Mergers and the Demand for Protectionism

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Abstract

When import competition is strong, domestic mergers can strengthen the incentives to seek trade protection. However, merger control treats rivals' production location as irrelevant. While intense foreign competition may support merger clearance under current practice, existing enforcement does not consider how mergers alter the merging parties' incentives to petition for tariffs. I develop a model to quantify how mergers affect the merging firms' demand for tariffs. I show that mergers between domestic producers increase their incentive to petition for tariffs and can generate merger-induced consumer harm through the trade-policy channel, whereas cross-border mergers are unlikely to have this effect. I apply the framework to the Whirlpool–Maytag merger in the U.S. washer market and show that the merger substantially amplified the profitability of tariffs for Whirlpool, resulting in consumer harm via the trade-policy channel that is comparable in magnitude to the direct harm from increased market power.

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1 Introduction

To maintain the focus of antitrust law on consumer welfare and isolate it from trade policy considerations, the United States has kept a strict separation between trade and antitrust law (Bradford and Chilton, 2021). Falling trade costs have intensified foreign competition for domestic incumbents in most countries, changing the environment in which merger decisions are made. In such settings, trade liberalization and antitrust can act as substitutes (Neven and Seabright, 1997). At the same time, recent evidence finds that consolidation increases lobbying (Cowgill, Prat, and Valletti, 2024; Moshary and Slattery, 2024). Greater domestic consolidation could therefore raise the demand for protectionism.

Antidumping (AD) and countervailing duties (CVD) are the most commonly used U.S. trade remedies. Petitions are typically filed by domestic producers and are often favored for their predictability and low political involvement (Liu, 2026). The Department of Commerce's International Trade Administration (ITA) determines whether imports are sold at *less than fair value* or are subsidized and calculates the tariff rate, while the U.S. International Trade Commission (USITC) determines whether the domestic industry is *materially injured* by those imports (Casey, 2020). These mandates can sit uneasily with the competition authority's consumer-welfare standard.[1] As a result, more permissive merger control in response to foreign competition can raise the expected profitability of AD/CVD petitions for domestic incumbents and, unintentionally, harm consumers.

This paper studies how merger control affects domestic incumbents' incentives to petition for tariffs. I specify a three-stage model to study how mergers between domestic producers and cross-border mergers differently affect the incentives to petition for trade protection. In stage one, the competition authority adjudicates a horizontal merger involving a domestic incumbent that faces foreign competition. In stage two, conditional on the competition authority's decision, the incumbent chooses among lowering marginal costs via offshoring, raising foreign rivals' costs by petitioning for tariffs, or doing nothing. Stage three embeds a differentiated-demand, oligopolistic-supply model in which firms set prices and consumers choose products.

Using a stylized third stage, I show theoretically that a merger between domestic producers harms consumers above-and-beyond the direct market-power effects through a

[1] Recognizing this tension, in 2022 the U.S. Senate Subcommittee on Competition Policy, Antitrust, and Consumer Rights asked the U.S. Government Accountability Office to review AD/CVD processes and domestic market competition considerations, particularly focusing on "how aspects of market competition factor into the AD/CVD process" (U.S. Government Accountability Office, 2022).

trade-policy channel. This channel consists of an increase in the incentives to petition for tariffs and increased consumer harm from a given tariff after the merger. The incentive to petition for tariffs strictly increases after a domestic merger if the alternative is keeping status-quo production locations. This stems from the *appropriation effect* (the domestic acquirer internalizes the benefits of tariffs to the domestic target) and the *strategic effect* (a merger-induced increase in profitability from tariffs to the merging parties joint profits). If the alternative to petitioning is lowering marginal costs through offshoring, the appropriation effect remains strictly positive, while the strategic effect becomes unsigned.

For cross-border mergers, I find that in many instances the post-merger internalization of the negative effect of a tariff on the foreign target decreases the incumbent's incentive to petition for tariffs. Since the exact effect is highly parameter dependent, cross-border mergers do not yield robust, signable comparative statics in closed form.

I apply this framework to the EU and U.S. household appliance industries, which saw substantial entry by Asian manufacturers in the 2000s. The Whirlpool–Maytag merger (U.S., 2006) and subsequent trade actions illustrate the tension between the competition authority and the ITA/USITC. In clearing the merger, the Department of Justice argued that, despite high market shares, post-merger price increases were unlikely because "LG, Samsung, and other foreign manufacturers could increase their imports into the U.S." (Department of Justice, 2006). Import competition was therefore expected to be sufficient to prevent consumer harm from the merger. In 2011, Whirlpool filed AD/CVD petitions on bottom-mount refrigerator-freezers and, most prominently, large residential washers (LRW) from Korea and Mexico. The ITA/USITC subsequently found positive dumping margins for LRW imports and established that this led to market share losses by domestic incumbents, as well as preventing them to raise prices. AD/CVD orders followed and tariffs were imposed.

To motivate the empirical analysis, I document how industry structure relates to incumbents' responses to import competition. The strongest predictor of whether a domestic incumbent seeks trade protection is not product-market concentration but whether there are two or fewer domestic producers.

Next, I quantify the trade-policy channel of the domestic merger between Whirlpool and Maytag in the U.S. washing machine industry in the context of my three-stage model. For the third stage, I specify and estimate the parameters of a rich model of demand and supply following Montag (2025). This allows me to quantify the appropriation and strategic effects of the domestic merger under different counterfactual production location scenarios. For reference, I also quantify how a hypothetical alternative cross-border merger between Whirlpool and LG changes the profitability of petitioning for tariffs.

The simulations show that when penetration by foreign rivals is modest, the domestic

merger does not significantly raise the expected payoff from tariffs relative to offshoring. As import shares grow, however, the domestic merger substantially increases the profitability of tariffs compared with the available alternatives, implying a higher propensity to file. I show that while the merger-induced strategic effect significantly increases the profitability of tariffs, the increase in profitability that stems from the appropriation effect is an order of magnitude larger. Furthermore, I find that the harm to consumers from tariffs is large and that conditional on tariffs being imposed, the merger amplifies this harm by more than 10 percent. Taken together with the static market power related price effects estimated in Montag (2025), the additional harm operating through the trade-protection channel is of a comparable order of magnitude, underscoring the importance of accounting for this channel in merger control.

Finally, I find that a cross-border merger between Whirlpool and LG makes it less profitable for Whirlpool to petition for trade protection than in the absence of a merger. Whereas mergers between domestic producers can lead to consumer harm above-and-beyond the direct market-power effects through a trade-policy channel, cross-border mergers are more likely to reduce the propensity of the domestic incumbent to petition for tariffs.

This paper relates to several strands of the literature. It contributes to work on market structure and lobbying. Classic political-economy models predict that organized sectors obtain protection (Grossman and Helpman, 1994; Goldberg and Maggi, 1999), and firm size predicts participation and intensity (Bombardini, 2008). Kang (2016) finds that while lobbying has a small effect on policy enactment, the returns to lobbying are high. Recent evidence indicates that consolidation raises lobbying across industries (Cowgill, Prat, and Valletti, 2024) and within industries (Moshary and Slattery, 2024). I add three points. First, horizontal mergers are associated with increases in AD/CVD petitions, which are relatively insulated from direct political bargaining and present a different choice set for incumbents: respond to import competition by petitioning for tariffs or by offshoring production.[2] Second, when imports can subsequently be restricted through trade remedies, merger control should weight constraints from domestic rivals and from imports differently. Third, in the model and empirics I distinguish between the appropriation (or collective-action) channel emphasized by Moshary and Slattery (2024) and the strategic channel.

The paper contributes to a literature on how AD/CVD cases can raise market power (Nieberding, 1999; Konings and Vandenbussche, 2005; Pierce, 2011; Rovegno, 2013) and facilitate collusion (Staiger and Wolak, 1989). The mechanism in this work is that because dumping margins depend on foreign pricing, the option value of a petition can induce higher

[2]Igami (2018) studies the relationship between import competition and offshoring in the Hard Disk Drive Industry, showing that offshoring is pro-competitive and benefits consumers.

foreign prices even before a case is filed. Blonigen et al. (2013) find that binding quotas increased market power in the U.S. steel industry, whereas tariffs did not, which is consistent with strong domestic competition from minimill producers disciplining outcomes. I show that when the number of domestic competitors is small, tariffs can generate substantial consumer harm. The focus here is less on how protection changes competition and more on how mergers alter both the likelihood and harm from tariffs.

The paper adds to research on merger control and trade protection in the U.S. household appliance industry. Montag (2025) and Ashenfelter, Hosken, and Weinberg (2013) document sizable price increases and consumer harm from the Whirlpool–Maytag merger. Flaaen, Hortaçsu, and Tintelnot (2020) show that earlier AD/CVD actions on large residential washers primarily induced tariff jumping by LG and Samsung, whereas the 2018 global safeguards raised U.S. washer prices by nearly 12 percent. I link the merger decision to subsequent trade actions and provide a quantitative framework that allows competition authorities to assess how a merger changes the profitability of tariffs for the merging parties and the resulting consumer harm.

Finally, the paper relates to a literature on optimal merger policy. Nocke and Whinston (2022) show that current concentration thresholds in merger control are too lax in the absence of large efficiency gains. Bhattacharya, Illanes, and Stillerman (2023) combine price estimates from a large number of U.S. consumer packaged-goods mergers with a model of enforcement practice and conclude that competition authorities effectively only challenge mergers with expected price increases above 5 percent. Breinlich, Nocke, and Schutz (2018) study optimal merger policy for international mergers in settings where multiple national agencies can block a transaction across jurisdictions.[3] I contribute to this literature by highlighting a non-market effect operating through trade policy: mergers change the merging parties' incentives to seek trade protection, which ultimately affects consumers.

The results have direct policy implications. In a globalized setting, the effects of trade and antitrust law are inextricably connected, so merger control can shape incentives to seek protection from imports and thereby affect consumers. Mergers that leave one or two domestic producers facing strong import competition should be viewed more critically than cross-border mergers. For example, although Draghi (2024) has prompted calls to relax EU merger control to enable scale, the results here caution against leniency toward mergers among domestic incumbents.[4] Cross-border consolidation can deliver scale economies

[3]Horn and Levinsohn (2001) and De Stefano and Rysman (2010) develop models in which a country chooses the level of domestic concentration through merger policy and show that when firms are exporters, national authorities may prefer a level of concentration that is excessive from a global perspective.

[4]Even before Draghi (2024), France and Germany urged approval of a merger to create a "European champion" in rail equipment to counter CRRC; the European Commission nonetheless blocked Siemens/Alstom.

without increasing the incumbents' returns to tariff petitions.

The remainder is structured as follows: Section 2 reviews measures to protect against import competition, Section 3 specifies the model, Section 4 describes the appliance industry and provides descriptive evidence, Section 5 details the empirical model and estimation, Section 6 presents the parameter estimates, Section 7 contains the counterfactual simulations, and Section 8 concludes.

2 Protective Measures Against Trade

In the United States, the vast majority of trade remedies used to shield domestic industries from import competition consist of AD/CVD measures, global safeguards (GS), Section 232 actions (national security–based trade measures), and Section 301 actions (retaliatory trade measures) (Liu, 2026).[5]

Although in 2022 AD/CVD measures resulted in tariffs covering only $37.4 billion of imports, they accounted for 97 percent of all trade actions initiated between 2002 and 2024 (Liu, 2026). Unlike Section 232 and Section 301 cases, which are typically initiated by the government, AD/CVD and GS cases almost always originate from a petition filed by a domestic stakeholder. Moreover, whereas Section 232 and Section 301 actions are not grounded in World Trade Organization (WTO) authorized procedures, the criteria and procedures for AD/CVD and GS cases are codified in WTO agreements.[6] Based on interviews with practitioners, Liu (2026) reports that AD/CVD petitions remain the first tool of choice for domestic producers seeking protection from import competition.

AD duties are imposed on imports that are determined to be sold at less than fair value and that materially injure a domestic industry. This typically refers to a situation in which a firm sells a product at a lower price in a foreign market than in its domestic market (Blonigen and Prusa, 2016). If the importer's domestic market is deemed unsuitable for comparison, its sales price in a third country may be used instead. Since products destined for domestic and export markets often differ, defining the foreign-like product affords the Department of Commerce considerable leeway in AD cases. An alternative standard used in many AD cases is sales below cost. Although allocating fixed costs to products is notoriously difficult and that standard economic theory shows that firms may rationally sell below average total cost (but above average variable cost), a price below average total cost is considered dumping.[7]

[5]In 2025, the first tariffs based on the International Emergency Economic Powers Act (IEEPA) were imposed. At the time of writing, the question of whether these actions exceed the President's authority has not yet been decided by the Supreme Court (Liu, 2026).

[6]While the discussion below focuses on the United States, more than 120 countries have AD/CVD laws.

[7]Blonigen and Prusa (2016) explain that although the U.S. Antidumping Act of 1916 was originally

While the USITC may solicit downstream purchaser information during its investigations, AD/CVD laws do not allow the USITC to consider the economic effects of importers' behavior on downstream purchasers or on the national interest (U.S. Government Accountability Office, 2022). In practice, this means that as long as an importer is found to sell the product at less than fair value and to materially injure a domestic producer, the USITC cannot take into account any potential harm that AD/CVD duties may impose on downstream industries or consumers when making its determination. This constraint lies at the core of the tension between trade law and competition law. While federal agencies, including the DOJ and the Federal Trade Commission (FTC), can submit statements of interest in AD/CVD cases, the DOJ has only done this once and quickly withdrawn its statement thereafter and no other federal agency has done so in the last decades (U.S. Government Accountability Office, 2022).

