country US trading partners.

I examine whether democratic developing countries that face high IP-related pressure are more likely to commit themselves to TRIPS-plus IP regimes when they receive increased US aid. I also investigate whether autocracies facing similar pressures are instead more likely to receive increased IFC lending. The TRIPS-plus provisions at stake in these analyses span three broad families of clauses, each with distinct corporate constituencies and distributional consequences for recipient states.

The first concerns undisclosed information, where provisions commonly include forms of test data exclusivity for pharmaceutical regulatory submissions. Pharmaceutical originators and their US trade associations have long treated such protections as a leading priority, and the resulting regulatory market exclusivity can delay generic entry and sustain higher medicine prices in developing economies. The second concerns patents, where clauses often include patent term extensions for regulatory delay and narrower flexibilities around compulsory licensing or parallel importation. Pharmaceutical and agrochemical interests have been visible advocates on this front, and adoption can raise costs in sectors where developing countries rely on catch-up production. The third concerns enforcement, where clauses commonly encompass border measures, expanded civil and criminal remedies, and digital era obligations. Software, entertainment, and publishing associations have been prominent advocates for stronger enforcement language, and obligations of this kind can be administratively demanding for recipient states while constraining their domestic policy space.

The results show that compensatory financial flows, in the form of aid for democracies and IFC lending for autocracies, are associated with a larger number of TRIPS-plus provisions in the PTAs signed by countries facing negative US IP evaluations. Regime type placebo tests further suggest that the channel assignment holds most cleanly on the patent and enforcement dimensions. On the undisclosed information dimension, which carries the pharmaceutical industry's single most intense priority, both placebos activate in a pattern consistent with the United States stacking aid

and IFC lending together. The effect is estimated more precisely for democracies receiving IFC lending, while the parallel aid effect in autocracies reaches only marginal significance. These findings offer new evidence for how the United States promotes firm-driven interests in the TRIPS-plus framework by alternating between modes of compensation offered to emerging economies, combining the rich literature on private interests in global trade institutions and geopolitical considerations in development finance.

2 Expansion of TRIPS-plus Framework and Strategic Development Finance

The institutional foundations for the international promotion of US intellectual property interests were laid well before the TRIPS Agreement was formalized, most notably through the Trade Act of 1974 and its amendment in 1984. These statutes granted the executive broad authority to identify and address unfair foreign trade practices harming US commercial interests. Section 301 authorized the US Trade Representative (USTR) to investigate and retaliate against discriminatory or unreasonable practices abroad. The 1984 amendment strengthened these powers by permitting self-initiated investigations and reinforcing unilateral executive action. Taken together, these frameworks projected US economic leverage and, crucially, institutionalized channels through which private complaints could shape trade enforcement priorities.

The Trade Act reforms created reporting instruments that made the targeting of IP deficiencies systematic and politically salient. The National Trade Estimate Report on Foreign Trade Barriers (NTE) and the Special 301 process, mandated by the Acts, became the principal vehicles through which firms flagged weak IP rights protection. These mechanisms did not merely "collect views", but they routinized the flow of private information into public evaluation. The USTR issues calls for submissions, holds hearings, and builds country narratives from the materials firms and trade associations supply. In technical policy areas regarding IP-related practices, lobbying operates as a "legislative subsidy": organized interests provide expertise, monitoring, and staff work that lower officials' costs of formulating and defending positions, thereby structuring what is

observed and how it is characterized (Hall & Deardorff, 2006). The Special 301 process, launched in 1989, formalized this linkage by naming countries with inadequate IP rights protection and exposing them to bilateral pressure, e.g., placement on the Watch List, or to threats of sanctions, including potential withdrawal of GSP benefits (Drahos & Braithwaite, 2002). In effect, the Trade Act and its reporting machinery turned corporate grievances into actionable trade priorities and laid the groundwork for multilateral enforcement through TRIPS.

The expansion of US intellectual property policy rested on the interaction between these institutional tools and sustained pressure from IP-intensive firms. Corporations in pharmaceuticals, software, chemicals, and entertainment consistently framed weak foreign IP regimes as trade barriers and competitiveness threats, advancing their preferences through corporate submissions, industry reports, and advisory committee processes throughout the late 1970s and 1980s. As documented by Sell (2003) and Drahos and Braithwaite (2002), these firms coordinated to shape US negotiating positions, leveraging informational advantages and concentrated expertise to influence agenda-setting and drafting within the USTR. Sell and Prakash (2004) further show how business networks strategically deployed normative frameworks that framed maximalist IP protection as synonymous with innovation and development, embedding these frames into trade policy institutions. The result was a trade policy orientation that treated stronger and more enforceable IP rights as a core commercial objective well before the Uruguay Round. TRIPS thus emerged not as the full realization of these preferences, but as a multilateral compromise that established enforceable minimum standards while leaving more expansive protections to be pursued through subsequent bilateral and regional agreements. It is well documented by Fink and Reichenmiller (2006) and Morin and Surbeck (2020) that all US preferential trade agreements (PTAs) after 1999 have incorporated provisions exceeding baseline TRIPS.

The legal instruments later grouped under the label "TRIPS-plus" specify how stronger protection was operationalized after TRIPS, particularly in US PTAs. These include, as Fink and Reichenmiller (2006) note, data exclusivity regimes that bar generic manufacturers from relying on originator clinical test data for a fixed period, patent term extensions to compensate for regulatory or marketing approval delays, tighter constraints on compulsory licensing relative to the flexibilities

preserved under TRIPS Article 31, and narrower exceptions, such as limits on experimental use or parallel importation. While these mechanisms were not uniformly articulated in standardized form prior to the Uruguay Round, they can be understood as subsequent legal codifications of a broader, long-standing push by IP-intensive firms for more expansive and secure rights than those ultimately embedded in TRIPS.

Seen against this backdrop, TRIPS itself is best understood as the product of compromise rather than corporate overreach. The agreement incorporated enforceable minimum standards, including patentability across all fields of technology, copyright terms aligned with Berne, and multilateral dispute settlement, but it conspicuously fell short of what US firms had sought. TRIPS omitted data exclusivity obligations, left patent term extensions optional, preserved broad flexibilities for compulsory licensing, and allowed transition periods for developing countries that diluted immediate commercial gains. The subsequent US turn to TRIPS-plus provisions in PTAs can thus be read as an effort to recapture protections that were bargained away during multilateral negotiations to secure consensus. In this sense, TRIPS functioned as a politically feasible equilibrium between US corporate preferences and resistance from developing countries, rather than as their full realization.

The NTE reports and Special 301 designations that emerged from this institutional architecture are fundamentally subjective instruments shaped by the informational economy of US trade enforcement. Several features of the process underscore this point. First, the evidentiary basis of country-level assessments is dominated by organized private stakeholders. Each annual cycle begins with USTR soliciting written submissions from industry groups, and country chapters are constructed largely from the legal provisions, cases, and enforcement episodes that firms supply. The statutory advisory committee architecture established by the Trade Act of 1974 reinforces this channel of influence. The Advisory Committee for Trade Policy and Negotiations (ACTPN) and the Industry Trade Advisory Committee for Intellectual Property Rights (formally ITAC-13, now ITAC on Intellectual Property Rights) are composed predominantly of representatives from pharmaceutical, biotechnology, software, entertainment, and agrochemical firms and their trade associations, and they provide formal advice to USTR on IP negotiating positions and on the con-

tent of USTR's trade barrier reporting. The International Intellectual Property Alliance (IIPA) has filed detailed country reports with explicit Watch List placement recommendations for over thirty consecutive years. Palmedo (2020) documents that between 2009 and 2020, USTR included between 75% and 100% of the countries that the Pharmaceutical Research and Manufacturers of America (PhRMA) had specifically prioritized in its submissions each year. This pattern holds even as USTR reduced the total number of listed countries over time, suggesting that responsiveness to industry-specific listing requests remained consistently high.

