When Do Countries Cooperate in Trade Negotiations?*

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When will countries cooperate within trade negotiations and under which underlying conditions? In this paper, we study trade wars and trade talks within a structural framework that allows for rich cross-country and sectoral heterogeneity in demand, productivity, and trade costs, and in which countries specialize in sectors with heterogeneous markups and profits. We find that compared to perfect competition, especially heterogeneity in demand across countries generates a high degree of dispersion in optimal tariffs across countries, ranging from 0 to close to 100%. Further, the more unequal countries are in terms of demand elasticities and markups, the higher the cooperative tariff that can be at most agreed on. Lastly, we find that groups of countries that specialize in high-markup goods find it easier to agree on tariff reductions than those producing low-markup varieties, suggesting a potential reason why richer countries sign disproportionately more trade agreements than poorer countries do.

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1 Introduction

The last decades have seen an unprecedented trend towards trade liberalization and lower tariffs, which has taken place at least since the establishment of GATT in 1947. In recent years, however, this trend appears to have slowed or even reversed, as evident for example from the Doha round or recent tariff increases in the United States.

In light of these changes, this paper asks the question of when countries may want to cooperate within trade negotiations and under which underlying conditions. While much of the theoretical and quantitative literature points to the existence of a positive optimal tariff in the absence of retaliation, standard trade models predict that countries will benefit from trade negotiations and have incentives to jointly move closer to free trade. However, much of the literature assumes that countries are fairly symmetric, which plausibly also oversimplifies the incentives to engage in free trade.

In this paper, we depart from the literature by studying trade wars and trade talks within a framework that allows for rich cross-country heterogeneity in demand, productivity, and trade costs. Specifically, we build on recent work in Firooz and Heins (forthcoming), and employ a structural model of international trade in which countries specialize in sectors with heterogeneous markups and profits, based on differences in demand, comparative advantage, and trade costs. To bring the model to the data, we estimate both trade elasticities and a rich set of country- and industry-specific import demand elasticities for over 3,000 distinct sector-country pairs.

We study tariffs and trade policy in this setting in multiple ways. First, we compute optimal tariffs for each country, that is, those tariffs that maximize each country's welfare, in the absence of any retaliation and tariff changes by other countries. We find that in the case of perfect competition or homogeneous demand elasticities, optimal tariffs are fairly similar across countries and in most cases range from 30 to 45%. Once we allow for heterogeneity in demand across countries, however, these optimal tariffs become noticeably more dispersed across countries and range from 0 to close to 100%.

Second, we ask whether or not these diverging incentives also matter for the ability of countries to successfully negotiate with each other. We find that also in this scenario, the more unequal countries are in terms of demand elasticities, the higher the cooperative tariff that can be agreed on. Under perfect competition, countries would be willing to agree on tariff reductions of close to 80% compared to either Nash tariffs or unilaterally optimal ones. Interestingly, this number falls to only 50% if demand elasticities are sector- and country-specific. This result shows that in the presence of rich heterogeneity in markups and profits across countries, trade negotiations are much less successful. The main reason behind this result is that a country that is a net-exporter of high-markup goods finds tariff reductions welfare-improving, while the opposite is true for a net importer of high-markup goods.

Third, we ask to what extent regional free-trade agreements are still possible in the baseline case and how the success of such an agreement depends on the characteristics of its members. We find that groups of countries in which demand is more elastic and markups are hence lower will optimally jointly only agree on small or no reductions in tariffs. In contrast, groups of high-

markup countries may be able to agree on tariff reductions of about 50%. Interestingly, since demand tends to be less elastic and markups tend to be higher in richer countries, these findings suggest that the block of rich countries may find it relatively easier to negotiate regional trade agreements, in line with empirical evidence.

Our paper makes several contributions to the existing literature. First, our findings are relevant to the literature on optimal tariffs, trade wars, and trade talks (see, e.g., Brander and Spencer, 1981; Grossman and Helpman, 1994; Bagwell and Staiger, 1999, 2012; Goldberg and Maggi, 1999; Maggi and Rodriguez-Clare, 2007; Ossa, 2014; Dinopoulos et al., 2024). In contrast to these papers, we focus on determining how asymmetric incentives to use tariffs are and how they shape the outcomes of trade negotiations. In addition, we are unaware of other work that highlights to what extent similarities in terms of demand and markups facilitate or complicate successful trade negotiations.