There are several reasons for the popularity of AD as a tool for domestic petitioners. First, AD is a particularly effective instrument against import competition because it disincentivizes importers from competing aggressively: the lower the importer's price, the more likely a domestic rival can establish that it is sold at less than fair value. However, since the tariff rate increases with the importer's productivity, Ruhl (2014) shows that AD is particularly distortive. Second, investigations typically last no more than 12–15 months, and the clear criteria and quasi-judicial framework make them predictable and more insulated from political interference (Blonigen and Prusa, 2016). Third, while AD duties require periodic review, many remain in effect for decades.

CVD measures address cases in which imports are found to benefit from subsidies provided by a foreign government or public entity. As with AD, the imports must also materially injure, or threaten to materially injure, a domestic industry. Although the trade practices targeted by AD and CVD differ, the procedures and underlying concerns are often similar, and petitioners frequently seek protection under both measures simultaneously (Liu, 2026).

Unlike AD/CVD, global safeguards can be imposed on fairly traded imports from all countries if a domestic industry is found to be seriously injured by a surge in imports; they do not require evidence of dumping or foreign subsidization and are imposed at the discretion of the President for an initial duration of up to four years. They are therefore also more subject to the political process.

AD/CVD petitions occur frequently. According to data compiled by Bown et al. (2020), U.S. authorities initiated 747 AD, 453 CVD, and 15 GS investigations between 1980 and

designed to protect domestic producers from predatory pricing, the required predatory intent was soon dropped from the law, and it has since become an ordinary protection tool.

2024. Between 2011 and 2021, 74 percent of AD/CVD petitions resulted in AD/CVD orders (U.S. Government Accountability Office, 2022). At the same time, preparing a petition is costly, requiring legal counsel, expert economic analysis, and participation in administrative hearings. Practitioners interviewed by Liu (2026) estimate that the cost of a simple AD/CVD petition ranges between $1 million and $3 million, and can be substantially higher for more complex cases or for cases involving multiple products or origin countries.

Petitions for trade remedies are typically initiated by domestic firms or industry associations that claim injury from foreign competition. Liu (2026) reports that between 2002 and 2024, there were 789 petitioners for AD/CVD cases. Of these, 528 were unique petitioners. Fourteen petitioners were labor unions and 217 were trade associations or coalitions of individual companies, while the remaining 44 percent were individual domestic producers. In many cases, only a subset of domestic producers participate in an AD/CVD petition. Although 55 percent of petitioners are connected to the steel or chemicals industries, petitions arise in many tradable goods sectors.

While in theory any domestic producer may petition for trade remedies, in practice smaller producers often cannot meet the statutory industry-support thresholds required for filing and therefore cannot petition alone. A petition is deemed "on behalf of the industry" if its supporters account for at least 25% of total U.S. production of the domestic like product and more than 50% of the production of those expressing a view. When these thresholds are met, Commerce may initiate without polling producers, thereby reducing procedural frictions and the risk of standing challenges (United States Code, 2025b, 2025a; Code of Federal Regulations, 2025; U.S. International Trade Commission, 2015).

In summary, AD/CVD cases are pervasive across the economy. The administrative structure of the process makes petition success predictable, and success rates increase with the competitiveness of the importer. Petitions are costly and are often filed by a single domestic firm. Filing a petition therefore requires the petitioner to expect sufficiently large increases in profits to offset the cost of petitioning. These facts inform the modeling decisions throughout the rest of the paper.

3 Stylized Model

In the following, I specify a stylized model to illustrate the key forces that affect the interplay between mergers and the demand for protectionism.

3.1 Setup

Consider a market with three firms. Firm 1 is a domestically producing incumbent, firm 2 is a domestic acquisition target, and firm 3 is a foreign rival. Each firm produces a single, horizontally differentiated product and sells exclusively in the domestic market. Demand is generated by a unit mass of consumers with heterogeneous preferences drawn from the logit distribution.

Each consumer derives utility from purchasing a single product or an outside good. Products differ in their marginal cost of production and in product-specific deterministic utility δ_j. The utility that a representative consumer obtains from product $j \in \{1, 2, 3\}$ is

$$U_j = \delta_j - \alpha p_j + \varepsilon_j,$$

and from the outside option:

$$U_0 = \varepsilon_0,$$

where p_j denotes the price of product j, $\alpha > 0$ governs price sensitivity, and $\varepsilon_j, \varepsilon_0$ are i.i.d. Type I extreme value.

There is a single domestic marginal cost c_D and a single foreign marginal cost c_F, with $c_D > c_F$. Initially, firms 1 and 2 produce domestically at c_D, and firm 3 produces abroad at c_F. Relocation is a firm-level decision: firm f can relocate all of its production at a fixed cost $R_f > 0$ paid once per firm, independent of the number of products it operates. Assume R_2 is sufficiently high that firm 2 never relocates; R_1 is finite. If firm 1 acquires firm 2, it controls both products and may relocate any subset by paying R_1 once.

Firm 1 may petition for tariffs on all foreign-produced units at petitioning costs $L > 0$. If filed, the tariff is imposed with certainty. The level of the ad valorem tariff $\kappa > 0$ is exogenously determined by the trade commission and scales foreign marginal costs to $(1 + \kappa)c_F$.

3.2 Stage 1: merger control

The domestic incumbent (firm 1) proposes a horizontal merger; let $\mathcal{M}$ denote the proposed configuration. The competition authority (CA) applies a policy rule to decide whether to clear or challenge. The baseline is to clear whenever the predicted change in consumer surplus from unilateral market-power effects associated with $\mathcal{M}$, denoted $\Delta^{MP}CS(\mathcal{M})$, exceeds a policy threshold $\bar{\Delta}$:

$$\Delta^{MP}CS(\mathcal{M}) \;\geq\; \bar{\Delta}.$$

In settings where horizontal mergers can alter firms' demand for trade protection, and thus consumer surplus, there is an additional trade-policy channel of consumer surplus change associated with $\mathcal{M}$, denoted $\Delta^{TP}CS(\mathcal{M})$. If the CA evaluates mergers on consumer welfare regardless of channel, it should apply the threshold to the total effect, $\Delta^{MP}CS(\mathcal{M}) + \Delta^{TP}CS(\mathcal{M})$.

3.3 Stage 2: petitioning and offshoring

Following the merger control decision, firm 1 decides whether to offshore production, petition for tariffs, or maintain its current production structure without petitioning. It chooses the option that maximizes the difference between static profits in stage 3 and the fixed cost of relocating or petitioning in case it chooses either of these options. The decision is made simultaneously over petitioning and offshoring, but due to the cost structure and model assumptions, firm 1 will never optimally choose to do both.[8]

If the merger is cleared, firm 1 prices products 1 and 2 jointly and internalizes relocation and tariff effects across both products. If the merger is blocked, firm 2 remains a separate domestic single-product firm with cost c_D and never relocates (since R_2 is sufficiently high).

3.4 Stage 3: pricing and demand

In the third stage, firms simultaneously choose prices and consumers make purchase decisions.

Let $s_j(p)$ denote the logit market share of product j implied by the utility specification above; $s_0(p)$ is the outside share. Given realized marginal costs $c_j \in \{c_D, c_F, (1+\kappa)c_F\}$ from Stage 2, each firm f chooses prices to maximize $\sum_{j\in\mathcal{J}_f}(p_j - c_j)s_j(p)$, where $\mathcal{J}_f$ is the firm's product set. For a single-product firm j,

$$p_j = c_j + \frac{1}{\alpha(1-s_j)}.$$

If Firm 1 is multiproduct post-merger, prices solve the following system of first order conditions

$$p - c = \Big(\Omega \circ H(p)\Big)^{-1} s(p), \qquad H_{jk}(p) \equiv -\frac{\partial s_j}{\partial p_k} = \begin{cases} \alpha s_j(1-s_j), & j = k, \\ -\alpha s_j s_k, & j \neq k, \end{cases}$$

where Ω is the ownership matrix, with $\Omega_{jk} = 1$ if the same firm owns products j and k.

[8] If firm 1 producing abroad and also petitions for tariffs, it would be raising its own costs.

Consumer surplus changes from policies are measured by compensating variation:

$$\Delta CS = \frac{1}{\alpha}\Big[\log\left(1+\textstyle\sum_j \exp(\delta_j - \alpha p_j^{\text{after}})\right) - \log\left(1+\textstyle\sum_j \exp(\delta_j - \alpha p_j^{\text{before}})\right)\Big].$$

3.5 Mergers, offshoring, and trade protection

I now analyze the firms' strategic choices in light of the merger decision and the availability of trade policy instruments. I focus on how a merger between firms 1 and 2 affects firm 1's incentive to offshore production versus petitioning for trade protection, and how these choices interact with market structure and consumer welfare.

Let π_f^{off} denote firm f's variable profit when it offshores (pays R_1) and does not petition and Π_f^{off} its total profit; let $\pi_f^{\text{pet}}(\kappa)$ denote its variable profit when it petitions (pays L) and does not relocate and $\Pi_f^{\text{pet}}(\kappa)$ its total profit; and let π_f^{sq} denote the status quo (i.e., neither offshoring, nor petitioning) variable profit and Π_f^{sq} the total profit. When the merger is cleared, firm 1 owns products 1 and 2; when blocked, it owns only product 1.

Proposition 1. *Firm 1 prefers petitioning over offshoring iff $\kappa > \kappa^*$.*

A higher tariff raises foreign costs only, shifts shares toward firm 1, and increases its markups; offshoring leaves foreign costs unchanged and lowers firm 1's own costs. There is a unique κ^* at which firm 1 is indifferent, above which it petitions and below which it offshores.

To see how this threshold κ^* evolves with the competitiveness of the foreign rival, it is easiest to focus on a case where there is no firm 2 or product 2.

Proposition 2. *In a two-product reduction (eliminate firm 2 and product 2), the indifference cutoff $\kappa^*(\delta_3)$ has no fixed sign with respect to δ_3; it can increase or decrease with δ_3.*

As δ_3 rises, the foreign product becomes more appealing. The relative effect on firm 1's profits differs by regime: under petitioning, the tariff already handicaps the foreign rival, so additional appeal may translate weakly into lost profit for firm 1; under offshoring, firm 1's own cost advantage may insulate it better against a stronger rival. When petitioning insulates firm 1 more than offshoring, $\kappa^*(\delta_3)$ falls; when offshoring insulates more than petitioning, $\kappa^*(\delta_3)$ rises.[9]

To understand how a merger between domestic competitors 1 and 2 changes firm 1's incentive to petition for tariffs, I first compare its increase in profits from petitioning for a given κ to the status quo baseline.

[9]This is not true for any demand system. Under Constant Elasticity of Substitution (CES) demand, the price of firm 1 does not react to the quality of product 3 and so κ^* strictly increases in δ_3. While this gives a sharper prediction in this case, the lack of strategic complementarity is an undesirable property for merger analysis.

Proposition 3. *Let*

$$\Delta^{pet}_{1,\mathcal{M}} \equiv \Pi^{pet}_{\mathcal{M}} - \Pi^{sq}_{\mathcal{M}}, \qquad \Delta^{pet}_{1,\mathcal{S}} \equiv \Pi^{pet}_{1,\mathcal{S}} - \Pi^{sq}_{1,\mathcal{S}},$$

be firm 1's petitioning premium with and without the merger. Then the merger's impact admits the exact decomposition

$$\Delta^{pet}_{1,\mathcal{M}} - \Delta^{pet}_{1,\mathcal{S}} = \underbrace{\left(\pi^{pet}_{2,\mathcal{S}} - \pi^{sq}_{2,\mathcal{S}}\right)}_{\text{appropriation}} + \underbrace{\left[(\pi^{pet}_{\mathcal{M}} - \pi^{pet}_{1,\mathcal{S}} - \pi^{pet}_{2,\mathcal{S}}) - (\pi^{sq}_{\mathcal{M}} - \pi^{sq}_{1,\mathcal{S}} - \pi^{sq}_{2,\mathcal{S}})\right]}_{\text{strategic}}.$$

Since the appropriation and strategic effects are both strictly positive, the merger strictly increases firm 1's gains from tariffs.

The appropriation effect captures the fact that the merger solves a collective-action problem. Firm 1 can now appropriate the rents from petitioning that would otherwise accrue to firm 2. The strategic effect captures the merger-induced increase in profitability from petitioning above-and-beyond the appropriation effect.

While I rely on logit demand, the result that the merger increases firm 1's gains from tariffs is true under mild assumptions on demand (negative own-price effects, positive cross-price elasticities, and regularity conditions). In particular, while the strategic effect is zero under CES-MC, the appropriation effect and thus overall effect, remain positive.

Next, I analyze how a merger between 1 and 2 changes firm 1's incentive to petition for tariffs as compared to offshoring production.

Proposition 4. *Let*

$$\Delta^{pet}_{1,\mathcal{M}} \equiv \Pi^{pet}_{\mathcal{M}} - \Pi^{off}_{\mathcal{M}}, \qquad \Delta^{pet}_{1,\mathcal{S}} \equiv \Pi^{pet}_{1,\mathcal{S}} - \Pi^{off}_{1,\mathcal{S}},$$

be firm 1's petitioning premium with and without the merger. Then the merger's impact admits the exact decomposition

$$\Delta^{pet}_{1,\mathcal{M}} - \Delta^{pet}_{1,\mathcal{S}} = \underbrace{\left(\pi^{pet}_{2,\mathcal{S}} - \pi^{off}_{2,\mathcal{S}}\right)}_{\text{appropriation}} + \underbrace{\left[(\pi^{pet}_{\mathcal{M}} - \pi^{pet}_{1,\mathcal{S}} - \pi^{pet}_{2,\mathcal{S}}) - (\pi^{off}_{\mathcal{M}} - \pi^{off}_{1,\mathcal{S}} - \pi^{off}_{2,\mathcal{S}})\right]}_{\text{strategic}}.$$

The appropriation effect is strictly positive. The strategic effect can be positive or negative.