Second, the criteria governing Watch List placements are neither transparent nor objectively benchmarked. Drahos and Braithwaite (2002) argue that the entire Special 301 apparatus "emerged, not from careful economic analysis, but from the rent-seeking desires of multinationals that saw opportunities for themselves in redefining and globalizing intellectual property rights." Foreign practices and policies do not have to contravene any existing trade agreement with the United States to be found "unreasonable" under the Special 301 standard, which is set unilaterally rather than against TRIPS compliance or any comparable metric. This means that countries can be penalized for exercising TRIPS-compliant flexibilities. Thailand's experience in 2007 illustrates this dynamic. After issuing compulsory licenses for two antiretroviral drugs and one cardiovascular medication, all lawful under TRIPS Article 31, Thailand was elevated to the Priority Watch List. The elevation prompted a bipartisan letter from 35 members of the US Congress to USTR, arguing that the designation amounted to retaliation against legitimate public health measures. Similar patterns are observable in other cases, as every major pharmaceutical compulsory license or compulsory licensing policy between 2009 and 2013 was referenced in the Special 301 Report, yet some countries, such as Brazil and Ecuador, were not mentioned for comparable actions during the same period, pointing to political selectivity rather than consistent application of IP standards.

Third, these limitations are compounded by the coarseness of the conventional measurement framework. The Special 301 process compresses enormous variation in IP regimes into at most three ordinal categories: Priority Foreign Country, Priority Watch List, and Watch List. A country with one narrow patent concern receives the same designation as a country with systemic enforcement failures. Alternative indices do not resolve this problem. The Ginarte-Park Index

(Ginarte & Park, 1997; Park, 2008) provides a continuous scale across five dimensions of patent protection, but it measures only law on the books rather than law in practice, and neither it nor any other existing measure captures the evaluative stance embedded in the language of the NTE reports themselves.

The subjectivity documented above, combined with the measurement limitations of existing approaches, motivates the continuous proxy I construct directly from the NTE texts. Because the proxy is built from the same documents that USTR uses to justify Watch List decisions, it preserves the fine-grained variation in how USTR characterizes each country's IP environment, variation that categorical designations collapse. It also captures the tone and emphasis of assessments rather than formal legal provisions alone, which is important precisely because these texts reflect the subjective priorities of the corporate stakeholders who supply the evidentiary material.

These IP evaluations from USTR matter because they authorize pressure and structure subsequent bargaining. For emerging economies, adopting TRIPS-plus rules entails visible domestic costs, e.g., higher pharmaceutical prices, constrained policy space for technology acquisition, and stricter enforcement against local producers, which mobilize opposition. Empirical work shows that harmonization at high standards reallocates rents toward originators in advanced economies and can slow catch-up in late developers (Glass & Wu, 2007; McCalman, 2001). Politically, these changes mobilize coalitions that bear concentrated costs, including domestic producers facing new liability, health ministries facing budget pressure, and civil society contesting access, so governments need offsetting benefits to assemble winning coalitions for ratification and implementation (Shadlen, 2005). Power asymmetries in PTA bargaining further sharpen this dynamic: the side with greater innovative capacity and market leverage is better placed to insert deep IP chapters, which magnifies domestic adjustment costs on the weaker side (Dür & Mödlhamer, 2022).

Compensation is therefore routine in bargains over deep provisions. Baccini and Urpelainen (2014) explain that leaders in developing countries are more likely to implement deep integration when it comes with material benefits that help ease the domestic political costs. Preferential market access is commonly offered, as it is particularly an important economic opportunity for smaller markets as the large market can easily shift the terms of trade in smaller economies by

granting preferential access to one over the other (Bagwell & Staiger, 2002). For more immediate resources, donors use financial side payments to underwrite reforms, such as aid to ease fiscal and political adjustment, technical assistance to implement new rules, and multilateral finance to move resources at arm's length when bilateral transfers are politically constrained. Bearce and Tirone (2010) find that foreign aid is positively correlated with economic reforms, especially when donors can impose credible threats of curtailing aid commitments against recipients if promised reforms are not delivered on time. Moreover, Baccini and Urpelainen (2012) demonstrate that donor states use foreign aid as a side payment to facilitate the formation of preferential trade agreements with developing countries, especially when these agreements require significant domestic reform or trigger opposition. This strategic use of aid aligns closely with the logic of TRIPS-plus agreements, where stringent intellectual property standards imposed by developed countries may be offset by economic incentives designed to appease reluctant partners.

This compensation logic has two linked steps that the hypotheses below trace in turn. Donor-side political feasibility determines which instrument the United States can deploy for a given regime type, so the choice of aid or IFC lending is assigned by the recipient's domestic institutions. The instrument that is feasible then carries the compensatory effect, raising the number of TRIPS-plus provisions a partner accepts as US IP pressure intensifies. The argument is therefore not only about which type of compensation the United States selects for each regime. It is also about how that selected instrument becomes the one that moves TRIPS-plus commitments under pressure, while the instrument assigned to the other regime type stays inert. Which instrument is feasible depends on the donor-side politics each channel faces at home, and the two hypotheses below take up each regime in turn, beginning with bilateral aid in democracies.

The implementation of US foreign aid is not without domestic constraints. Bilateral aid is appropriated through Congress and explained to domestic audiences in the language of development, governance, and humanitarian purpose. It is easier to defend when recipients are democratic and when appropriators want visible alignment between dollars and norms (Carter & Stone, 2015). Divided government narrows executive discretion further and tightens legislative control over strategic allocation (Kersting & Kilby, 2021). When a democratic partner sits under a negative US IP

evaluation, which is equivalent to high corporate pressure for TRIPS-plus compliance, an increase in US aid is expected to be the compensatory move that offsets reform costs abroad while remaining sustainable in Congress.

Hypothesis 1: Among democracies subject to negative US IP evaluations, increases in US bilateral aid raise the number of TRIPS-plus provisions included in their PTAs with the United States.

Autocracies pose a different domestic constraint on the donor side. Transfers to authoritarian governments are difficult to legitimize in Congress and attract reputational costs (Carter & Stone, 2015). When foreign aid is a less feasible option due to political considerations, the US government may turn to multilateral development banks to pursue its foreign policy objectives. Kersting and Kilby (2021) show that when the executive branch is blocked by congressional opposition under divided government, it chooses multilateral lending through international finance institutions (IFIs) such as the World Bank. Unlike foreign aid, multilateral lending is less subject to congressional scrutiny, and donor governments can exert influence indirectly through executive boards. Kilby (2013) provides compelling evidence that World Bank lending patterns respond to US strategic interests, with allies of the United States, defined by alignment in United Nations General Assembly (UNGA) voting, receiving loan disbursements faster than others. Similarly, Kersting and Kilby (2016) find that countries voting in alignment with the United States at the UNGA receive increased World Bank loans, reinforcing the argument that US foreign policy preferences are embedded within multilateral finance.