Second, our paper relates to the literature on profit shifting (see, e.g., Brander and Spencer, 1981; Spencer and Brander, 1983; Brander and Spencer, 1985; Brander, 1986; Krugman, 1987; Bagwell and Staiger, 2012; Ossa, 2014; Lashkaripour and Lugovskyy, 2018; Ding et al., 2022; Allcott et al., 2024). We contribute to this literature by explicitly quantifying how each country's specialization pattern in goods with heterogeneous markups affects trade policy. To the best of our knowledge, this paper is the first to explicitly measure the importance of profit shifting across countries for the welfare consequences of and incidence of tariffs by comparing the results to a perfect competition variant. Further, we document that optimal tariff are noticeably more dispersed on cooperative tariffs higher in the presence of profit shifting. We are unaware of previous work that has made these points.

Lastly, our paper contributes to the literature on regional trade agreements (Freund, 2000; Baier and Bergstrand, 2004; Freund and Ornelas, 2010; Bown and Crowley, 2013; Baier et al., 2014; Maggi, 2014; Limão, 2016; Rodrik, 2018; Crowley et al., 2021, 2024). In contrast to existing work, we show that groups of countries in which demand is more elastic and markups hence lower will optimally jointly only agree on small or no reductions in tariffs. We believe this finding has important implications for the ability of richer versus poorer countries to negotiate bilateral and multilateral agreements.

The remainder of the paper is structured as follows. Section 2 presents the baseline model and derives the equilibrium we use in the counterfactuals. In Section 4 we describe how we evaluate optimal and cooperative tariffs and present the counterfactual results. Section 5 concludes and the Appendix provides a range of additional tariffs and figures to support the analysis.

2 Model

2.1 Preferences and Demand Schedules

Preferences of the representative agent in country n have multiple tiers, and we distinguish between sectors $k = 1, ..., K$ (e.g., vehicles), products (sub-sectors) within these sectors $j = 1, ..., J_k$ (e.g., cars), and varieties of these products ω (e.g., sedan cars with a certain cylinder capacity). We assume that households have Cobb-Douglas preferences over sectors and hence

spend a constant fraction of income on each industry. Preferences across products and varieties are governed by CES preferences with elasticities of substitution σ_n^k and σ_n^{jk}, respectively.[1]

More specifically, we assume that utility over all sectors in country n is given by the following Cobb-Douglas function:

$$U_n = \Pi_{k=1}^{K} {Q_n^k}^{\alpha_n^k}, \qquad \sum_{k=1}^{K} \alpha_n^k = 1 \quad \forall n \in \{1, ..., N\}, \tag{1}$$

where Q_n^k denotes a composite good in sector k and α_n^k is its expenditure share in country n. The composite good Q_n^k is a CES aggregate over its sub-sectors:

$$Q_n^k = \left[\sum_{j=1}^{J_k} (q_n^{jk})^{\frac{\sigma_n^k - 1}{\sigma_n^k}} \right]^{\frac{\sigma_n^k}{\sigma_n^k - 1}}, \tag{2}$$

where q_n^{jk} is a composite good in sub-sector j belonging to sector k in country n. Parameter σ_n^k measures the elasticity of substitution between the sub-sectors of sector k in country n. Note that these elasticities are allowed to differ across sectors and countries. Equation (2) implies the following demand for the composite good q_n^{jk}:

$$q_n^{jk} = \left(\frac{P_n^{jk}}{\mathcal{P}_n^k} \right)^{-\sigma_n^k} Q_n^k, \tag{3}$$

where P_n^{jk} represents the ideal price index for sub-sector j in country n, and $\mathcal{P}_n^k$ denotes the CES price index for sector k in country n:

$$\mathcal{P}_n^k = \left[\sum_{j=1}^{J_k} (P_n^{jk})^{1-\sigma_n^k} \right]^{\frac{1}{1-\sigma_n^k}}. \tag{4}$$

Moreover, given the preference structure (1), consumers in country n face the following price index:

$$\mathcal{P}_n = \Pi_{k=1}^{K} \left(\frac{\mathcal{P}_n^k}{\alpha_n^k} \right)^{\alpha_n^k}. \tag{5}$$

Finally, the composite good q_n^{jk} is a CES aggregate over a unit measure of varieties ω, each sourced from the lowest-price supplier across the world:

$$q_n^{jk} = \left[\int_0^1 r_n^{jk}(\omega)^{\frac{\sigma_n^{jk} - 1}{\sigma_n^{jk}}} d\omega \right]^{\frac{\sigma_n^{jk}}{\sigma_n^{jk} - 1}}, \tag{6}$$

where $r_n^{jk}(\omega)$ denotes the demand for variety ω in sub-sector j in country n, and parameter σ_n^{jk}