While the appropriation effect remains strictly positive in this case, the strategic effect from petitioning could be negative as compared to offshoring. This could be the case if κ is sufficiently low that it does not impose a sufficiently strong constraint on product 3 and at

the same time offshoring product 2 (only possible after the merger) is highly profitable. The direction of the overall effect of a domestic merger on the incentive to petition for tariffs vs. offshoring production can, therefore, change case-by-case.

Even if a merger makes petitioning relatively more attractive (i.e., decreases κ^*), firm 1 might not petition for tariffs post-merger. This is the case if the tariff rate κ, which firm 1 expects the trade commission to set in the event of a successful petition, is below the post-merger κ^*.

Finally, I consider how the consumer harm from a given tariff changes with a domestic merger.

Proposition 5. *The consumer harm from a given tariff κ can be smaller or greater with a domestic merger than without it.*

In the simple three-product logit model comparing the merger against the status quo production locations, a merger decreases the consumer harm from a given tariff if the pre-merger market share of product 3 is very large (in simulations, usually above 40 percent) and increases consumer harm from a given tariff otherwise. Therefore, in many instances, even if the likelihood of a given tariff being imposed is unaffected by the domestic merger, the consumer harm from it is higher with the merger than without it.

While the direction of the effect of a merger on the consumer harm of a given tariff is already parameter dependent when comparing the merger to status quo production locations, this is further complicated when the counterfactual is offshoring. Therefore, understanding whether a merger increases or decreases consumer harm from a particular merger requires estimating the structural parameters of the model and simulating the merger effects.

3.6 Foreign-rival response in a two-period model

A natural extension to the model is to add a second period ($t = 2$) in which the foreign rival can respond to the tariff by relocating production to the domestic market. Firm 1 maximizes the discounted sum of profits $\Pi_1 = \Pi_1^{t=1} + \beta\Pi_1^{t=2}$, where $\beta \in [0, 1]$.

In the first period, marginal costs are determined as in the static model. In the second period, if a tariff is in place, firm 3 may choose to pay a fixed cost R_3 to relocate. A necessary condition for firm 3 to relocate to D is that the tariff is sufficiently high such that $c_D < (1+\kappa)c_F$. In the following, I focus on the case where R_3 is sufficiently small, such that tariff jumping is the rational response for firm 3.

Proposition 6. *Tariff jumping strictly reduces the incentive to petition relative to offshoring. Petitioning can remain optimal even with perfect patience ($\beta = 1$) and certainty of tariff jumping in $t = 2$.*

This shows that while tariff jumping has a dampening effect on the incentives to petition for tariffs, the key tradeoff described in the previous propositions remain valid.

3.7 Discussion of cross-border mergers

The previous results highlighted how a merger between domestic producers can create demand for protectionist policies and magnify their harm to consumers. A natural question is whether cross-border mergers are inherently less harmful.

Suppose that there is a second foreign producer (firm 4) acquired by firm 1. The theoretical impact on petitioning incentives is ambiguous but suggests a countervailing force absent in domestic mergers.

First, consider the *appropriation effect*. In a domestic merger, the target is a beneficiary of protection; the merger allows firm 1 to internalize the positive externality of the tariff. In a cross-border merger, the target (firm 4) is a direct victim of the tariff. To avoid the tariff, the merged entity would have to relocate firm 4 to the domestic market, incurring fixed costs and permanently raising marginal costs from c_F to c_D. Thus, unlike the domestic case where the appropriation effect is strictly positive, here it represents a trade-off: firm 1 internalizes the benefit of handicapping rival firm 3 against the cost of handicapping (or relocating) its own affiliate firm 4.

Second, the *strategic effect* is similarly complicated by cross-border cannibalization. A tariff shifts market share from foreign to domestic products. For a cross-border entity, this policy-induced substitution is partly internal—shifting sales from its own foreign affiliate (product 4) to its domestic incumbent (product 1). Depending on the relative margins and the intensity of substitution between products 2, 3, and 4, this internalization can dampen the incentive to petition relative to a purely domestic firm that treats foreign market share purely as a competitive threat.

With four products, relocation margins on both sides of the border, and endogenous market shares, the relative profitability of petitioning versus maintaining status quo locations becomes heavily parameter-dependent. While the internalization of foreign losses suggests cross-border mergers may reduce the demand for protectionism, the net effect does not yield robust, signable comparative statics in closed form. To shed light on the relative strength of the different forces, I quantify the impact of cross-border mergers empirically in the simulations in Section 7.

4 Institutional Setting, Data, and Descriptive Evidence

To shed light on the interplay between mergers, concentration, and the demand for trade protection in a concrete example—and to illustrate how this concept could be operationalized in merger policy—I focus on the household appliance industry.

4.1 Household Appliance Industry

In the year 2000, the import share for most major appliances into the EU and U.S. was below 10 percent. By 2018, the import share was above 30 percent for most major appliances and closer to 50 percent for some, such as clothes washers, dryers or refrigerators.

European manufacturers such as BSH and Electrolux had established a presence in the U.S. by the 1990s, and U.S. firms like Whirlpool were similarly active in Europe. However, these firms produced locally rather than exporting across regions. The U.S. market saw new entry from LG and Samsung in the mid-2000s, and from Haier, which first attempted to acquire Maytag in 2005 and later entered successfully by acquiring GE Appliances in 2016. European markets experienced a similar pattern, with entry from Arçelik and Vestel (Turkey), followed by LG and Samsung (Korea), and later Haier and Hisense (China).

In 2006, Whirlpool, the leading U.S. appliance manufacturer, acquired Maytag, its main domestically producing rival. The main justification given by the Department of Justice in its merger clearance decision was that post-merger price increases were unlikely because foreign manufacturers posed a sufficiently large constraint on the merging parties (Department of Justice, 2006).

The rise in import share reflects both foreign entrants producing abroad and domestic incumbents shifting production overseas. Some incumbents offshore part of their previously domestic output; others relocate all of it.

Although product market concentration increased modestly across most markets, the key variation lies in the decline of major domestic producers. By 2015, the U.S. market for clothes washers and bottom-mount refrigerators had only two domestic producers remaining, compared to at least four domestic producers for EU washers or U.S. dishwashers. The markets with few domestic producers also correspond to the instances where Whirlpool filed for AD/CVD.

While the U.S. petition for bottom-mount refrigerators was ultimately unsuccessful,[10] large residential clothes washers (LRWs) were subject to multiple rounds of petitions for trade protection. An initial round of tariffs was imposed on imports from Korea and Mexico

[10] See U.S. International Trade Commission, Investigation Nos. 701-TA-477 and 731-TA-1180-1181, 2012.

in 2013, followed by a circumvention finding in 2016 targeting LRWs assembled in China, and culminating in a global safeguard in 2018 (Flaaen, Hortaçsu, and Tintelnot, 2020).

4.2 Data

The primary data source is the TraQline household survey, described in detail in Montag (2025). TraQline surveys approximately 600,000 U.S. households annually on major appliance purchases, including product characteristics, prices, second-choice brands, retailer, and household demographics. I observe survey responses for 2005–2015. The product scope includes refrigerators, dishwashers, clothes washers, dryers, and freestanding ranges. I define products as brand-retailer-characteristic combinations, using brand identity and retailer as proxies for unobserved differentiation.

For the descriptive analysis, I extend the market share series from TraQline until 2023, using the TraQline data provided via Dewey Data. This does not include non-price product characteristics other than brand and thus does not allow extending the structural analysis beyond 2015.

To measure product market concentration in the European washer industry, I use washing machine sales for most European countries between 2000 and 2018 from *Gesellschaft für Konsumforschung*.

To measure the number of major domestic producers by market and year, I combine data on production from Appliance Magazine, Euromonitor and hand-collected information on production locations between 2000 and 2023, whenever this information is available. For clothes washers sold in the U.S. for 2005–2015, I use hand-collected data on the production locations from Montag (2025).

Finally, I estimate the import share for every market and year using trade data from the USITC and COMTRADE.

4.3 Descriptive analysis

The stylized model in Section 3 suggests that mergers between domestic producers are particularly likely to lead to demand for trade protection. We should therefore expect petitions for trade protection in markets with few domestic producers.

To examine which market characteristics are associated with domestic producers petitioning for trade protection, I estimate a linear probability model at the market-year level for the household appliance industry. The dependent variable is an indicator for whether a petition for AD/CVD, or global safeguards was filed in a given market and year. The analysis is descriptive and does not claim to identify causal effects.

Table 1: Descriptive correlates of trade remedy petitions

	(1)	(2)	(3)	(4)	(5)	(6)
Import share	0.87***	0.95***	-1.02	-0.15	0.18	-0.08
	(0.22)	(0.33)	(1.55)	(0.24)	(0.18)	(1.66)
Market HHI	-2.65***	-5.15***	-6.29**	-0.01	-2.35	-0.95
	(1.12)	(1.73)	(2.35)	(0.45)	(1.49)	(2.33)
# of domestic producers	-0.05***	-0.12***	-0.18***			
	(0.01)	(0.03)	(0.07)			
$\mathbb{1}\{\#\text{ dom. prod.} > 2\}$				-0.74***	-0.68***	-0.61***
				(0.13)	(0.14)	(0.20)
Market FE	No	Yes	Yes	No	Yes	Yes
Year FE	No	No	Yes	No	No	Yes
Observations	72	72	72	72	72	72

Notes: Each column reports coefficients from a linear probability model at the market-year level. The outcome is an indicator for whether a trade remedy petition was filed. All specifications include the variables shown. Standard errors clustered at the market level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

The linear probability model relates petition incidence to three key market-level variables: the import share, the degree of domestic product market concentration, and the number of domestic producers. Specifically, I estimate the following specification:

$$\mathbb{1}\{\text{Petition}_{it}\} = \beta_1 \,\text{impshare}_{it} + \beta_2 \,\text{prodmkthhi}_{it} + \beta_3 \,\text{nrdomprod}_{it} + \delta_i + \gamma_t + \varepsilon_{it},$$

where i indexes product markets and t denotes years. The model includes market fixed effects δ_i and year fixed effects γ_t.

The outcome $\mathbb{1}\{\text{Petition}_{it}\}$ is an indicator for whether a trade remedy petition was filed in market i in year t. The variable impshare_{it} measures the import penetration in the market, prodmkthhi_{it} is the Herfindahl-Hirschman Index based on each producers' (foreign and domestic) sales share in the domestic market, and nrdomprod_{it} is the number of domestic producers.

The data spans the years 2000 through 2023 and include five product markets: U.S. clothes washers, U.S. clothes dryers, U.S. dishwashers, U.S. bottom-mount refrigerators, and EU clothes washers. Each of these markets is observed at annual frequency, however, data is not available for all product markets in all years, resulting in an unbalanced sample.

The descriptive results in Table 1 indicate that higher product market concentration, as measured by the product market HHI, is not positively associated with petition filing. If anything, the association is negative and statistically significant in most specifications.

In contrast, the number of domestic producers is strongly and negatively associated with the likelihood of a petition. In particular, markets with two or fewer domestic producers are substantially more likely to see a filing. This pattern may reflect that petitions typically arise only after most domestic competitors have already exited. Alternatively, it may indicate that petitioners expect greater benefit from trade protection when fewer domestic firms remain to share the resulting market expansion. The following sections evaluate this second channel quantitatively in the case of the U.S. clothes washer market.

5 Empirical Model and Estimation

The stylized model in Section 3 showed that to understand whether a merger harms consumers through the trade-policy channel requires estimating the merging parties' variable profits with and without the merger and with and without the imposition of tariffs. To estimate these objects, I specify a rich model of demand and supply tailored to the U.S. washer market since this is where my empirical application is situated.[11] However, the model could easily nest a different demand and supply model.

5.1 Consumer Demand

Let utility for household i from purchasing product j be:

$$u_{ijt} \;=\; x_{jt}\beta \;+\; \sigma^{\text{FL}}\nu_i^{\text{FL}}x_{jt}^{\text{FL}} \;-\; \alpha_i\, p_{jt} \;+\; \xi_{jt} \;+\; \varepsilon_{ijt}, \qquad \alpha_i \equiv \exp(\alpha + \kappa_\alpha \iota_i),$$

where x_{jt} is a vector of observed non-price characteristics, x_{jt}^{FL} is a front-loader indicator interacted with a random taste draw $\nu_i^{\text{FL}} \sim \mathcal{N}(0,1)$, ι_i is income, and ε_{ijt} is an idiosyncratic shock drawn from a Type I Extreme Value distribution.

The utility of the outside good is normalized to zero. Consumers choose to purchase a single product or the outside good. They choose to purchase the product (or outside good) that gives them the highest utility, given the preferences and characteristics of the household and the characteristics of the products.

Given the distributional assumptions, the market share of product j is

$$s_{jt}(\mathbf{p}) \;=\; \int \frac{\exp\Big(\delta_{jt} + \mu_{ijt}\Big)}{1 + \sum_{k\in J}\exp\Big(\delta_{kt} + \mu_{ikt}\Big)}\, dP(\iota_i, \nu_i),$$

[11] The empirical model closely follows Montag (2025).

where

$$\delta_{jt} = x_{jt}\beta + \xi_{jt}, \qquad \mu_{ijt} = \sigma^{\text{FL}}\nu_i^{\text{FL}}x_{jt}^{\text{FL}} - \alpha_i p_{jt}.$$

The demand estimation combines aggregate and household moments as outlined in Berry, Levinsohn, and Pakes (2004). It uses the same data, estimation procedure, and moment conditions as Montag (2025), where interested readers can find more details about the demand estimation.