Studies have focused on modes of multilateral lending that closely align with the purposes of official development assistance (ODA) as defined by the Development Assistance Committee (DAC) under the Organisation for Economic Cooperation and Development (OECD), e.g., concessional loans and grants from International Development Association (IDA) and International Bank for Reconstruction and Development (IBRD), when it comes to exploring alternatives for bilateral aid. While these IFI concessional loans are not as bounded by domestic political constraints of donor states as bilateral aid, they may still not be free from reputational costs if development standards are visibly bent in favor of donor strategic interests (Malik & Stone, 2018; Stone, 2011). In

other words, IDA/IBRD loans do serve as an alternative for bilateral aid, but the extent to which they must adhere to the missions of the Bank may hinder the full potential of carefree deployment of these loans whenever strategically desired by donors.

Hence, I focus specifically on the International Finance Corporation (IFC), which is the private sector financing arm of the World Bank Group, as it is the multilateral instrument that most closely matches the mechanism at stake and is subject to the least domestic scrutiny in the United States. IFC operations are framed as commercial investments, approved through board procedures that attract limited congressional attention, yet they remain responsive to shareholder preferences at the margin (Dreher, Lang, & Richert, 2019; Dreher, Sturm, & Vreeland, 2009). By contrast, the Bank's sovereign loans through IBRD and IDA are explicitly developmental, tightly bound to safeguards and ex-post evaluation, and, especially for IDA, embedded in highly visible replenishment cycles that invite donor and parliamentary oversight. When allocations to non-democracies appear to serve strategic aims, the reputational and political costs are higher and discretion is narrower. If donors shift sensitive transfers from bilateral to multilateral channels to minimize domestic costs, then IFC is the relevant compensatory margin in autocracies, as it delivers resources in a commercially legible form while keeping US political exposure low.

Hypothesis 2: Among autocracies subject to negative US IP evaluations, increases in IFC lending to the recipient's private sector raise the number of TRIPS-plus provisions included in their PTAs with the United States.

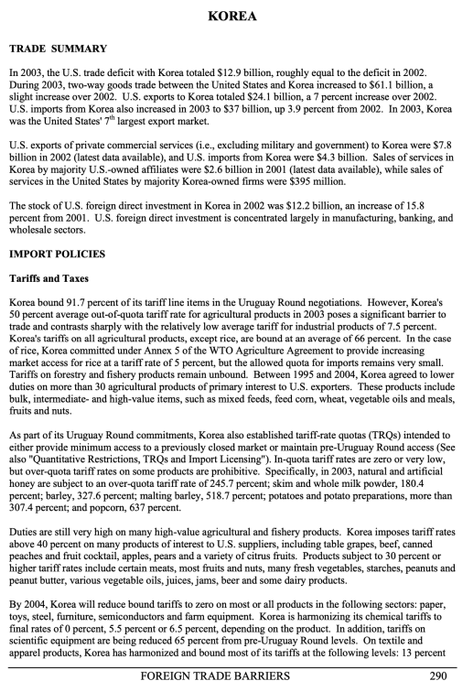
3 Data

I collect the whole text of NTE reports from 1995 to 2022, harnessing the Optical Character Recognition (OCR) method for PDF files available in Python. While the reports date back to 1986, the Wayback Machine[1] provides access to the outdated versions of USTR's websites starting from 1995. This leaves in hand 28 years of data in total.

The structure of NTE reports is quite resilient over time and across different administra-

[1] https://web.archive.org

tions, which is evident in Figures 1 and 2. Each chapter of the reports is dedicated to a country of importance, and main issue areas are categorized into multiple sections followed by sub-issue areas for each country. Among the issue areas that appear persistently across years of reports are "import barriers", "export subsidies", "IP rights protection", and "government procurement" [2].



KOREA

TRADE SUMMARY

In 2003, the U.S. trade deficit with Korea totaled $12.9 billion, roughly equal to the deficit in 2002. During 2003, two-way goods trade between the United States and Korea increased to $61.1 billion, a slight increase over 2002. U.S. exports to Korea totaled $24.1 billion, a 7 percent increase over 2002. U.S. imports from Korea also increased in 2003 to $37 billion, up 3.9 percent from 2002. In 2003, Korea was the United States' 7th largest export market.

U.S. exports of private commercial services (i.e., excluding military and government) to Korea were $7.8 billion in 2002 (latest data available), and U.S. imports from Korea were $4.3 billion. Sales of services in Korea by majority U.S.-owned affiliates were $2.6 billion in 2001 (latest data available), while sales of services in the United States by majority Korea-owned firms were $395 million.

The stock of U.S. foreign direct investment in Korea in 2002 was $12.2 billion, an increase of 15.8 percent from 2001. U.S. foreign direct investment is concentrated largely in manufacturing, banking, and wholesale sectors.

IMPORT POLICIES

Tariffs and Taxes

Korea bound 91.7 percent of its tariff line items in the Uruguay Round negotiations. However, Korea's 50 percent average out-of-quota tariff rate for agricultural products in 2003 poses a significant barrier to trade and contrasts sharply with the relatively low average tariff for industrial products of 7.5 percent. Korea's tariffs on all agricultural products, except rice, are bound at an average of 66 percent. In the case of rice, Korea committed under Annex 5 of the WTO Agriculture Agreement to provide increasing market access for rice at a tariff rate of 5 percent, but the allowed quota for imports remains very small. Tariffs on forestry and fishery products remain unbound. Between 1995 and 2004, Korea agreed to lower duties on more than 30 agricultural products of primary interest to U.S. exporters. These products include bulk, intermediate- and high-value items, such as mixed feeds, feed corn, wheat, vegetable oils and meals, fruits and nuts.

As part of its Uruguay Round commitments, Korea also established tariff-rate quotas (TRQs) intended to either provide minimum access to a previously closed market or maintain pre-Uruguay Round access (See also "Quantitative Restrictions, TRQs and Import Licensing"). In-quota tariff rates are zero or very low, but over-quota tariff rates on some products are prohibitive. Specifically, in 2003, natural and artificial honey are subject to an over-quota tariff rate of 245.7 percent; skim and whole milk powder, 180.4 percent; barley, 327.6 percent; malting barley, 518.7 percent; potatoes and potato preparations, more than 307.4 percent; and popcorn, 637 percent.

Duties are still very high on many high-value agricultural and fishery products. Korea imposes tariff rates above 40 percent on many products of interest to U.S. suppliers, including table grapes, beef, canned peaches and fruit cocktail, apples, pears and a variety of citrus fruits. Products subject to 30 percent or higher tariff rates include certain meats, most fruits and nuts, many fresh vegetables, starches, peanuts and peanut butter, various vegetable oils, juices, jams, beer and some dairy products.