[1] This multi-tier preference structure is motivated by recent work by Caliendo et al. (2023), who document that a two-tier Armington Structure results in quantitatively greater welfare effects of tariffs.

measures the elasticity of substitution between varieties in sub-sector j in country n. These elasticities are allowed to differ across sub-sectors and countries. We assume that the share of each variety is infinitesimal. Equation (6) implies the following demand function for variety ω of sub-sector j in country n:

$$r_n^{jk}(\omega) = \left(\frac{p_n^{jk}(\omega)}{P_n^{jk}}\right)^{-\sigma_n^{jk}} q_n^{jk}, \tag{7}$$

where $p_n^{jk}(\omega)$ denotes the price charged in country n by the lowest-price producer of variety ω in sub-sector j across the world and the CES price index P_n^{jk} is defined as

$$P_n^{jk} = \left[\int_0^1 p_n^{jk}(\omega)^{1-\sigma_n^{jk}} d\omega\right]^{\frac{1}{1-\sigma_n^{jk}}}. \tag{8}$$

2.2 Trade Frictions

Selling a variety of sub-sector j from country i to country n is subject to an ad valorem tariff t_{in}^{jk} and an iceberg cost d_{in}^{jk}. The presence of iceberg costs means that in order to deliver one unit of a variety in sub-sector j from country i to country n, country i needs to ship d_{in}^{jk} units of this good. For future reference, we define trade frictions as

$$\tau_{in}^{jk} = d_{in}^{jk}(1 + t_{in}^{jk}), \tag{9}$$

for any given country pair.[2] We assume that firms ship goods only directly from i to n and not via a third country.[3]

2.3 Technology and Product Market Structure

Variety ω in sub-sector j in country n is produced with labor as the sole factor of production:

$$q_n^{jk}(\omega) = z_n^{jk}(\omega) l_n^{jk}(\omega), \tag{10}$$

where $z_n^{jk}(\omega)$ denotes a producer's productivity, and the technology of production is assumed to be proprietary.[4] We follow the probabilistic formulation in Eaton and Kortum (2002) and Caliendo

[2] Our formulation implicitly assumes that tariffs are applied to c.i.f. prices. As documented by Feenstra and Romalis (2014), this is indeed the case for most countries across the world. Four countries in our sample, however, charge tariffs on f.o.b. prices (Australia, Canada, New Zealand, and the United States) which might be of concern especially in the estimation of the trade elasticity. In practice, however, we found that excluding these countries in the estimation procedure resulted in similar estimates and the correlation of both sets of estimates equaled for example 76% among statistically significant estimates.

[3] In practice, this assumption might disproportionately affect the impact of trade barriers in so-called entrepôts (see, for example, the recent work by Ganapati et al., 2022) in our sample, such as Egypt or the UK. Trade barriers in these countries would hence likely have an impact not only on these economies directly, but on trade (and profit shifting) between other parties as well. While incorporating these more complex trade networks is beyond the scope of this paper, it would certainly be of interest for future research to understand how the presence of indirect trade affects the impact of tariffs and trade conflicts in the context of profit shifting and beyond.

[4] In principle, one could easily extend the model to incorporate input-output linkages as, for example, modeled in Caliendo and Parro (2015) or Caliendo et al. (2023). To focus on the impact of profit shifting and markup heterogeneity, however, we chose to abstract away from this channel, which allows us to more directly highlight

and Parro (2015) and assume that firm-specific productivities in sub-sector j in country n are drawn from a Fréchet distribution with location parameter T_n^{jk} and shape parameter θ^{jk}. We assume that productivity draws are independent across firms, sub-sectors, and countries. Varieties ω within a sub-sector j and country n are perfect substitutes, so that households optimally purchase each variety from the lowest-price supplier across the world.

Following the framework of Firooz and Heins (forthcoming), we assume that serving each market involves two stages. In the first stage, producers need to pay a fixed cost f_d and f_x (denominated in units of the origin-country labor) to serve the domestic market and each export market, in which case, as for example in Chaney (2008), Eaton et al. (2011), Feenstra and Romalis (2014), or Edmond et al. (2015), firms' decisions for each destination market are made independently and a firm will sell to a destination only if the market-specific variable profits exceed the fixed cost. In Stage 2, firms that have entered a destination market set prices, simultaneously and noncooperatively, and produce the good.