5.2 Marginal Costs and Pricing

Let $j \in J_{ft}$ denote a product offered by firm f in market t with price p_{jt} and marginal cost mc_{jt}. The firm's variable profit is:

$$\pi_{ft} = \sum_{j \in J_{ft}} (p_{jt} - mc_{jt}) \cdot s_{jt}(\mathbf{p}) \cdot S_t,$$

where $s_{jt}(\mathbf{p})$ is the market share of product j as a function of all prices $\mathbf{p}$, and S_t is market size.

Firms take derivatives of market shares with respect to prices to compute their markups. The Bertrand-Nash equilibrium prices solve:

$$\mathbf{p} = \mathbf{mc} - \left(\frac{\partial \mathbf{s}}{\partial \mathbf{p}} \circ \Lambda\right)^{-1} \mathbf{s},$$

where Λ is the ownership matrix and $\circ$ denotes the Hadamard product.

Let $c(j)$ denote the country of origin of product j; baseline (tariff-exclusive) marginal cost is

$$mc_{jt} \;=\; \lambda_{1f(j)}^{-1} r_{f(j)t} \;+\; \psi_1^{-1} w_{c(j)t} \;+\; \lambda_{3j}^{-1} m_t \;+\; \omega_{jt},$$

where $r_{f(j)t}$, $w_{c(j)t}$, and m_t are input prices for capital, labor, and materials; and ω_{jt} is a product-level marginal-cost shock realized after production and sourcing decisions. Offshoring modifies $\{c(j)\}$ and thus affects the input-price components.

Alternatively, the incumbent may petition for tariffs on imports from an origin set O. Petitioning results in an ad valorem tariff $\kappa > 0$ being imposed on imports from O; tariff-origin pairs are indexed by (κ, O).[12] Tariffs modify marginal costs multiplicatively:

$$mc_{jt}^{(\kappa,O)} \;=\; \Big[1 + \kappa \cdot \mathbb{1}\{c(j) \in O\}\Big]\, mc_{jt}.$$

[12] I assume that petitions always lead to tariffs. Adding uncertainty about the success of a petition is isomorphic to adding uncertainty about κ.

Estimation of the supply side closely follows Montag (2025), where a more detailed discussion can be found. In a nutshell, marginal costs are inferred by inverting the first order condition of firms by which they set prices and combining this with data on market shares and prices. To estimate how marginal costs change with input costs, I estimate:

$$mc_{jt} = FE_f + \gamma_1 RER_{c(j)t} + \gamma_2 \mathbf{x}_j + \omega_{jt} \, .$$

Firm fixed effects FE_f capture differences in capital intensity across firms. The real exchange rate $RER_{c(j)t}$ is a product-level cost shifter capturing local wage and nominal exchange rate fluctuations. The matrix of nonprice characteristics $\mathbf{x}_j$ captures material cost differences across products, while ω_{jt} denotes transitory material cost shocks.

5.3 Trade-Policy Channel of Mergers

Having established how to estimate the variable profits of firms in different merger, offshoring, and tariff scenarios allows linking the empirical model to the propositions of the theoretical model in Section 3. The model shows that to understand how a merger changes the incentive of the merging parties to petition for tariffs requires estimating the *appropriation* and *strategic* effects of a merger.

Let $\pi_{j,t,m}(\kappa, O; \ell)$ denote the variable profits of firm j, in year t, under ownership $m \in \{\mathcal{M}, \mathcal{S}\}$, given tariff-origin pair (κ, O) and production-location regime in the absence of petitioning of $\ell \in \{\text{off}, \text{sq}, \text{dom}\}$. When evaluating profits under a tariff petition, I take the with-tariff regime for the incumbent to be domestic production, i.e., $\ell = \text{dom}$. For simplicity, in the remainder I denote the acquirer as $j = 1$ and the acquisition target as $j = 2$.

Then the appropriation effect of a merger can be written as

$$\text{Appropriation}_t(\kappa, O, \ell) = \pi_{2,t,\mathcal{S}}(\kappa, O; \text{dom}) - \pi_{2,t,\mathcal{S}}(0, O; \ell)$$

and the strategic effect can be written as

$$\begin{aligned} \text{Strategic}_t(\kappa, O, \ell) = &\Big[\pi_{1,t,\mathcal{M}}(\kappa, O; \text{dom}) - \pi_{1,t,\mathcal{S}}(\kappa, O; \text{dom}) - \pi_{2,t,\mathcal{S}}(\kappa, O; \text{dom})\Big] \\ &- \Big[\pi_{1,t,\mathcal{M}}(0, O; \ell) - \pi_{1,t,\mathcal{S}}(0, O; \ell) - \pi_{2,t,\mathcal{S}}(0, O; \ell)\Big] \, . \end{aligned}$$

Finally, I quantify the consumer-surplus effect of a tariff conditional on it being imposed. For a tariff-origin pair (κ, O), the compensating-variation loss under ownership struc-

ture $m \in \{\mathcal{M}, \mathcal{S}\}$ is (Small and Rosen, 1981)

$$CS^m(\kappa, O) \;=\; \int \frac{1}{\alpha_i}\left[\ln\Big(\sum_{j=0}^{J} e^{V_{ij}^{(\kappa,O;\,m)}}\Big) - \ln\Big(\sum_{j=0}^{J} e^{V_{ij}^{(0,O;\,m)}}\Big)\right] dP(\iota_i, \nu_i),$$

where $\alpha_i = \exp(\alpha + \kappa_\alpha \iota_i)$ and $V_{ij}^{(\kappa,O;\,m)} = \delta_{jt} + \mu_{ijt}^{(\kappa,O;\,m)}$ uses the equilibrium prices implied by m and (κ, O). Tariffs affect consumer surplus through equilibrium prices (entering $\mu_{ijt}^{(\kappa,O;\,m)}$).

Conditional on a particular tariff-origin pair (κ, O), I define how a merger changes the consumer surplus impact of a tariff as

$$\Delta CS^{\mathcal{M}}(\kappa, O) \;:=\; CS^{\mathcal{M}}(\kappa, O) \;-\; CS^{\mathcal{S}}(\kappa, O),$$

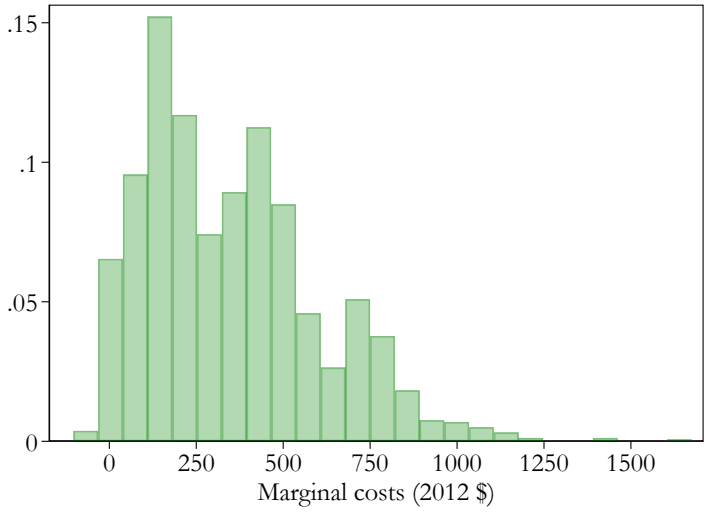
so $\Delta CS^{\mathcal{M}}(\kappa, O) < 0$ indicates greater consumer surplus loss from a tariff under merger for the same (κ, O).

6 Parameter Estimates

Table 2 summarizes the demand estimates. They are identical to the estimates in Montag (2025). Column (1) shows that instrumental variable for price, the real exchange rate, is a strong instrument. In the full mixed-logit demand model, the average own-price elasticity at the product level is -2.54.

Figure 1 displays the distribution of estimated marginal costs across all products.

Figure 1: Histogram of product-level marginal cost estimates



Notes: Histogram of estimated marginal costs (deflated to 2012 dollars) across all products in the sample.

Table 2: Demand estimates

	(1)	(2)	(3)	(4)
	First stage	Logit OLS	Logit IV	Mixed logit
Dependent variable:	Price	$\hat{\delta}_{jt}$	$\hat{\delta}_{jt}$	
Linear parameters				
Real exchange rate	2.033***			
	(0.365)			
Price ('00 2012 $)		-0.164**	-0.351**	
		(0.062)	(0.178)	
Nonlinear parameters				
Common price coefficient α				-0.676***
				(0.032)
Income effect κ_α				-0.210***
				(0.025)
Unobserved taste σ^{FL}				2.493***
				(0.066)
Characteristics	*Yes*	*Yes*	*Yes*	*Yes*
Retailer FE	*Yes*	*Yes*	*Yes*	*Yes*
Brand FE	*Yes*	*Yes*	*Yes*	*Yes*
Brand time trends	*Yes*	*Yes*	*Yes*	*Yes*
Year FE	*Yes*	*Yes*	*Yes*	*Yes*
Observations	1,590	1,586	1,590	1,590
Kleibergen–Paap F-statistic	31.041			
Avg. own-price elasticity		-0.964	-2.058	-2.542

Notes: Column (1) reports the first-stage regression results of prices on the real exchange rate. Column (2) presents estimates from the simple logit model without instrumentation. Column (3) shows estimates from the simple logit using the RER as an instrument for price. Column (4) displays results from the mixed logit model described in Section 5. Standard errors are clustered at the brand level. Own-price elasticities of residual demand are computed at the product level and averaged across products, weighting by sales volume. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Finally, Table 3 quantifies how marginal costs depend on labor costs (captured by the deflated RER), product characteristics, and firm-specific fixed effects.

Table 3: Marginal cost decomposition

	Marginal costs (2012 $)
Real Exchange Rate	199.324***
	(36.869)
Front Loader	21.042
	(20.161)
Agitator	-244.397***
	(26.696)
Characteristics	*Yes*
Retailer FE	*Yes*
Brand FE	*Yes*
Brand time trends	*Yes*
Year FE	*Yes*
N	1,586

Notes: The table presents regression results of product-level marginal costs on proxies for labor and shipping costs, product characteristics, fixed effects, and brand-specific time trends.

7 Quantifying the Trade-Policy Channel for Whirlpool

In this section, I quantify the different components of the trade-policy channel for Whirlpool's observed domestic acquisition of Maytag. In particular, I quantify how this affected the profitability of petitioning for the different rounds of petitions observed between 2010 and 2018.

To contrast this with the trade-policy channel of a cross-border merger, I repeat this exercise for a hypothetical merger between Whirlpool and LG.

7.1 Trade-Policy Channel of a Domestic Merger

To assess how acquiring Maytag affected Whirlpool's incentives to petition for tariffs, I quantify the appropriation and strategic effects for different tariff-origin scenarios. To assess their impact on consumers, I estimate the corresponding $\Delta CS^{\mathcal{M}}(\kappa, O)$.

While I observe realized tariff outcomes and relocation responses by LG and Samsung, I do not incorporate those in the simulations. Ex ante, petitioners cannot perfectly predict

final tariffs or rivals' immediate relocation strategies; for instance, preliminary AD margins on LRW imports from China were substantially revised downward between preliminary and final determinations (LG: 49.88% $\rightarrow$ 32.12%; Samsung: 111.09% $\rightarrow$ 52.51%). I therefore simulate simpler schedules with ad valorem tariffs of $\kappa \in \{25\%, 50\%\}$ applied to three origin groups,

$$O \in \{\text{Korea+Mexico},\ \text{China+Korea+Mexico},\ \text{Global}\},$$

which mirror the historical sequence (2013 Korea and Mexico; 2016 China; 2018 global safeguards).

For each calendar year t, I recompute the Bertrand–Nash pricing equilibrium under explicit production-location assumptions. Under a tariff (κ, O), Maytag and Whirlpool reshore any remaining foreign washer production to the U.S. in year t, while all other firms' production locations are held at their configuration in year $t-1$. This mirrors the domestic incumbents' ex ante decision problem: rivals' locations are expected to persist in the near term, and securing protection is anticipated to require reshoring by the petitioner.

I compare tariff scenarios to two no-tariff baselines. In the *status-quo baseline* ($\ell = \text{sq}$), Maytag and Whirlpool's production locations remain at where they were in year $t-1$. In the *incumbent-offshoring baseline* ($\ell = \text{off}$), relative to the status quo, Maytag and Whirlpool offshore front-loader production to Mexico in year t (top-loaders are not offshored).[13] All rivals' production locations always remain at their locations in year $t-1$.

Figure 2 plots the appropriation and the strategic effect of acquiring Maytag for Whirlpool from a 50% tariff on imports of large residential clothes washers for the different potential source countries. The panels on the left are in comparison to the *status-quo baseline*. The panels on the right are in comparison to the *incumbent-offshoring baseline*.