By 2004, Korea will reduce bound tariffs to zero on most or all products in the following sectors: paper, toys, steel, furniture, semiconductors and farm equipment. Korea is harmonizing its chemical tariffs to final rates of 0 percent, 5.5 percent or 6.5 percent, depending on the product. In addition, tariffs on scientific equipment are being reduced 65 percent from pre-Uruguay Round levels. On textile and apparel products, Korea has harmonized and bound most of its tariffs at the following levels: 13 percent

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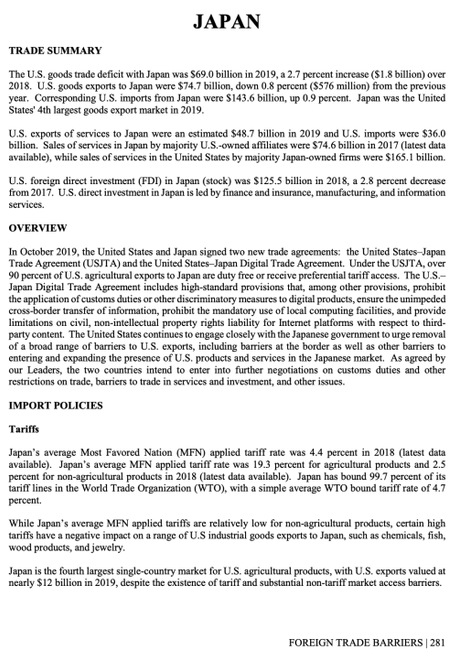
Figure 1: Chapter about Korea in 2004 NTE report



JAPAN

TRADE SUMMARY

The U.S. goods trade deficit with Japan was $69.0 billion in 2019, a 2.7 percent increase ($1.8 billion) over 2018. U.S. goods exports to Japan were $74.7 billion, down 0.8 percent ($576 million) from the previous year. Corresponding U.S. imports from Japan were $143.6 billion, up 0.9 percent. Japan was the United States' 4th largest goods export market in 2019.

U.S. exports of services to Japan were an estimated $48.7 billion in 2019 and U.S. imports were $36.0 billion. Sales of services in Japan by majority U.S.-owned affiliates were $74.6 billion in 2017 (latest data available), while sales of services in the United States by majority Japan-owned firms were $165.1 billion.

U.S. foreign direct investment (FDI) in Japan (stock) was $125.5 billion in 2018, a 2.8 percent decrease from 2017. U.S. direct investment in Japan is led by finance and insurance, manufacturing, and information services.

OVERVIEW

In October 2019, the United States and Japan signed two new trade agreements: the United States–Japan Trade Agreement (USJTA) and the United States–Japan Digital Trade Agreement. Under the USJTA, over 90 percent of U.S. agricultural exports to Japan are duty free or receive preferential tariff access. The U.S.–Japan Digital Trade Agreement includes high-standard provisions that, among other provisions, prohibit the application of customs duties or other discriminatory measures to digital products, ensure the unimpeded cross-border transfer of information, prohibit the mandatory use of local computing facilities, and provide limitations on civil, non-intellectual property rights liability for Internet platforms with respect to third-party content. The United States continues to engage closely with the Japanese government to urge removal of a broad range of barriers to U.S. exports, including barriers at the border as well as other barriers to entering and expanding the presence of U.S. products and services in the Japanese market. As agreed by our Leaders, the two countries intend to enter into further negotiations on customs duties and other restrictions on trade, barriers to trade in services and investment, and other issues.

IMPORT POLICIES

Tariffs

Japan's average Most Favored Nation (MFN) applied tariff rate was 4.4 percent in 2018 (latest data available). Japan's average MFN applied tariff rate was 19.3 percent for agricultural products and 2.5 percent for non-agricultural products in 2018 (latest data available). Japan has bound 99.7 percent of its tariff lines in the World Trade Organization (WTO), with a simple average WTO bound tariff rate of 4.7 percent.

While Japan's average MFN applied tariffs are relatively low for non-agricultural products, certain high tariffs have a negative impact on a range of U.S industrial goods exports to Japan, such as chemicals, fish, wood products, and jewelry.

Japan is the fourth largest single-country market for U.S. agricultural products, with U.S. exports valued at nearly $12 billion in 2019, despite the existence of tariff and substantial non-tariff market access barriers.

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Figure 2: Chapter about Japan in 2020 NTE report

There are roughly 60-80 countries listed every year in the report, each of which may appear in a persistent manner or appear for a certain period of time and subsequently not be included. I keep track of the appearance of a country in each year with "country" and "year" variables. The bodies of text are accumulated at country-year-issue area level. Within the scope of this paper, I am interested only in the paragraphs corresponding to the IP rights protection part, which contains detailed descriptions of a country's IP rights protection status generally perceived by US firms. I utilize the whole corpus of 1,434 texts to build a direct proxy for evaluations of IP rights protection environment vis-à-vis emerging economies by US corporate elites engaging in business with them. Among various text-as-data techniques, I rely on stance detection rather than

[2] I reorganized the main issue categories into 15 most frequently appearing areas of concerns: Import Policies; Export Subsidies; Standards, Labeling and Certification; Government Procurement; Intellectual Property Rights; Services Barriers; Investment Barriers; Anti-competitive Practices; Technical Barriers to Trade (TBT); Sanitary and Phytosanitary Barriers (SPS); E-commerce; Barriers to Digital Trade; Agriculture; Trade Remedies; and Other Barriers. This categorization is reflected in the replication data available through the original R package `nteText`, which can be downloaded from the GitHub repository (https://github.com/jacqpark/nteText).

sentiment analysis because my goal is to capture an evaluation expressed in formal government documents, which rarely convey strong sentiments yet do communicate support or opposition to specific propositions. By focusing on whether a text expresses support, opposition, or neutrality, stance detection precisely pinpoints authors' evaluations, which sentiment analysis alone cannot achieve (Burnham, 2024).

Following recommendations from Burnham (2024), I utilize DeBERTa-v3-large introduced by Laurer, Van Atteveldt, Casas, and Welbers (2024) to construct a country-year proxy of US evaluations of partners' IP regimes. The measure is a continuous stance score scaled from -5 to +5, where lower values denote more negative assessments and higher values more positive assessments. This provides an intuitive, single-number summary of a country's IP regime perceived by US corporate elites. All the technical details of how the DeBERTa model generates the scores are provided in the Appendix.

DeBERTa-v3-large is preferable to other open-source alternatives for the stance detection task. While larger generative models such as LLaMA and open-weight GPT variants offer broad language capabilities, they are designed for autoregressive text generation rather than calibrated classification. Stance detection is fundamentally a natural language inference problem, and DeBERTa's encoder architecture with NLI-specific pretraining yields higher accuracy and label efficiency in few-shot settings than generative models repurposed for classification through prompting (Burnham, 2024; Laurer et al., 2024). Generative models also carry substantial computational overhead: even the smallest LLaMA variants require several times the GPU memory of DeBERTa-v3-large during inference. DeBERTa's smaller footprint makes it feasible to fine-tune, validate through cross-validation, and deploy on standard academic hardware. Additionally, DeBERTa produces deterministic outputs with fully transparent weights, training data, and hyperparameters, whereas many open-weight generative models are distributed without full documentation of their pretraining corpora, which complicates scholarly replication. Taken together, task-specific architecture, computational efficiency, and replicability make DeBERTa-v3-large the appropriate choice for constructing the IP evaluation proxy used in the analysis.

The dependent variable in the main analysis counts how many TRIPS-plus clauses are

included in a PTA that an emerging economy signs with the United States. I obtain this variable from the TRIPS-plus data introduced by Morin and Surbeck (2020). The DESTA-based TRIPS-plus coding covers a wide range of categories, including copyrights, trademarks, geographical indications, and plant varieties, but I focus on three outcome variables that correspond to the dimensions of IP deepening most tightly aligned with the compensation mechanism under study: undisclosed information protections, patent provisions, and enforcement mechanisms. Each records the number of TRIPS-plus clauses within its respective subdimension that a bilateral PTA with the United States contains. Higher values therefore denote greater number of TRIPS-plus commitments of the relevant type. Patents and undisclosed information (test data exclusivity and trade secret protection) are the provisions that most directly govern pharmaceutical and agrochemical rents and generic-entry barriers, and they are consistently the top priorities in industry submissions from PhRMA and the IIPA that drive USTR's country assessments (Drahos & Braithwaite, 2002; Palmedo, 2020). Enforcement provisions capture the procedural teeth, such as border measures, criminal liability, and damages regimes, that determine whether substantive IP chapters bind in practice, and they represent the area in which TRIPS-plus PTAs go furthest beyond TRIPS Part III (Fink & Reichenmiller, 2006). The remaining DESTA categories either reflect dimensions in which US lobbying pressure is comparatively muted (e.g. geographical indications, which are primarily an EU priority) or exhibit limited cross-country variation within the emerging economy sample, offering little purchase for the interaction design. The key explanatory variables are the DeBERTa score, interacted with either US aid obligations or IFC lending amounts, depending on the hypothesis being tested.