Similar to, for example, Atkeson and Burstein (2008) and Edmond et al. (2015), we assume that firms consider entry to a given destination market sequentially in reverse order of their marginal cost in that destination market.[5] Further, to ensure that each variety is sold in each destination market n, we assume that the fixed cost to serve a given market does not exceed the monopoly variable profits—that is, it is smaller than the variable profits that the lowest-marginal cost firm earns if it becomes a monopolist in that market. However, both of these assumptions can be easily relaxed as we point out in more detail in Firooz and Heins (forthcoming).

As discussed in Firooz and Heins (forthcoming), under the assumptions we make, the lowest-cost producer in destination market n optimally charges the Dixit-Stiglitz markup $\sigma_n^{jk}/(\sigma_n^{jk}-1)$ over its marginal cost in equilibrium, and other producers stay out of this market. Therefore, the price of a variety ω in sub-sector j in country n equals

$$p_n^{jk}(\omega) = \left(\frac{\sigma_n^{jk}}{\sigma_n^{jk}-1}\right) \times \min_i \left\{\frac{w_i \tau_{in}^{jk}}{z_i^{jk}(\omega)}\right\}, \tag{11}$$

where w_i denotes the wage in country i.

2.4 Trade Shares and Final Absorption

As shown in detail in Firooz and Heins (forthcoming), we can use the price equation (11) along

the determinants and implications of profit shifting. That being said, it is well-known that input-output linkages tend to magnify the welfare implications of trade, and the welfare changes we find in our counterfactual analysis will hence be likely even larger than the ones we find.

[5] As discussed in more detail in Firooz and Heins (forthcoming), this assumption rules out the possibility of multiple equilibria and ensures that the lowest-cost producer has an incentive to enter the market, and all other firms would optimally stay out. The only remaining possibility for multiple equilibria is in principle when two firms have the same marginal cost. Due to the Fréchet assumption however, the probability of this event equals 0.

with the properties of the Fréchet distribution to derive the price index P_n^{jk} in (8) as

$$P_n^{jk} = \zeta_n^{jk}[\sum_{i=1}^{N} T_i^{jk}(w_i\tau_{in}^{jk})^{-\theta^{jk}}]^{\frac{-1}{\theta^{jk}}}, \tag{12}$$

where ζ_n^{jk} is a constant that is proportional to the Dixit-Stiglitz markup $\sigma_n^{jk}/(\sigma_n^{jk}-1)$. Let X_n^{jk} denote total expenditure on sub-sector j in country n, and let X_{in}^{jk} be the expenditure in country n spent on sub-sector j goods sourced from country i. Then, using the properties of the Fréchet distribution, one can derive the share of country i in country n's expenditure on sub-sector j as

$$\frac{X_{in}^{jk}}{X_n^{jk}} \equiv \pi_{in}^{jk} = \frac{T_i^{jk}(w_i\tau_{in}^{jk})^{-\theta^{jk}}}{\sum_{h=1}^{N} T_h^{jk}(w_h\tau_{hn}^{jk})^{-\theta^{jk}}}. \tag{13}$$

Next, we derive an equation for expenditure X_n^{jk}. Let I_n denote final absorption in country n. Given country n's preferences as defined by (1), consumers in n spend a fraction α_n^k of their final absorption on goods produced in sector k. Together with Equation (3), this implies that

$$X_n^{jk} = \alpha_n^k I_n(\frac{P_n^{jk}}{\mathcal{P}_n^k})^{1-\sigma_n^k}. \tag{14}$$

Final absorption in country n is equal to the sum of workers' wage income, firm profits Y_n, tariff revenue R_n, and the trade deficit D_n:

$$I_n = w_n L_n + Y_n + R_n + D_n. \tag{15}$$

Since, by our definition, country i's expenditure in sub-sector j on varieties from country n is given by $X_{ni}^{jk} = \pi_{ni}^{jk} X_i^{jk}$, total revenue of firms in sub-sector j in country n from their sale in country i equals $\pi_{ni}^{jk} X_i^{jk}/(1+t_{ni}^{jk})$. Moreover, since these firms charge a markup of $\sigma_i^{jk}/(\sigma_i^{jk}-1)$, total revenue of these firms can be expressed as $\sigma_i^{jk}/(\sigma_i^{jk}-1)$ times their total variable cost. Hence, total variable profit from selling sub-sector j goods in country i equals $\frac{1}{\sigma_i^{jk}(1+t_{ni}^{jk})} X_{ni}^{jk}$ and total profit Y_n can be written as

$$Y_n = \sum_{k=1}^{K}\sum_{j=1}^{J_k}\sum_{i\neq n}\left(\frac{\pi_{ni}^{jk} X_i^{jk}}{\sigma_i^{jk}(1+t_{ni}^{jk})} - \pi_{ni}^{jk} f_x w_n\right) + \sum_{k=1}^{K}\sum_{j=1}^{J_k}\left(\frac{\pi_{nn}^{jk} X_n^{jk}}{\sigma_n^{jk}} - \pi_{nn}^{jk} f_d w_n\right). \tag{16}$$

To elaborate on the fixed cost, note that the mass of varieties served by country n in market i in sub-sector j is π_{ni}^{jk}.