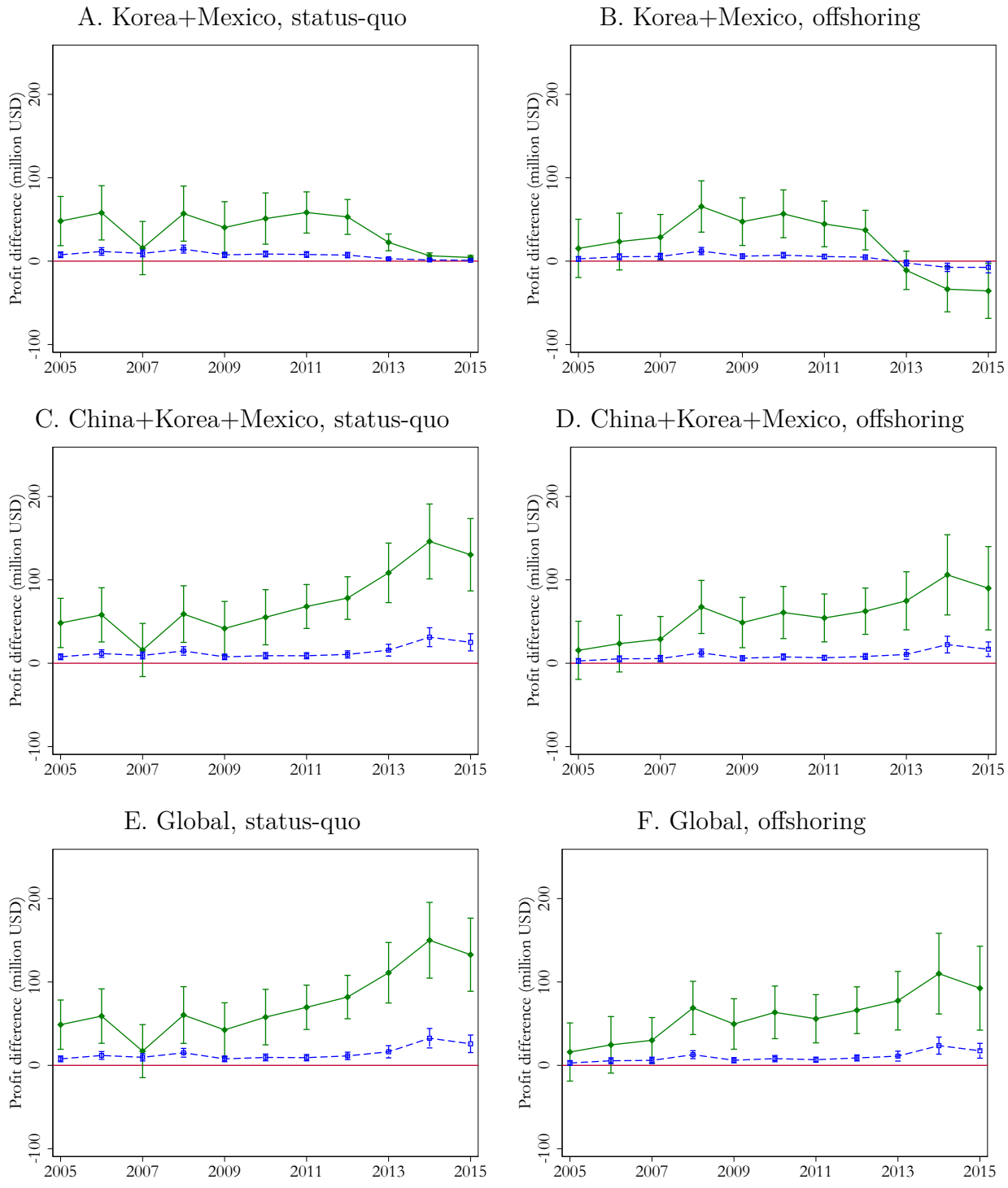
The results indicate that the merger increases the profitability of tariffs for Whirlpool in all cases. This is particularly strong for broad, global tariffs and less so for tariffs only on imports from Korea and Mexico. This is because LG and Samsung re-optimized their global supply chains in response to the initial tariffs and began importing clothes washers from China and then later Thailand and Vietnam (see Flaaen, Hortaçsu, and Tintelnot, 2020 for further details).[14] In contrast, tariff jumping in response to global tariffs is much harder.

The results also indicate that while both, the merger-induced appropriation and the strategic effects significantly increase the profitability of petitioning for trade protection, most the trade-policy channel in a domestic acquisition of Maytag by Whirlpool comes through the appropriation effect. The strategic effect is an order of magnitude smaller than

[13] Top-loader offshoring is never observed in the data.

[14] Electrolux continued exporting washing machines from Mexico to the U.S. after the imposition of tariffs, however, they were a smaller competitor post-2013.

Figure 2: Domestic merger: appropriation and strategic effects, $\kappa = 50\%$



Notes: The figure shows how for a Whirlpool-Maytag merger the *appropriation effect* (solid green line) and the *strategic effect* (dashed blue line) change Whirlpool's profits from a 50% tariff on imports from different origin groups. Standard errors are clustered at the brand level.

the appropriation effect.

Figure 3 shows the merger-induced additional loss in consumer surplus from a 50% tariffs on different source countries on U.S. consumer surplus. The results show that the merger increases consumer surplus losses of tariffs in all scenarios. Depending on the scenario and the year, this increase in consumer harm from tariffs is up to $100 million dollars. This is without accounting for the change in the probability of petitioning. To put this into perspective, Montag (2025) estimates that the direct market-power related consumer surplus harm from the Whirlpool-Maytag merger is $225 million for clothes washers. The magnitude of the trade-policy channel is therefore economically important as compared to the direct market-power channel.

7.2 Trade-Policy Channel of a Cross-Border Merger

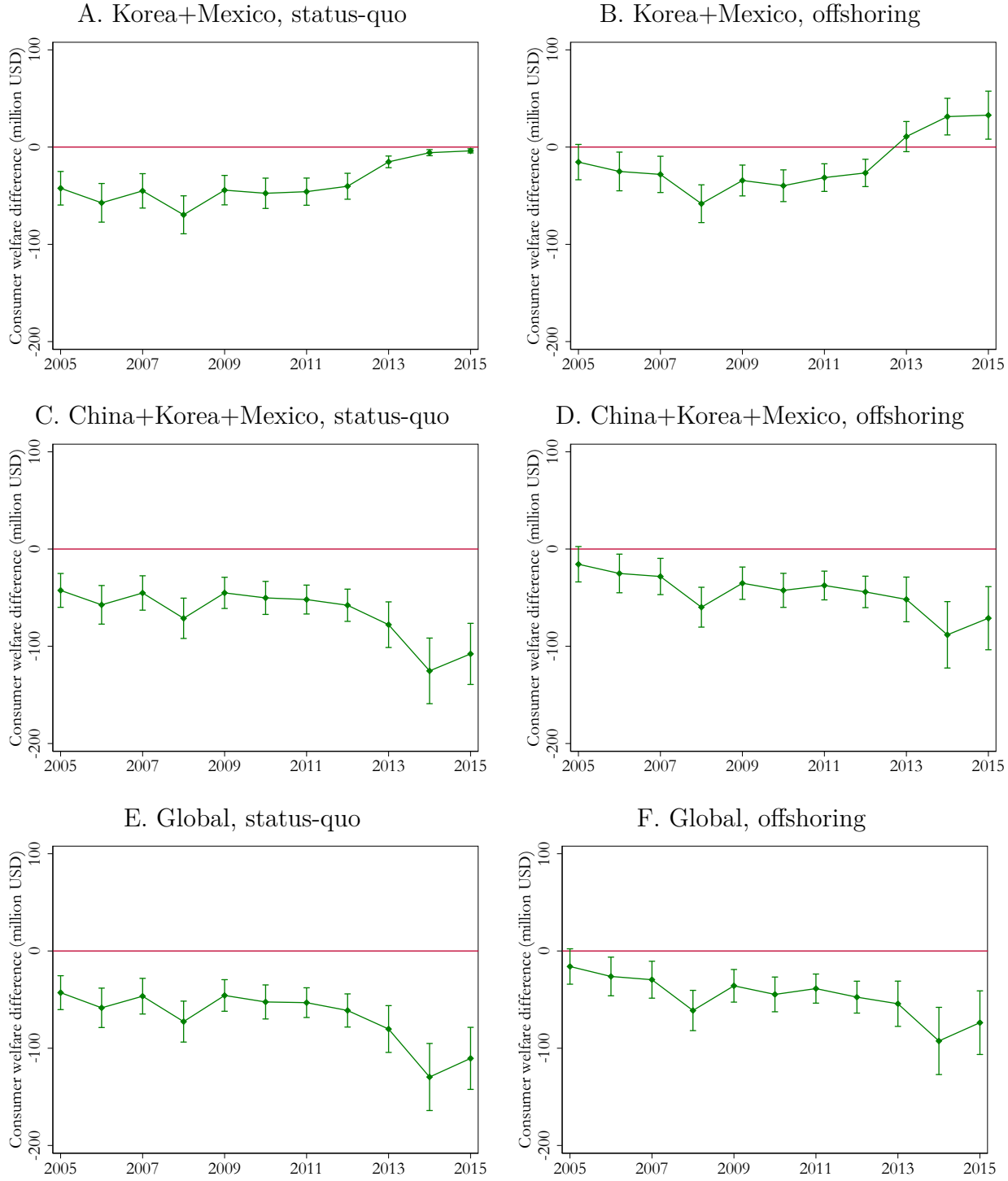
In Section 3.7 I explain that while I cannot formally prove that cross-border mergers are inherently less harmful for consumers in terms of the trade-policy channel, the internalization of foreign losses in a cross-border merger suggests that these may reduce the demand for protectionism.

To illustrate this point, I repeat the previous simulations for a cross-border merger between Whirlpool and LG. To make this more comparable to the simulations of the domestic merger, I demerge all Maytag brands from Whirlpool across all years for this scenario. I assume that Maytag always produces in the U.S., whereas in the absence of petitioning Whirlpool and LG either keep their observed (status-quo) production locations in every year or offshore all production abroad. Since LG is only producing abroad throughout the sample and Whirlpool never produces top-loaders outside the U.S., the offshoring scenario simply moves Whirlpool's front-loader production to Mexico.

Figure 4 shows that a cross-border merger between Whirlpool and LG lowers the profitability of petitioning for tariffs for Whirlpool. This is because after a merger between Whirlpool and LG, the upsides to petitioning are limited (they mainly protect the merged-entity from competition by Samsung), while there are significant downsides to petitioning. In particular, it requires the merged Whirlpool-LG to relocate all of its production to the U.S. and incur the associated increases in production costs.

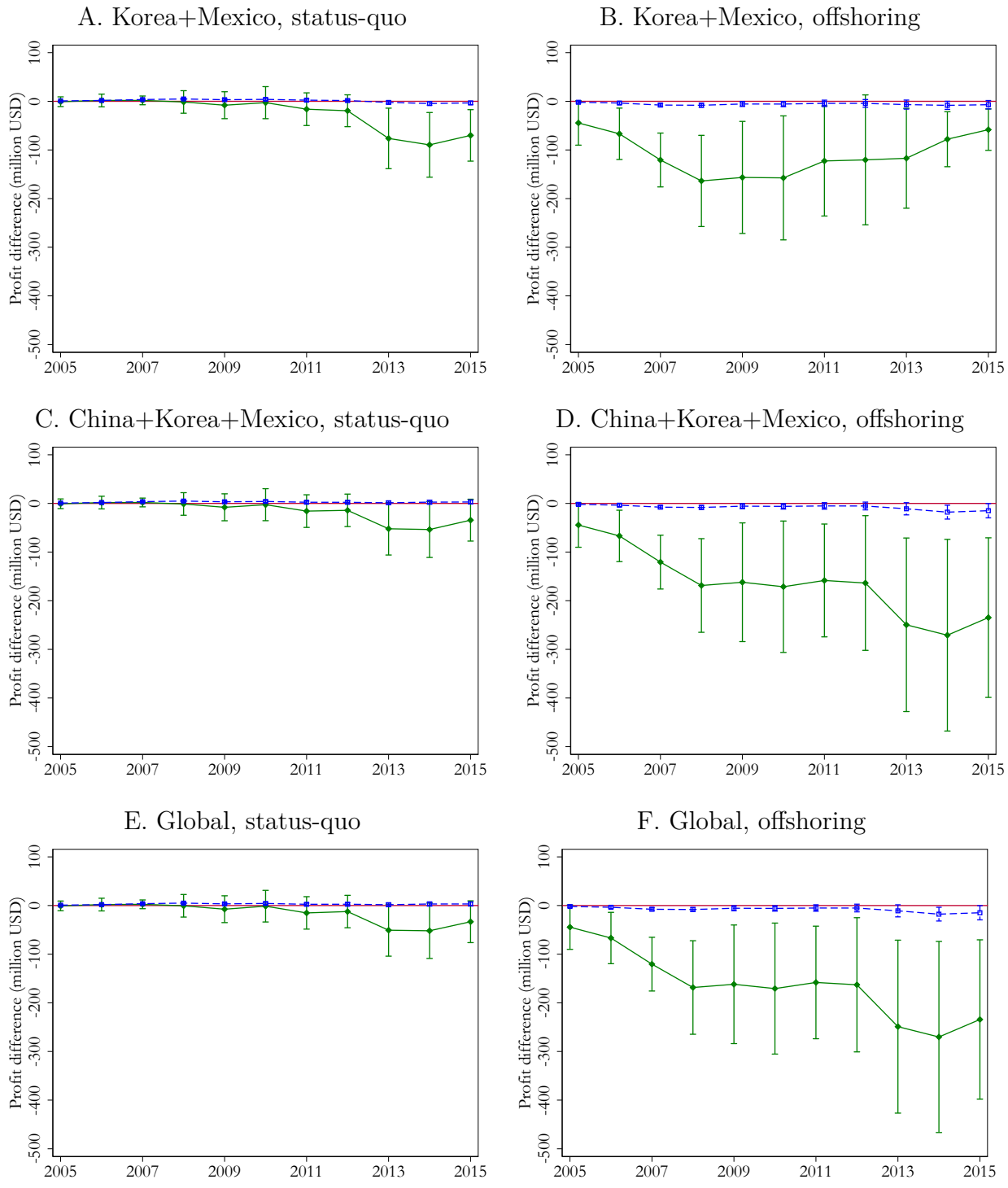
Figure 5 shows that, conditional on a given set of tariffs, the consumer harm from those tariffs is similar with and without a Whirlpool–LG merger or even larger without the merger than without it. The reason is that, although tariffs always reduce consumer welfare, LG's role as a strong competitor is especially valuable when the firms remain separate. Tariffs weaken this competitive constraint, and the resulting loss is therefore borne more heavily by

Figure 3: Domestic merger: consumer surplus effect, $\kappa = 50\%$



Notes: The figure shows how a Whirlpool-Maytag merger changes the consumer welfare implications from a 50% tariff on imports from different origin groups. Standard errors are clustered at the brand level.