The US aid obligations data come from the total ODA amounts reported by the US Agency for International Development (USAID) via the ForeignAssistance.gov database. IFC lending data are sourced from the IFC Investment Services Projects dataset hosted by the World Bank Group[3]. Regime type data are obtained from the WhoGov (Nyrup & Bramwell, 2020) dataset. The model also includes a set of covariates: GDP, GDP per capita, and GDP growth rate from the World Bank's World Development Indicators (World Bank, 2024) to control for economic size and conditions. I control for logged US imports and exports from each country sourced from Statis-

[3] https://financesone.worldbank.org/ifc-investment-services-projects/DS00499

tics Department, International Monetary Fund (2021) to capture bilateral economic ties. Bilateral investment treaty (BIT) status with the United States and the number of investor-state dispute settlement (ISDS) lawsuits from the Investment Dispute Settlement Database (UNCTAD, n.d.) proxy for deeper economic integration and historical investment disputes. UNGA voting distance (Bailey & Voeten, 2018) captures political alignment between the two parties. All key explanatory variables are lagged by one year.

Table 1: Descriptive statistics: democracy subsample ($N = 739$)

	Mean	SD	Min	Max
TRIPS-plus: undisclosed info	0.660	1.355	0	6
TRIPS-plus: patents	1.330	2.297	0	6
TRIPS-plus: enforcement	4.480	7.716	0	21
DeBERTa score$_{t-1}$	−0.055	1.736	−5.000	4.474
US aid obligations$_{t-1}$ (logged)	17.67	3.951	−18.07	22.56
UNGA distance	2.806	0.725	0.107	4.790
GDP per capita (logged)	9.426	0.681	7.894	10.88
GDP (logged)	26.54	1.391	23.62	30.14
GDP growth (%)	3.720	4.179	−28.76	22.96
US import (logged)	22.15	1.724	17.41	26.84
US export (logged)	22.00	1.520	17.10	26.51
BIT status	0.493	0.500	0	1
ISDS occurrences	0.085	0.392	0	6

Table 2: Descriptive statistics: non-democracy subsample ($N = 376$)

	Mean	SD	Min	Max
TRIPS-plus: undisclosed info	0.527	1.500	0	6
TRIPS-plus: patents	0.662	1.734	0	6
TRIPS-plus: enforcement	2.503	6.533	0	21
DeBERTa score$_{t-1}$	0.743	1.841	−3.750	4.534
IFC loan amount$_{t-1}$ (logged)	10.44	8.848	0	20.76
UNGA distance	3.318	0.441	1.953	4.646
GDP per capita (logged)	9.357	1.024	6.679	11.80
GDP (logged)	26.63	1.656	22.26	31.04
GDP growth (%)	4.501	4.061	−17.00	14.16
US import (logged)	21.65	2.386	16.12	27.01
US export (logged)	21.15	2.163	14.08	25.76
BIT status	0.250	0.434	0	1
ISDS occurrences	0.024	0.153	0	1

4 Empirical Findings

4.1 Aid or Lending?

I now turn to examining the strategic alternation between US aid giving and IFC lending, focusing on how the choice of these financial instruments interacts with a country's IP evaluation and regime type. The following set of analyses seeks to uncover whether such substitutive strategies are part of a coordinated effort by the United States to persuade emerging economies under high IP pressure to sign TRIPS-plus agreements. By emerging economies, I refer to states that were not members of the OECD before the organization's enlargement to South Korea, Mexico, and Central Europe that took place in 1990.

I focus particularly on exploring the effect of a declining DeBERTa score because large markets, by their very nature, attract a greater volume of business activities and, consequently, more scrutiny from US elite firms operating there. In these markets, the increasing presence of firms intensifies attention to any perceived regulatory shortcomings or inefficiencies in IP enforcement. A lower DeBERTa score thus reflects heightened concerns, serving as a signal that the market is experiencing greater pressure from corporate stakeholders. Furthermore, the United States has compelling strategic reasons to compensate emerging economies of large market size when they sign TRIPS-plus agreements, despite negative assessment of their current IP regime: large markets remain vital for US corporate interests and economic influence, and providing financial support helps offset short-term regulatory and market risks that might otherwise deter investment. Such compensation can serve as an incentive mechanism, encouraging emerging economies to implement TRIPS-plus standards that ultimately benefit both their domestic environments and US investors by fostering stronger IP rights protection.

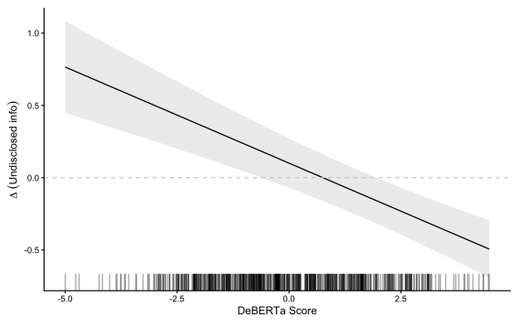
The analysis examines the joint effect of IP evaluation and US aid obligations on the number of TRIPS-plus clauses contained in a country's bilateral PTA with the United States. In this model, the dependent variables are the three counts of TRIPS-plus clauses as introduced in the preceding section, namely undisclosed information protections, patent provisions, and enforcement mechanisms, each measuring how many such clauses appear in a country's bilateral PTA with the

United States. The key explanatory variable is the interaction between the DeBERTa score and US aid obligations. The analysis is estimated on the democracy subsample, as the theory predicts that bilateral aid is the compensatory instrument politically feasible for democratic recipients. The model also includes covariates for GDP, GDP per capita, GDP growth rate, logged US imports and exports, BIT status, ISDS lawsuits, and UNGA voting distance (Bailey & Voeten, 2018) between the ideal points of an emerging economy and the United States. The empirical strategy uses OLS regressions with year fixed effects (YFE) to absorb common global shocks while identifying the key interaction from cross-country variation in donor engagement conditional on IP evaluation. Standard errors are clustered at the country level.

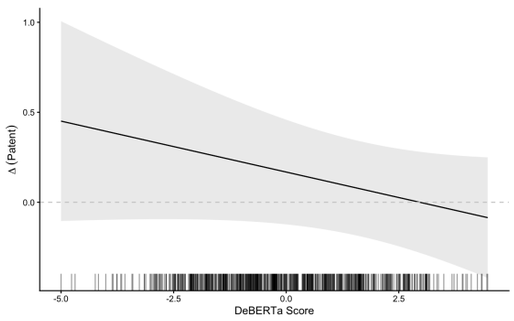
Columns 1 through 3 of Table A.2 present the results for three distinct TRIPS-plus outcome dimensions among democracies: undisclosed information protections (column 1), patent provisions (column 2), and enforcement mechanisms (column 3). Across all three specifications, the interaction between the DeBERTa score and US aid is negative and statistically significant. This implies that as a country's IP evaluation deteriorates (lower DeBERTa score), an increase in US aid is associated with a larger number of TRIPS-plus clauses in the country's PTA with the United States. In other words, aid matters most for democracies that are under the most IP-related pressure, consistent with the logic that bilateral assistance compensates for the domestic costs of accepting a larger set of TRIPS-plus obligations. The DeBERTa score itself is positive and significant across all three models, indicating that democracies with more favorable IP evaluations generally sign PTAs containing more TRIPS-plus clauses. The presence of a bilateral investment treaty with the United States is also a strong and consistent predictor of TRIPS-plus volume.

Figure 3 visualizes the marginal effects of a one standard deviation increase in US aid obligations on the number of clauses within each TRIPS-plus subdimension, conditional on the DeBERTa score. Because aid enters the model in $\ln(1 + \text{USD})$ form, one standard deviation in the democracy subsample is approximately 4.0 log points, corresponding to a shift from the median level of aid (roughly $47 million) to the scale of the largest recipients (over $2 billion). The black-colored rug plot on the x-axis marks the distribution of observations across the range of DeBERTa scores in the democracy estimation sample. Across all three panels, the pattern is consistent: for

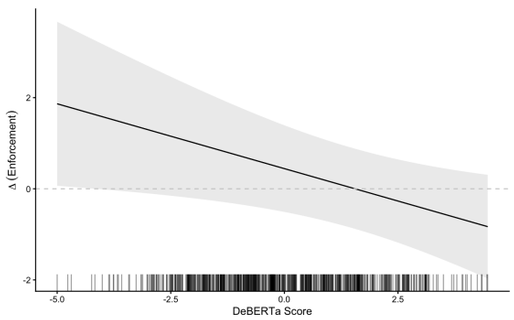
democracies with negative DeBERTa scores, a standard-deviation increase in US aid is associated with a significant increase in the number of TRIPS-plus clauses that appear in the country's PTA. As the DeBERTa score increases (i.e., IP evaluations become more positive), the marginal effect of aid declines and eventually turns negative. In substantive terms, the effect sizes are considerable. For a democracy at a DeBERTa score of -2, roughly one standard deviation below the subsample mean, a one standard deviation increase in aid is associated with approximately 0.4 additional undisclosed information clauses and 0.9 additional enforcement clauses, corresponding to roughly 60% and 20% of their respective subsample means. The effect is largest for the enforcement count (panel c) and smallest for the patent count (panel b), where confidence intervals are wider. These patterns support the theoretical expectation that US bilateral aid functions as a compensatory instrument for democracies facing significant IP-related pressure.



(a) Undisclosed info



(b) Patents

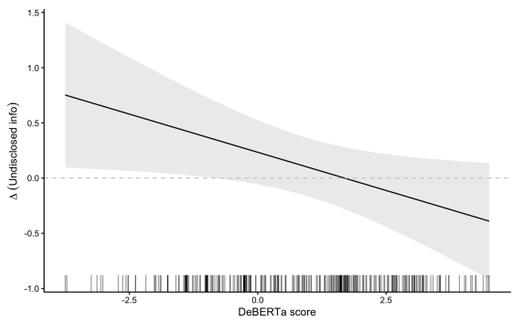


(c) Enforcement

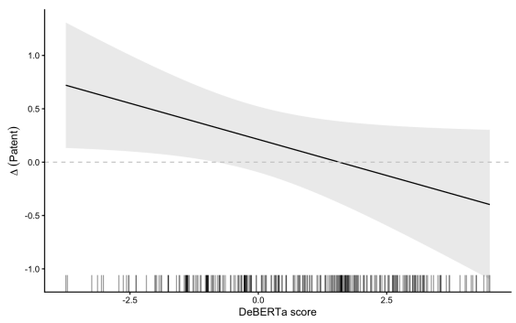
Figure 3: Marginal effect of a one SD increase in US aid obligations on the number of TRIPS-plus clauses in a country's PTA, conditional on DeBERTa score (democracy subsample). Shaded regions indicate confidence intervals. Rug plots show the distribution of the DeBERTa score.

I next examine IFC lending to autocracies. Columns 4 through 6 of Table A.2 present the results for the same three TRIPS-plus outcome dimensions, estimated on the non-democracy subsample. The interaction between the DeBERTa score and IFC lending is negative across all specifications, consistent with the theoretical expectation that IFC lending is more consequential

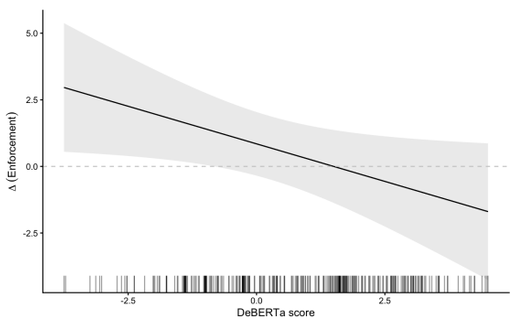
when IP-related pressure is high. The interactions for undisclosed information and enforcement are marginally significant at the 10 percent level, while the patent interaction is indistinguishable from zero. This uneven statistical sharpness is expected given the smaller non-democracy sample (314 observations, well under half the democracy sample) and the high variance in IFC lending across autocracies (SD $\approx$ 8.8 log points), where many country-years receive no IFC investment at all while the median recipient receives roughly \$60 million. The direction of the coefficients aligns with Hypothesis 2 across all three outcomes, and the marginal-effect plots developed below in Figure 4 provide the more informative read of the substantive pattern.



(a) Undisclosed info



(b) Patents



(c) Enforcement

Figure 4: Marginal effect of a one SD increase in IFC lending on the number of TRIPS-plus clauses in a country's PTA, conditional on DeBERTa score (non-democracy subsample). Shaded regions indicate confidence intervals. Rug plots show the distribution of the DeBERTa score.

A one standard deviation increase in IFC lending (approximately 8.8 log points in the non-democracy subsample) produces a positive effect on the number of TRIPS-plus clauses at low DeBERTa scores, precisely where the theory predicts the compensatory mechanism should operate. For autocracies with DeBERTa scores near -2, a region that corresponds to countries under the most negative IP evaluations, a one standard deviation increase in IFC lending is associated with roughly 0.6 additional undisclosed information clauses, 0.5 additional patent clauses, and 1.8 additional enforcement clauses in the country's PTA. The non-democracy subsample means for

undisclosed information, patents, and enforcement are 0.53, 0.66, and 2.50, so these magnitudes are sizable fractions of the observed counts on each dimension. The confidence intervals exclude zero in this low-score region for all three dependent variables. As the DeBERTa score rises, the marginal effect diminishes toward zero and eventually turns negative, confirming that IFC lending matters primarily when IP-related pressure is high. The overall pattern across all three outcomes is directionally consistent with Hypothesis 2 and relevant in the theoretically important range of the DeBERTa score distribution.