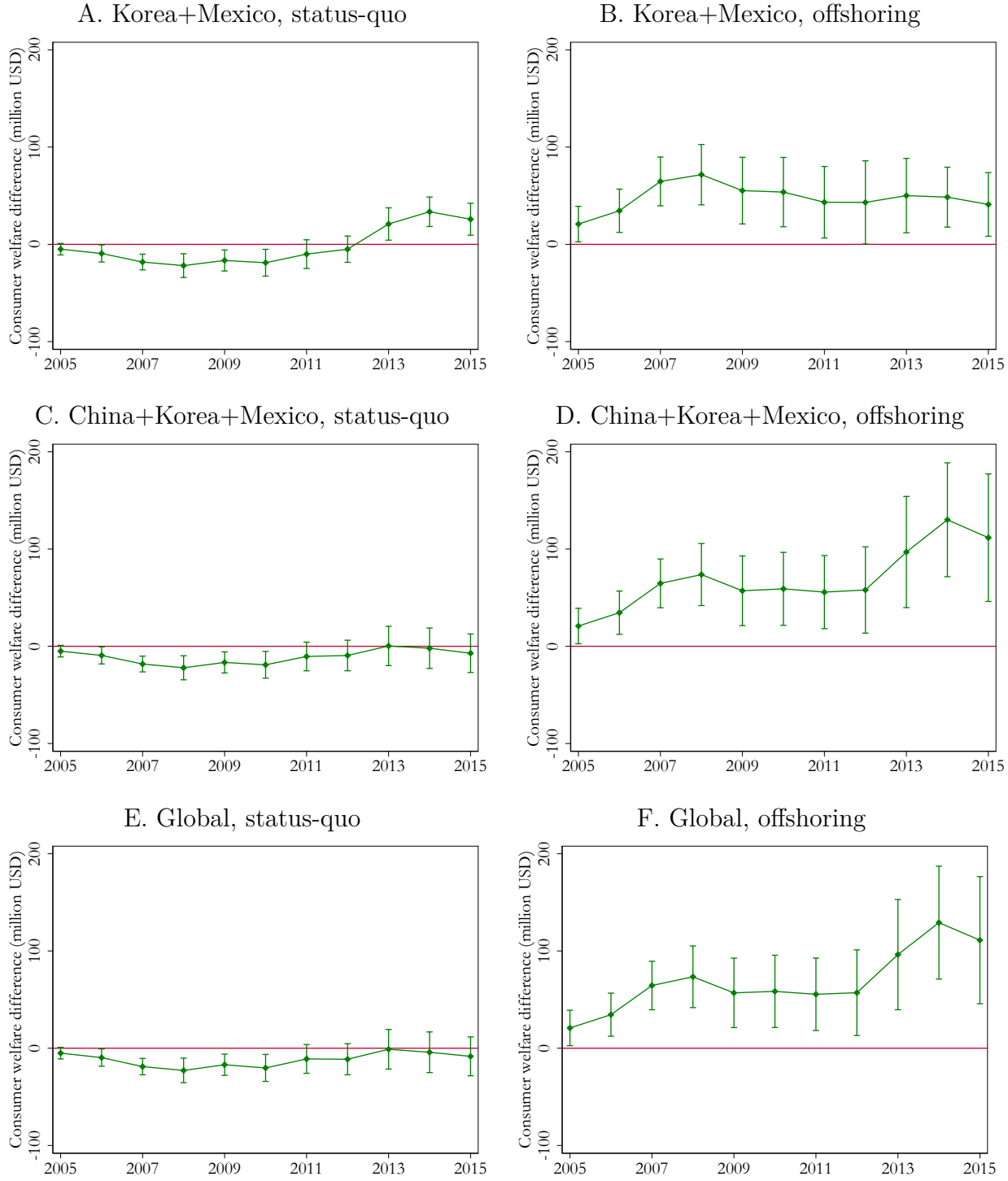
Figure 4: Cross-border merger: appropriation and strategic effects, $\kappa = 50\%$



Notes: The figure shows how for a Whirlpool-LG merger the *appropriation effect* (solid green line) and the *strategic effect* (dashed blue line) change Whirlpool's profits from a 50% tariff on imports from different origin groups. Standard errors are clustered at the brand level.

consumers in the absence of the merger.

Figure 5: Cross-border merger: consumer surplus effect, $\kappa = 50\%$



Notes: The figure shows how a Whirlpool-LG merger changes the consumer welfare implications from a 50% tariff on imports from different origin groups. Standard errors are clustered at the brand level.

8 Conclusion

This paper shows that domestic mergers can amplify consumer harm through a trade-policy channel that operates over and above the merger's direct market-power effects.

Using the U.S. washing machine industry as a case study, I find that the increased profitability of petitioning for tariffs following a domestic merger is driven primarily by an appropriation effect: the merger allows the acquiring firm to internalize trade-protection rents that would otherwise accrue to its domestic rival. A strategic pricing effect is also present but is quantitatively much smaller. Importantly, the resulting consumer harm from the trade-policy channel is of the same order of magnitude as the harm generated by the merger's direct market-power effects. In contrast, I find no consumer harm arising from the trade-policy channel in an alternative cross-border merger.

These findings imply that, in tradable-goods markets, mergers between domestic producers warrant heightened antitrust scrutiny when shutting out foreign competitors post-merger would significantly harm competition and consumers. Cross-border mergers, by comparison, are unlikely to generate additional consumer harm beyond their direct competitive effects.

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Appendix for Online Publication

I Appendix to Section 3

Proof of Proposition 1. Define

$$F(\kappa) \;\equiv\; \pi_1^{\text{pet}}(\kappa) - L \;-\; \Big(\pi_1^{\text{off}} - R_1\Big).$$

$F(\kappa)$ is strictly increasing in κ. There exists at most one cutoff $\kappa^* \in [0, \infty)$ such that $F(\kappa^*) = 0$. If $F(0) < 0$, the cutoff exists and is unique; Firm 1 prefers petitioning over offshoring iff $\kappa > \kappa^*$.

A marginal increase in κ raises only foreign costs $c_j = (1 + \kappa)c_F$; via best responses, s_j shift toward firm 1 and its markups increase. Envelope and standard logit pass-through yield $\frac{d}{d\kappa}\pi_1^{\text{pet}}(\kappa) > 0$. π_1^{off} is κ-invariant. Hence $F'(\kappa) > 0$. Continuity implies at most one root; existence follows from $F(0) < 0$.

□

Proof of Proposition 2. In the two-product reduction (firms 1 and 3 only), let $\pi_1^{\text{pet}}(\kappa, \delta_3)$ and $\pi_1^{\text{off}}(\delta_3)$ denote firm 1's variable profits under petitioning and offshoring, respectively. Define

$$F(\kappa, \delta_3) \;\equiv\; \pi_1^{\text{pet}}(\kappa, \delta_3) - L \;-\; \Big(\pi_1^{\text{off}}(\delta_3) - R_1\Big),$$

and let $\kappa^*(\delta_3)$ solve

$$F(\kappa^*(\delta_3), \delta_3) = 0.$$

By Proposition 1, for fixed primitives the cutoff $\kappa^*(\delta_3)$ is unique and satisfies $F_\kappa(\kappa^*(\delta_3), \delta_3) > 0$ (since only π_1^{pet} depends on κ, and a higher duty strictly increases its profit). By the implicit function theorem,

$$\frac{d\kappa^*}{d\delta_3} = -\frac{F_{\delta_3}}{F_\kappa}, \qquad F_\kappa > 0,$$

so the sign of $\frac{d\kappa^*}{d\delta_3}$ is the sign of $-F_{\delta_3}$.

Consider a two-product logit duopoly with an outside good and costs (c_1, c_3), and let (p_1, p_3) be the unique interior Nash-Bertrand equilibrium. Standard logit algebra gives

$$s_j(p) = \frac{\exp(\delta_j - \alpha p_j)}{1 + \exp(\delta_1 - \alpha p_1) + \exp(\delta_3 - \alpha p_3)}, \qquad \frac{\partial s_1}{\partial \delta_3} = -\,s_1 s_3 \;<\; 0 \quad \text{for fixed prices.}$$

Equilibrium markups satisfy the single-product condition

$$p_j - c_j = \frac{1}{\alpha(1 - s_j)}.$$

Profits are $\pi_1 = (p_1 - c_1)s_1$. Differentiating with respect to δ_3 and using the envelope theorem ($\partial\pi_1^*/\partial p_1 = 0$) yields

$$\frac{d\pi_1^*}{d\delta_3} = (p_1 - c_1)\Big(\underbrace{\frac{\partial s_1}{\partial \delta_3}}_{(-)} + \underbrace{\frac{\partial s_1}{\partial p_3}}_{(+)}\underbrace{\frac{dp_3}{d\delta_3}}_{(+)}\Big).$$

The first term (direct share loss) is negative. The second term (strategic price response) is positive, as the rival raises price in response to higher quality ($\partial p_3/\partial\delta_3 > 0$), which softens the market share loss. However, in standard two-product logit demand with Bertrand competition, the direct effect dominates. Thus, there exists a continuous negative function $\Gamma(c_1, c_3, \delta_1, \delta_3)$ such that

$$\frac{d\pi_1^*}{d\delta_3} = \Gamma(c_1, c_3, \delta_1, \delta_3) \;<\; 0$$

whenever the equilibrium shares s_1, s_3 are interior. Moreover:

(i) Because every term in $\partial s_1/\partial\delta_3$ and $\partial s_1/\partial p_3$ is proportional to s_3, we have

$$\left|\frac{d\pi_1^*}{d\delta_3}\right| \to 0 \quad \text{whenever } s_3 \to 0.$$

(ii) On any compact set of primitives on which s_1, s_3 are uniformly bounded away from 0 and 1, continuity and strict negativity of Γ imply that there exists $\underline{c} > 0$ such that

$$\frac{\partial\pi_1^*}{\partial\delta_3} \;\le\; -\underline{c} \;<0 \quad \text{throughout that set.}$$

I use these properties to construct two sets of primitives with opposite signs of F_{δ_3} at the cutoff.

A calibration with $d\kappa^*/d\delta_3 < 0$. Fix primitives (c_D, c_F, δ_1) and choose L, R_1 such that the unique cutoff κ^* lies in a *high–duty* region where the duty nearly eliminates the foreign rival under petition. Concretely, pick $\bar\kappa$ large and then choose (L, R_1) so that

$$F(\bar\kappa, \delta_3) = 0,$$

and at the corresponding petition equilibrium $s_3^{\text{pet}}(\bar\kappa, \delta_3) \le \varepsilon$ for some small $\varepsilon > 0$. In contrast, under offshoring $(c_1, c_3) = (c_F, c_F)$, so for suitable δ_1, δ_3 the equilibrium shares $s_1^{\text{off}}, s_3^{\text{off}}$ are interior and bounded away from 0 and 1.

At the cutoff $\kappa^* = \bar{\kappa}$,

$$F_{\delta_3} = \frac{d\pi_1^{\text{pet}}}{d\delta_3} - \frac{d\pi_1^{\text{off}}}{d\delta_3}.$$

By property (i) above, $\left|d\pi_1^{\text{pet}}/d\delta_3\right| = O(\varepsilon)$; by property (ii) there exists $\underline{c} > 0$ such that $d\pi_1^{\text{off}}/d\delta_3 \leq -\underline{c} < 0$ in the offshoring regime. For ε small enough,

$$F_{\delta_3} \;=\; O(\varepsilon) - \frac{d\pi_1^{\text{off}}}{d\delta_3} \;>\; 0.$$

Since $F_\kappa > 0$, this implies

$$\frac{d\kappa^*}{d\delta_3} = -\frac{F_{\delta_3}}{F_\kappa} \;<\; 0\,.$$

When the cutoff lies in a high–duty region that nearly drives out the foreign rival, a stronger foreign product (higher δ_3) *lowers* the indifference duty κ^*.

A calibration with $d\kappa^*/d\delta_3 > 0$. Now construct a different set of primitives where the cutoff lies in a *low–duty* region and offshoring almost eliminates effective foreign competition, whereas petitioning leaves it more potent.

Choose $(c_D, c_F, \delta_1, \delta_3)$ and small $\bar{\kappa} > 0$ such that under offshoring, $(c_1, c_3) = (c_F, c_F)$ and firm 1 has a strong advantage in δ_1 over δ_3, making s_3^{off} arbitrarily small. Simultaneously, under the petition regime $(c_1, c_3) = (c_D, (1+\bar{\kappa})c_F)$ with $c_D > c_F$ and $\bar{\kappa}$ small, so firm 3 retains an interior share s_3^{pet} bounded away from zero. Then choose (L, R_1) so that $F(\bar{\kappa}, \delta_3) = 0$, i.e. $\kappa^*(\delta_3) = \bar{\kappa}$.