The YFE-only specification reported in Table A.2 identifies the interaction coefficients from cross-country variation in donor engagement, conditional on year fixed effects and the full covariate set. Because the theoretical mechanism under test, the strategic US choice of compensation instrument as a function of recipient regime type, is fundamentally a between-country comparison, this identifying variation matches the estimand more closely than a two-way fixed effects design that restricts attention to within-country year-over-year deviations. The Appendix reports two alternative specifications of the same channel analyses for transparency (Tables A.3 and A.4). The first adds country fixed effects to the main design. The second is a Mundlak decomposition (Mundlak, 1978) that includes both the country-mean of the key regressor and its within-country deviation, each interacted with the DeBERTa score, so that the between-country and within-country components can be read off the same regression. The Mundlak decomposition makes explicit that the interaction signal is carried almost entirely by cross-country variation, with the between-country coefficient substantively large and highly significant for undisclosed information in the democracy subsample, while the within-country coefficient is indistinguishable from zero. The two-way fixed effects table shows the same interaction signs across outcomes, with the undisclosed information signal surviving clearly in the democracy subsample and the patent and enforcement signals attenuating toward zero under the more demanding within-country identification. Taken together, these alternative specifications corroborate the main finding that the compensation mechanism operates principally in the cross-section of country-level donor engagement rather than in year-to-year adjustments.

4.2 Robustness Checks

4.2.1 Democracy-autocracy placebo tests

If the compensatory mechanism operates through regime-specific channels as theorized, then the wrong instrument should produce null effects on the wrong regime type. I test this by estimating the aid model on the non-democracy subsample and the IFC model on the democracy subsample.

Table 3: Placebo tests: cross-subsample regressions

	Aid × Non-democracy			IFC × Democracy		
	(1) Undiscl. info	(2) Patents	(3) Enforcement	(4) Undiscl. info	(5) Patents	(6) Enforcement
DeBERTa score$_{t-1}$	0.883*	0.480	2.363	0.256*	0.191	0.885+
	(0.373)	(0.503)	(1.851)	(0.095)	(0.120)	(0.444)
US aid$_{t-1}$	−0.002	−0.037	−0.107			
	(0.049)	(0.065)	(0.234)			
IFC loan$_{t-1}$				−0.013*	0.008	−0.004
				(0.006)	(0.014)	(0.043)
DeBERTa$_{t-1}$ × US aid$_{t-1}$	−0.047+	−0.020	−0.110			
	(0.023)	(0.033)	(0.118)			
DeBERTa$_{t-1}$ × IFC loan$_{t-1}$				−0.011*	−0.000	−0.018
				(0.005)	(0.007)	(0.025)
Controls	✓	✓	✓	✓	✓	✓
Country FE	–	–	–	–	–	–
Year FE	✓	✓	✓	✓	✓	✓
N	350	350	350	707	707	707
R^2	0.439	0.382	0.410	0.411	0.427	0.438
Within R^2	0.355	0.325	0.348	0.307	0.338	0.345

Standard errors clustered at country level in parentheses
*Signif. Codes: **: 0.01, *: 0.05, +: 0.1*

Table 3 presents the placebo results under the YFE-only specification used throughout the preceding analyses. In the non-democracy subsample (columns 1 through 3), the interaction between the DeBERTa score and US aid is negative and marginally significant at the 10 percent level for undisclosed information, while the interactions for patents and enforcement preserve direction but are indistinguishable from zero. Read as a placebo, this asymmetry is theoretically informative about the structure of industry priorities. Undisclosed information protections correspond most directly to pharmaceutical test data exclusivity, which ranks as the single most intense priority in the industry's TRIPS-plus agenda, above patent term extension and enforcement. Test data exclusivity creates a regulatory market exclusivity that runs independently of patent status and

blocks generic entry even on off-patent molecules, and it has therefore been a central object of pharmaceutical industry lobbying in US bilateral trade deals since the late 1990s (Correa, 2004; Drahos & Braithwaite, 2002; Fink & Reichenmiller, 2006; Palmedo, 2020; Sell, 2003; Smith, Correa, & Oh, 2009). Test data exclusivity is the provision whose expected payoff to US originators is largest, because it secures market exclusivity that patents alone cannot. That intensity gives the mechanism a sharp prediction. Where the expected payoff to securing a provision is high enough, the United States has reason to spend whatever compensation instrument is feasible for the partner in front of it. It need not confine each instrument to the regime type to which the theory otherwise assigns it. On an autocratic partner under rising pharma-priority pressure, this implies stacking bilateral aid on top of the IFC lending that the regime type would dictate. The aid-channel placebo therefore breaks precisely on the dimension that carries the industry's most intense priority. On patents and enforcement, where the priority intensity is lower and the payoff to overriding the regime assignment is correspondingly smaller, the congressional-constraint mechanism of Carter and Stone (2015) governs, and the placebo interactions attenuate toward null.

In the democracy subsample (columns 4 through 6), the interaction between the DeBERTa score and IFC lending is negative and significant at the 5 percent level for undisclosed information, and indistinguishable from zero for patents and enforcement. The pattern mirrors the non-democracy side of the table and reinforces the pharma-priority reading of the stacking result. On undisclosed information, the dimension where pharmaceutical industry pressure is at its most intense, both the aid placebo in autocracies and the IFC placebo in democracies turn on. On patents and enforcement, the dimensions where the industry's priority intensity is lower, the placebo interactions attenuate toward zero in both subsamples. The pattern therefore suggests that the regime type channel assignment holds more cleanly on the patent and enforcement dimensions than on undisclosed information, where the intensity of the pharmaceutical industry's priority pushes the United States to deploy whatever instruments are available to each regime type. This reading does carry a cost in interpretive caution. The undisclosed information dimension cannot, on its own, separate the two regime channels, so the cleanest evidence for the regime type assignment comes from the patent and enforcement dimensions. The undisclosed information results are best understood as the dimension where the compensation payoff is large enough to override that

assignment.

4.2.2 Heckman selection model

A potential concern is that the results may be driven by selection into US preferential trade agreements. Countries that sign PTAs with the United States are a non-random subset of developing economies, and the factors that predict PTA formation may also correlate with the volume of TRIPS-plus clauses in the resulting agreements. To address this, I estimate a two-step Heckman selection model. The selection equation models whether a country has a US PTA in force or under potential negotiation, following the mapping of PTA negotiations by Konken (2022). This broader operationalization captures the selection process more accurately, as countries may adjust their IP commitments during negotiations that do not ultimately result in a signed agreement. The exclusion restriction is the log of geographic distance from the United States, sourced from the CEPII GeoDist database (Mayer & Zignago, 2011), which is a strong predictor of PTA formation through gravity-based trade logic but should not directly determine the volume of TRIPS-plus provisions conditional on entering the PTA pipeline.

The Heckman specification reduces the set of control variables to GDP, logged US imports and exports, UNGA voting distance, BIT status, and GDP growth to ensure model parsimony and convergence. In lieu of year fixed effects, I include a strict divided government dummy to avoid the incidental parameter problem. Following Carter and Stone (2015) and Kersting and Kilby (2021), the indicator is coded one only when both chambers of Congress are simultaneously controlled by the party opposite to the sitting president, thereby isolating the political episodes (1995–2000, 2007–2008, and 2015–2016 in the sample) in which congressional constraints on executive discretion aid policy bind most tightly. The compensation mechanism argued in this paper is identified by the interaction terms between the DeBERTa score and each financial instrument, consistent with the main year fixed effects specifications.