As before

$$F_{\delta_3} = \frac{d\pi_1^{\text{pet}}}{d\delta_3} - \frac{d\pi_1^{\text{off}}}{d\delta_3}.$$

By property (ii), in the petition regime the derivative satisfies $d\pi_1^{\text{pet}}/d\delta_3 \leq -\underline{c} < 0$ for some $\underline{c} > 0$ (since both shares are interior). By property (i), in the offshoring regime $|d\pi_1^{\text{off}}/d\delta_3|$ can be made arbitrarily small by choosing s_3^{off} small enough. Hence, for appropriate primitives,

$$F_{\delta_3} < -\underline{c} - o(1) \;<\; 0,$$

so

$$\frac{d\kappa^*}{d\delta_3} = -\frac{F_{\delta_3}}{F_\kappa} \;>\; 0.$$

Conclusion. $\kappa^*(\delta_3)$ has no fixed sign with respect to δ_3. Depending on the underlying cost and taste parameters, it can increase or decrease when the foreign rival becomes more attractive. □

Proof of Proposition 3. Rearranging terms shows

$$\Big[(\pi^{\text{pet}}_{\mathcal{M}} - L) - \pi^{\text{sq}}_{\mathcal{M}}\Big] - \Big[(\pi^{\text{pet}}_{1,\mathcal{S}} - L) - \pi^{\text{sq}}_{1,\mathcal{S}}\Big] = \\ \Big(\pi^{\text{pet}}_{2,\mathcal{S}} - \pi^{\text{sq}}_{2,\mathcal{S}}\Big) + \Big[(\pi^{\text{pet}}_{\mathcal{M}} - \pi^{\text{pet}}_{1,\mathcal{S}} - \pi^{\text{pet}}_{2,\mathcal{S}}) - (\pi^{\text{sq}}_{\mathcal{M}} - \pi^{\text{sq}}_{1,\mathcal{S}} - \pi^{\text{sq}}_{2,\mathcal{S}})\Big].$$

Appropriation effect. With $s_2, s_3 \in (0,1)$, logit gives $\frac{\partial s_2}{\partial p_3} = \alpha s_2 s_3 > 0$, and Bertrand pass-through implies $\frac{dp_3}{dc_3} > 0$. Hence

$$\frac{d\pi_2}{dc_3} = \frac{\partial \pi_2}{\partial p_3}\frac{dp_3}{dc_3} = \Big(p_2 - c_2\Big)\frac{\partial s_2}{\partial p_3}\frac{dp_3}{dc_3} > 0.$$

The duty raises c_3, so $\pi^{\text{pet}}_{2,\mathcal{S}} - \pi^{\text{sq}}_{2,\mathcal{S}} > 0$.[15]

Strategic effect. Define the merger surplus as the difference between joint profits under the merger and the sum of pre-merger independent profits:

$$MS \;\equiv\; \pi_{\mathcal{M}} - \Big(\pi_{1,\mathcal{S}} + \pi_{2,\mathcal{S}}\Big).$$

The source of the merger surplus is the internalization of the reciprocal pricing externalities between the merging parties. Under separate ownership, each firm sets prices ignoring the cannibalization of the other's sales. The merger forces the firms to internalize these opportunity costs, which Farrell and Shapiro, 2010 term the "value of diverted sales" (or Upward Pricing Pressure, UPP). For the two products, these are:

$$UPP_1 = D_{12}(p_2 - c_2) \quad \text{and} \quad UPP_2 = D_{21}(p_1 - c_1),$$

where D_{jk} is the diversion ratio from product j to k. With logit demand, the magnitude of the profit gain from the merger (MS) is strictly increasing in the size of these internalized externalities: larger UPP terms imply stronger incentives to raise prices and a larger recovery of previously dissipated rents.

Now consider how the duty affects these primitives when moving from the status quo to petitioning. The duty raises the foreign rival's cost c_3 to $(1+\kappa)c_F$.

First, because prices are strategic complements, the increase in p_3 induces domestic firms to raise prices (p_1, p_2). Since domestic marginal costs c_D are constant, margins strictly increase:

$$\mu^{\text{pet}}_j > \mu^{\text{sq}}_j, \qquad j = 1, 2.$$

[15] I abstract from a second-order feedback effect in which an increase in p_3 leads to an increase in p_1 and p_2, further increasing π_2. This does not change that the appropriation effect is strictly positive.

Second, the duty affects the diversion ratios. In the logit model, $D_{12} = s_2/(1-s_1)$ and $D_{21} = s_1/(1-s_2)$. The duty raises p_3 directly, reducing the foreign share s_3. This volume shifts partly to the outside good but largely to the domestic rivals, increasing s_1 and s_2.[16] For D_{12}, the numerator (s_2) increases, and the denominator ($1-s_1$) decreases. Thus, the diversion ratios strictly increase:

$$D_{12}^{\text{pet}} > D_{12}^{\text{sq}} \quad \text{and} \quad D_{21}^{\text{pet}} > D_{21}^{\text{sq}}.$$

Since the duty strictly increases both the margins (μ_j) and the diversion ratios (D_{jk}) for both firms, it strictly increases the value of diverted sales (UPP_1 and UPP_2). Consequently, the strategic gain from internalizing these externalities is strictly larger under petitioning:

$$MS^{\text{pet}} - MS^{\text{sq}} > 0.$$

Combining the two parts, both the appropriation and the strategic components are strictly positive, so

$$\Big[(\pi_{\mathcal{M}}^{\text{pet}} - L) - \pi_{\mathcal{M}}^{\text{sq}}\Big] - \Big[(\pi_{1,\mathcal{S}}^{\text{pet}} - L) - \pi_{1,\mathcal{S}}^{\text{sq}}\Big] > 0.$$

□

Proof of Proposition 4. Expand and collect terms as in Proposition 3.

Appropriation effect. The same logic as in Proposition 3 applies. Logit demand implies $\partial s_2/\partial p_3 = \alpha s_2 s_3 > 0$, and Bertrand pass-through implies $dp_3/dc_3 > 0$, so a duty on firm 3 strictly raises firm 2's profit pre-merger: $\pi_{2,\mathcal{S}}^{\text{pet}} > \pi_{2,\mathcal{S}}^{\text{sq}}$. Conversely, pre-merger offshoring by firm 1 lowers c_1 to c_F and reduces p_1. Since products are substitutes ($\partial s_2/\partial p_1 > 0$), this cannibalizes firm 2's demand, implying $\pi_{2,\mathcal{S}}^{\text{off}} < \pi_{2,\mathcal{S}}^{\text{sq}}$. Combining these inequalities yields $\pi_{2,\mathcal{S}}^{\text{off}} < \pi_{2,\mathcal{S}}^{\text{sq}} < \pi_{2,\mathcal{S}}^{\text{pet}}$. Hence the appropriation term is strictly positive:

$$\pi_{2,\mathcal{S}}^{\text{pet}} - \pi_{2,\mathcal{S}}^{\text{off}} > 0.$$

Strategic effect. The merger surplus continues to be defined as the difference between the post-merger joint profit and the sum of pre-merger independent profits:

$$MS \;\equiv\; \pi_{\mathcal{M}} - \Big(\pi_{1,\mathcal{S}} + \pi_{2,\mathcal{S}}\Big).$$

[16] While this induces an increase in domestic prices, which creates a countervailing volume contraction, the direct substitution effect from the foreign rival to domestic firms dominates under standard stability conditions.

This term captures the profitability of the merger within a specific regime. The strategic effect is the difference $MS^{\text{pet}} - MS^{\text{off}}$.

In the *petitioning* regime, the merger surplus is driven by the internalization of pricing externalities in a protected market. As shown in Proposition 3, a high duty κ depresses the foreign rival's share, strictly increasing the diversion ratios between domestic products (D_{12}, D_{21}). This magnifies the value of internalized sales, generating a large strategic surplus based on market power.

In the *offshoring* regime, the merger surplus is driven by cost efficiencies. While the diversion ratios are lower (due to the presence of a strong foreign rival), the merger allows firm 1 to transfer its offshoring technology to product 2. This reduces the marginal cost of product 2 from c_D to c_F. Consequently, MS^{off} captures both the internalization of pricing externalities (on high-margin, low-cost products) and the direct efficiency gain from rationalizing production.

The sign of the strategic effect is therefore determined by the race between the protection-induced increase in diversion (under petitioning) and the cost-induced increase in margins and efficiency (under offshoring). If κ is large and the cost gap $c_D - c_F$ is small, the protection effect dominates: petitioning insulates the merger from competition, maximizing diversion and surplus ($MS^{\text{pet}} > MS^{\text{off}}$). Conversely, if κ is small and $c_D - c_F$ is large, the efficiency gain dominates: the ability to offshore product 2 generates massive cost savings that exceed the incremental value of protection ($MS^{\text{off}} > MS^{\text{pet}}$).

Therefore, the appropriation component is strictly positive, while the strategic component can be positive or negative. □

Proof of Proposition 5. The change in consumer surplus is determined by the share-weighted sum of price increases:

$$\frac{dCS}{d\kappa} = -\sum_j s_j \frac{dp_j}{d\kappa}.$$

The merger increases consumer harm if this sum is larger post-merger. I decompose the sum into the domestic and foreign components.

I compare the post-merger consumer surplus change from a tariff ($\frac{dCS^{\mathcal{M}}}{d\kappa}$) and the pre-merger change ($\frac{dCS^{\mathcal{S}}}{d\kappa}$). The consumer harm from a tariff is greater after a merger if, and only if,

$$\frac{dCS^{\mathcal{M}}}{d\kappa} - \frac{dCS^{\mathcal{S}}}{d\kappa} < 0\,. \tag{1}$$

Since the price of the outside good is always zero and the tariff only directly affects

the price of good 3, $\frac{dp_j}{d\kappa}$ become[17]

$$\frac{dp_1}{d\kappa} = \frac{s_1 s_3}{1-s_1}\frac{dp_3}{d\kappa} \quad , \qquad \frac{dp_2}{d\kappa} = \frac{s_2 s_3}{1-s_2}\frac{dp_3}{d\kappa} \quad , \qquad \frac{dp_3}{d\kappa} = (1-s_3)c_F$$

pre-merger and

$$\frac{dp_1}{d\kappa} = \frac{s_1 s_3}{1-s_1-s_1 s_2}\frac{dp_3}{d\kappa} \quad , \qquad \frac{dp_2}{d\kappa} = \frac{s_2 s_3}{1-s_2-s_1 s_2}\frac{dp_3}{d\kappa} \quad , \qquad \frac{dp_3}{d\kappa} = (1-s_3)c_F$$

post-merger.

Plugging this into 1 and simplifying leads to

$$\left[1+\sum_{j=1,2} s_j^{\mathcal{M}} m_j^{\mathcal{M}}\right] s_3^{\mathcal{M}}\left(1-s_3^{\mathcal{M}}\right) - \left[1+\sum_{j=1,2} s_j^{\mathcal{S}} m_j^{\mathcal{S}}\right] s_3^{\mathcal{S}}\left(1-s_3^{\mathcal{S}}\right) > 0\,, \tag{2}$$

where $m_j^{\mathcal{S}} = \frac{s_j}{1-s_j}$ and $m_j^{\mathcal{M}} = \frac{s_j}{1-s_j-s_j s_k}$ for $j,k \in \{1,2\}$ and $j \neq k$.

The consumer surplus change is proportional to the share-weighted foreign cost pass-through $s_3(1-s_3)$ scaled by the domestic multiplier $1+\sum s_j m_j$. The merger induces the merging parties to increase domestic prices, causing s_1, s_2 to fall and s_3 to rise.

Because s_1 and s_2 fall post-merger and $\frac{\partial m_j}{\partial s_j} > 0$, the internalization of cannibalization decreases the domestic multipliers. At the same time, the internalization of cannibalization adds $-s_j s_k$ to the denominator of m_j, which increases the domestic multiplier.

Next, I show that for some values of the structural parameters the consumer harm is smaller and for others it is greater after the merger.

Case 1: Consumer harm is smaller after the merger.

Suppose that the structural parameter values are such that pre-merger the foreign share satisfies $s_3^{\mathcal{S}} > 0.5$. Then a merger-induced price increase for products 1 and 2 results in a post-merger foreign share satisfying $s_3^{\mathcal{M}} > s_3^{\mathcal{S}} > 0.5$. Since the function $s_3(1-s_3)$ attains its maximum at $s_3 = 0.5$ and is strictly decreasing on $(0.5, 1)$, $s_3^{\mathcal{S}}(1-s_3^{\mathcal{S}}) > s_3^{\mathcal{M}}(1-s_3^{\mathcal{M}})$. Thus, provided the domestic multiplier does not increase sufficiently to offset the drop in foreign pass-through, the inequality in 2 does not hold and the consumer harm from a given tariff κ is smaller after the domestic merger.[18]

Case 2: Consumer harm is larger after the merger.

[17] I limit the analysis to first-order price adjustments in response to the tariffs and abstract from second-order feedback effects.

[18] In practice, numerical simulations confirm that this holds for most parameter values when the foreign share satisfies $s_3^{\mathcal{S}} > 0.5$.

Suppose instead that the structural parameter values are such that post-merger the foreign share satisfies $s_3^{\mathcal{M}} < 0.5$. Reformulating inequality 2, consumer harm is larger after the merger if, and only if,

$$\frac{1 + \sum_{j=1,2} s_j^{\mathcal{M}} m_j^{\mathcal{M}}}{1 + \sum_{j=1,2} s_j^{\mathcal{S}} m_j^{\mathcal{S}}} > \frac{s_3^{\mathcal{S}} \left(1 - s_3^{\mathcal{S}}\right)}{s_3^{\mathcal{M}} \left(1 - s_3^{\mathcal{M}}\right)}. \tag{3}$$

To show that consumer harm can be larger after the merger, it is sufficient to show that parameter values can exist such that this inequality holds.