Table 4 presents the results. The exclusion restriction performs as expected, with geographic distance from the United States a strong negative predictor of PTA formation in both subsamples. The inverse Mills ratio is negative and significant across all three outcomes in the

Table 4: Heckman selection model

	Aid × Democracy			IFC × Non-democracy		
	(1) Undiscl. info	(2) Patents	(3) Enforcement	(4) Undiscl. info	(5) Patents	(6) Enforcement
Selection equation						
log(distance)	−1.289**	−1.289**	−1.289**	−2.677**	−2.677**	−2.677**
	(0.225)	(0.225)	(0.225)	(0.490)	(0.490)	(0.490)
Outcome equation						
DeBERTa score$_{t-1}$	1.103*	−0.155	1.138	0.505*	0.363*	1.557*
	(0.458)	(0.520)	(1.907)	(0.239)	(0.176)	(0.742)
US aid$_{t-1}$	−0.032	−0.252**	−1.052**			
	(0.053)	(0.062)	(0.224)			
IFC loan$_{t-1}$				0.070+	0.045	0.196
				(0.042)	(0.031)	(0.131)
DeBERTa$_{t-1}$ × US aid$_{t-1}$	−0.061*	0.008	−0.065			
	(0.025)	(0.029)	(0.106)			
DeBERTa$_{t-1}$ × IFC loan$_{t-1}$				−0.036*	−0.033**	−0.135**
				(0.015)	(0.011)	(0.047)
Inverse Mills ratio	−0.641+	−3.313**	−9.143**	−0.290	−0.647	−1.545
	(0.359)	(0.427)	(1.535)	(0.725)	(0.555)	(2.273)
Controls	✓	✓	✓	✓	✓	✓
N	761	761	761	381	381	381
Censored	537	537	537	305	305	305
Observed	224	224	224	76	76	76
R^2	0.215	0.557	0.462	0.513	0.803	0.746

*Standard errors in parentheses. Controls: GDP, US imports and exports, UNGA distance, BIT status, GDP growth. Both equations include the full set of controls in estimation, but the coefficients are omitted in the table for better legibility. Signif. Codes: **: 0.01, *: 0.05, +: 0.1*

democracy subsample, which validates the Heckman correction there. In the non-democracy subsample, the inverse Mills ratios retain the same negative sign but are estimated imprecisely, signaling weaker selection bias among autocracies in the sample.

The compensation mechanism is identified by the interaction terms, which deliver supportive evidence on both sides of the regime type contrast. In the democracy subsample (columns 1–3), the interaction between the DeBERTa score and US aid is negative and significant for undisclosed information, the TRIPS-plus dimension most directly tied to pharmaceutical industry priorities and most heavily prioritized in USTR's country assessments (Drahos & Braithwaite, 2002; Palmedo, 2020). The interactions for patents and enforcement collapse toward zero. The most natural reading is that the aid-side compensation signal concentrates on the industry-priority dimension and does not spread evenly across all three TRIPS-plus categories. In the non-democracy subsample (columns 4–6), the interaction between the DeBERTa score and IFC lending is negative and statistically significant across all three outcomes, providing uniformly supportive evidence for H2 on the pharmaceutical-priority, patent, and enforcement dimensions alike.

This split follows the same priority intensity logic developed in the placebo analysis. The two results therefore rest on a single mechanism. The placebo activation on undisclosed information and the concentrated Heckman signal on the same dimension are two expressions of that one priority intensity logic. The aid-side compensation signal in democracies concentrates on undisclosed information, the dimension that carries the pharmaceutical industry's most intense priority. That is the same dimension on which the regime type placebo could not cleanly separate the two instruments. The undisclosed information dimension therefore does double duty in the argument. It is where the compensation payoff is large enough both to draw in the wrong instrument under the placebo and to survive selection correction in the main channel. Honesty about the evidence requires stating the asymmetry plainly. The IFC-side evidence in autocracies is robust across all three dimensions, while the aid-side evidence in democracies stands on the undisclosed information dimension alone. The selection correction strengthens the autocracy side of the argument more than it strengthens the democracy side.

The level coefficients warrant a closer look because they behave differently under the Heckman specification than under the main year fixed effects table. In the main YFE estimates, neither the aid level nor the IFC level reaches conventional significance. Once selection into the PTA pipeline is modeled explicitly, both level effects become informative. For autocracies, the level coefficient on IFC lending is positive and marginally significant for undisclosed information. Among autocratic partners that have entered the US PTA negotiation pipeline, IFC lending and pharmaceutical-priority TRIPS-plus commitments rise together in the cross-section, consistent with IFC being the standing compensation vehicle for this regime type. For democracies, the level coefficient on US aid is negative and significant for patents and enforcement. This reversal relative to the main YFE specification is not a rejection of the compensation argument. US bilateral aid is allocated primarily through development and humanitarian criteria largely unrelated to IP pressure. Absent corporate pressure on IP, countries that are more likely to sign TRIPS-plus agreements with the United States are usually large economies among developing countries that receive relatively less aid than their counterparts, which is what the negative level coefficient records. The compensation logic surfaces through the interaction term, which remains negative and significant for undisclosed information in the democracy subsample. Read jointly, the level and interaction estimates are

mutually reinforcing. The levels describe the baseline cross-sectional standing of each instrument within the selected PTA sample, and the interactions pin down the conditional reallocation that the compensation argument predicts.

5 Conclusion

This paper bridges two strands of literature, the domestic political origins of US trade enforcement and the geopolitical deployment of aid and lending, to examine how the United States promotes TRIPS-plus intellectual property commitments in emerging economies by strategically deploying development finance in ways conditioned by recipient regime type and domestic political constraints. The Trade Act of 1974 and its amendments in 1984 and 1988 established mechanisms, such as Special 301 process, that enabled US firms to channel IP-related grievances into formal trade policy. These mechanisms helped convert firm-level preferences into systemic international pressure. At the same time, because TRIPS-plus provisions impose high adjustment costs on developing countries, the United States has used foreign aid and multilateral lending strategically to compensate for those burdens.

To systematically capture IP-related pressure from US corporate elites, I introduced a novel text-based proxy derived from 28 years of NTE reports and constructed using the latest large language model, DeBERTa-v3-large, which demonstrates high performance in stance detection. The continuous measure I construct offers meaningful advantages over conventional reliance on Watch List categories, which collapse fine-grained variation in IP evaluations into at most three ordinal bins. In the main analyses using the IP evaluation score as an explanatory variable, I find that under high IP reform pressure from the United States, democratic regimes sign PTAs containing a larger number of TRIPS-plus clauses when they receive increased bilateral aid, whereas autocracies, where aid is more politically sensitive, incorporate more TRIPS-plus clauses into their PTAs as IFC lending to the private sector increases. The regime type placebo tests support the channel assignment more cleanly on the patent and enforcement dimensions, where the pharmaceutical industry's priority intensity is lower than on the undisclosed information dimension. On

the undisclosed information dimension, which tracks the industry's single most intense priority, both placebos activate, albeit with differing levels of statistical significance. In the placebo tests, increases in IFC lending to democracies and increases in US aid to autocracies are each associated with additional TRIPS-plus clauses on that dimension, with the aid effect in autocracies reaching only marginal significance. The pattern indicates that the United States appears willing to deploy both compensation instruments on the dimension where the industry's priority is most intense, while the regime-conditioned assignment holds on the patent and enforcement dimensions. The Heckman selection correction is consistent with this reading without endorsing it wholesale. It strengthens the autocracy side of the argument, where the IFC interaction survives selection correction across all three dimensions. The democracy side concentrates on the undisclosed information dimension, the same high-intensity priority on which the placebo cannot fully separate the channels, and it should be read with that caution in view.

Together, the findings illuminate a broader logic of strategic development finance underpinning US efforts to globalize its intellectual property regime. They suggest a framework in which the US choice of development instruments reflects both the political constraints of the donor and the institutional characteristics of the recipient. This study contributes to our understanding of how private interests shape specific terms of trade agreements and the essential role that development finance institutions play during the process.

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