Suppose that the structural parameter values are such that $s_1^{\mathcal{S}} = 0.2$, $s_2^{\mathcal{S}} = 0.2$, $s_3^{\mathcal{S}} = 0.25$ and the share of the outside good is $s_0^{\mathcal{S}} = 0.35$. Furthermore, let us focus exclusively on the first-order merger-induced price increases by the merged entity and abstract from second-order price increases in response to these. In this case, numerical analysis confirms that for these pre-merger market shares the inequality holds for all feasible merger-induced price increases and associated share adjustments.

While this is a sufficient condition for the consumer harm of a tariff to be larger post-merger, there are many other parameter values for which this would be true. More generally, $s_0^{\mathcal{S}}$ needs to be sufficiently large as compared to $s_3^{\mathcal{S}}$ for this to be true.

□

Proof of Proposition 6. Consider a two-period model $t = 1, 2$ with discount factor $\beta \in (0, 1]$. Firm 1 chooses between petitioning and offshoring at $t = 1$. Firm 3 can respond to the imposition of a duty in $t = 1$ by relocating production to D (i.e., tariff jumping), but not before $t = 2$.

If Firm 1 petitions, it pays L and the duty κ is imposed in $t = 1$, raising Firm 3's cost to $(1 + \kappa)c_F$. If tariff jumping occurs, Firm 3 relocates to the domestic market in $t = 2$, paying a sunk cost R_3 to adopt the domestic marginal cost c_D. If Firm 1 offshores, it pays R_1, sets its cost to c_F in $t = 1$, and the duty is never imposed. Firm 3 remains foreign at cost c_F.

The net present value of offshoring is:

$$V^{\text{off}} = (1 + \beta)\pi^{\text{off}} - R_1,$$

where π^{off} is the profit given costs (c_F, c_F).

The net present value of petitioning depends on whether tariff jumping occurs. In the

absence of tariff jumping (permanent protection), the duty persists:

$$V^{\text{pet}}_{\text{perm}} = (1+\beta)\pi^{\text{pet}}(\kappa) - L,$$

where $\pi^{\text{pet}}(\kappa)$ is the profit given costs $(c_D, (1+\kappa)c_F)$.

With tariff jumping (temporary protection), Firm 3 becomes a domestic competitor in $t = 2$ with cost c_D:

$$V^{\text{pet}}_{\text{jump}} = \pi^{\text{pet}}(\kappa) + \beta\pi^{\text{jump}} - L,$$

where π^{jump} is the profit given symmetric domestic costs (c_D, c_D).

Reduction in Incentives to Petition. Define the incentive to petition relative to offshoring as $\Delta \equiv V^{\text{pet}} - V^{\text{off}}$. The impact of tariff jumping on this incentive is

$$\Delta_{\text{jump}} - \Delta_{\text{perm}} = V^{\text{pet}}_{\text{jump}} - V^{\text{pet}}_{\text{perm}} = \beta\Big(\pi^{\text{jump}} - \pi^{\text{pet}}(\kappa)\Big).$$

Tariff jumping is only relevant if the duty raises foreign costs above domestic costs: $(1+\kappa)c_F > c_D$. Since Firm 1's profits are strictly increasing in its rival's marginal cost, it follows that $\pi^{\text{pet}}(\kappa) > \pi^{\text{jump}}$. Therefore, $\Delta_{\text{jump}} - \Delta_{\text{perm}} < 0$. Tariff jumping strictly reduces the relative incentive to petition.

Optimality of Petitioning with $\beta = 1$ and Tariff Jumping. Set $\beta = 1$. Firm 1 prefers petitioning with tariff jumping over offshoring if $V^{\text{pet}}_{\text{jump}} > V^{\text{off}}$:

$$\pi^{\text{pet}}(\kappa) + \pi^{\text{jump}} - L \;>\; 2\pi^{\text{off}} - R_1.$$

Rearranging, this requires:

$$\pi^{\text{pet}}(\kappa) - \pi^{\text{off}} \;>\; (\pi^{\text{off}} - \pi^{\text{jump}}) - (R_1 - L).$$

This condition holds for a non-empty set of parameters. Specifically, if the duty κ is sufficiently high and competition between firms 1 and 3 in the event of offshoring is high, the short-run windfall from petitioning vis-à-vis offshoring can be large. Additionally, if the fixed cost of offshoring R_1 is high relative to L, the petitioning strategy remains attractive despite the long-run erosion of profits caused by the rival's relocation. □

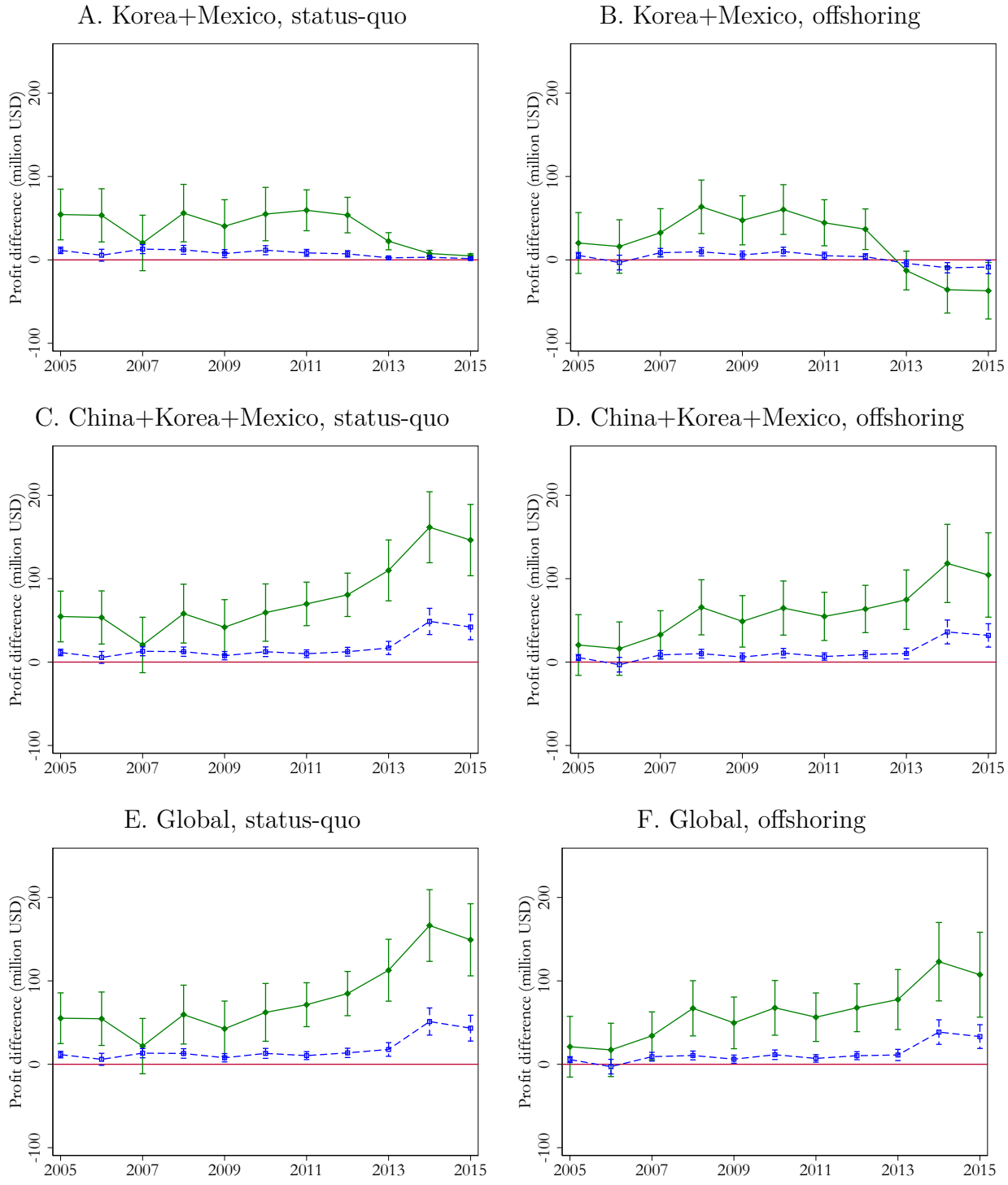
II Appendix to Section 7

While the analysis in Figure 2 treats Kenmore appliances as fully separate from Whirlpool, despite the fact that Whirlpool is the manufacturer of Kenmore top-loaders, the results in

Figure A.1 are based on the same analysis but treating Kenmore top-loaders like a fully integrated Whirlpool brand. That is, Whirlpool is the residual claimant of profits and has full control over price setting. The key takeaway from these simulations is that this only has a minor effect on the estimates and so the results are not driven by ownership assumptions on Kenmore.

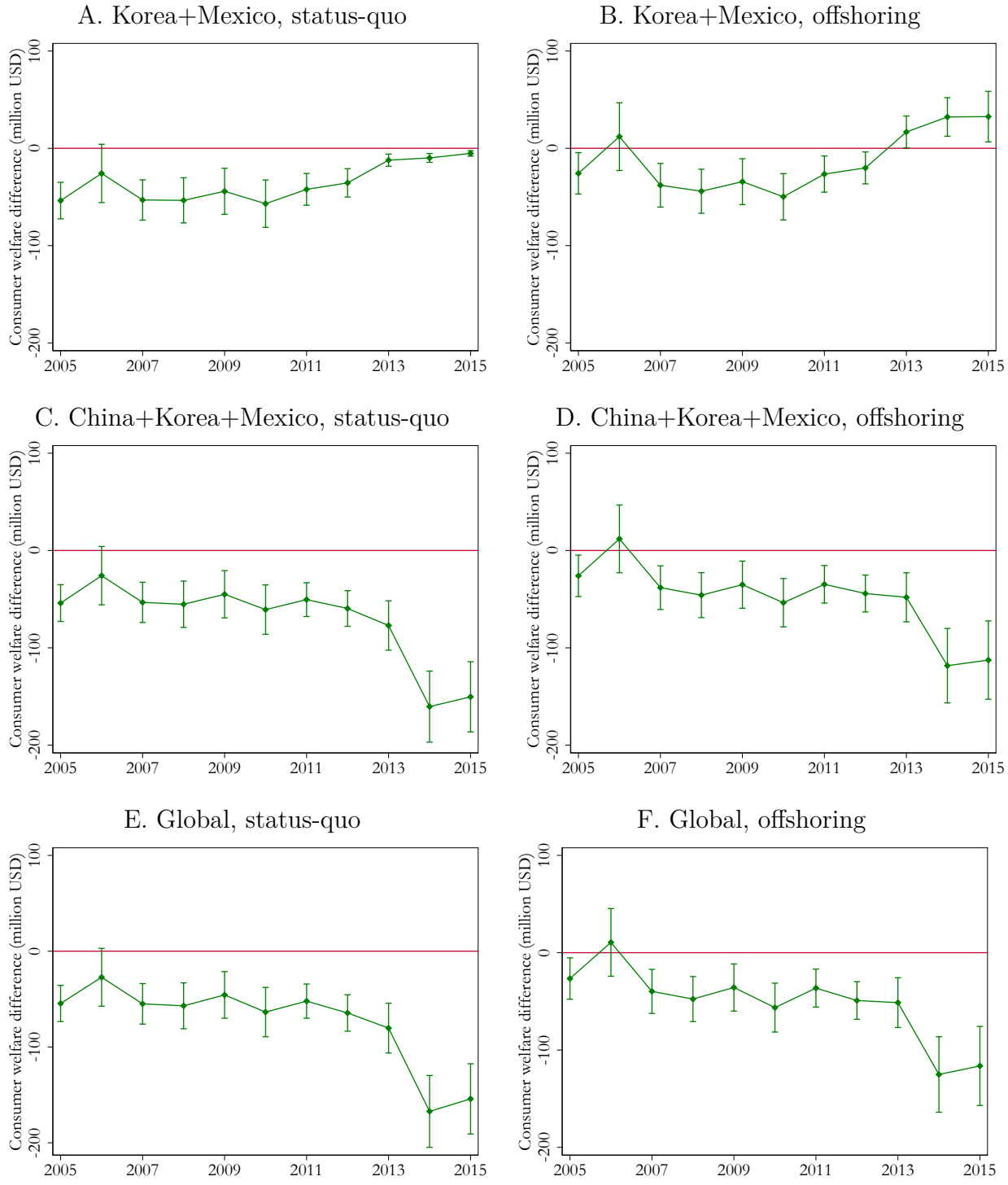
Similar to the baseline results in Figure 3, Figure A.2 repeats the analysis while assuming that pricing for Kenmore top-loaders is controlled by Whirlpool. While changing the assumption on control increases the estimated loss in consumer surplus from tariffs, the results remain similar to the baseline results.

Figure A.1: Domestic merger: appropriation and strategic effects, $\kappa = 50\%$



Notes: The figure shows how for a Whirlpool-Maytag merger the *appropriation effect* (solid green line) and the *strategic effect* (dashed blue line) change Whirlpool's profits from a 50% duty on imports from different origin groups. The simulations treat Kenmore top-loaders (manufactured by Whirlpool) like products sold by Whirlpool directly. Standard errors are clustered at the brand level.

Figure A.2: Domestic merger: consumer surplus effect, $\kappa = 50\%$



Notes: The figure shows how a Whirlpool-Maytag merger changes the consumer welfare implications from a 50% duty on imports from different origin groups. The simulations treat Kenmore top-loaders (manufactured by Whirlpool) like products sold by Whirlpool directly. Standard errors are clustered at the brand level.