To derive an expression for tariff revenues, we make use of the fact that imports of country n from i in sub-sector j are equal to $\pi_{in}^{jk} X_n^{jk}/(1+t_{in}^{jk})$, which allows us to write tariff revenue R_n as

$$R_n = \sum_{k=1}^{K}\sum_{j=1}^{J_k}\sum_{i=1}^{N}\frac{t_{in}^{jk}}{1+t_{in}^{jk}}\pi_{in}^{jk} X_n^{jk}. \tag{17}$$

Finally, to compute trade deficits, we use that, by definition, total imports minus the trade deficit (left-hand side) must equal total exports (right-hand side):

$$\sum_{k=1}^{K}\sum_{j=1}^{J_k}\sum_{i=1}^{N}\frac{\pi_{in}^{jk}X_n^{jk}}{1+t_{in}^{jk}}-D_n=\sum_{k=1}^{K}\sum_{j=1}^{J_k}\sum_{i=1}^{N}\frac{\pi_{ni}^{jk}X_i^{jk}}{1+t_{ni}^{jk}}. \tag{18}$$

It can then be shown that Equation (18) implies labor market clearing. Specifically, summing over all sub-sectors j and all sectors k in Equation (14), and using Equation (18) implies

$$w_nL_n=\sum_{k=1}^{K}\sum_{j=1}^{J_k}\sum_{i\neq n}\left(\frac{(\sigma_i^{jk}-1)\pi_{ni}^{jk}X_i^{jk}}{\sigma_i^{jk}(1+t_{ni}^{jk})}+\pi_{ni}^{jk}f_xw_n\right)+\sum_{k=1}^{K}\sum_{j=1}^{J_k}\left(\frac{(\sigma_n^{jk}-1)\pi_{nn}^{jk}X_n^{jk}}{\sigma_n^{jk}}+\pi_{nn}^{jk}f_dw_n\right).$$

2.5 Equilibrium, Solution Algorithm, and Welfare

Equilibrium Definition. Given Fréchet location and shape parameters, T_n^{jk} and θ^{jk}, elasticities of substitution σ_n^k and σ_n^{jk}, Cobb-Douglas shares α_n^k, labor endowments L_n, iceberg trade costs d_{in}^{jk}, and ad valorem tariffs t_{in}^{jk}, an equilibrium is characterized by a set of wages $\{w_n\}_{n=1}^N$ that satisfies the equilibrium conditions (4), (12), (13), (14), (15), (16), (17), and (18).

We solve the model in changes using the "exact hat algebra" employed by Dekle et al. (2008).[6] To this end, we first define the vector of trade frictions as $\tau\equiv\{\tau_{in}^{jk}\}_{i=1,n=1,k=1,j=1}^{N,N,K,J_k}$ and $\hat{x}$ as $\hat{x}=x'/x$, where x' and x denote a variable under a counterfactual trade friction τ' and the actual trade friction τ, respectively. Making use of this notation allows us to express the equilibrium conditions in changes as follows. First, we divide the counterfactual price index as defined in (12) by the factual one and then use (13) to remove T_n^{jk}:

$$\hat{P}_n^{jk}=\left[\sum_{i=1}^{N}\pi_{in}^{jk}(\hat{w}_i\hat{\tau}_{in}^{jk})^{-\theta^{jk}}\right]^{\frac{-1}{\theta^{jk}}}. \tag{19}$$

Then, the expressions for the price index (12) and for trade shares (13) can be combined to write the latter in relative terms:

$$\hat{\pi}_{in}^{jk}=\left[\frac{\hat{w}_i\hat{\tau}_{in}^{jk}}{\hat{P}_n^{jk}}\right]^{-\theta^{jk}}. \tag{20}$$

[6]The main advantage of solving the model in relative terms is that, in addition to outcomes that are observable in the data, we only need explicit estimates of θ^{jk} and σ_n^{jk} to evaluate counterfactual outcomes of changes in tariffs. However, as emphasized by Antràs and Chor (2021) for example, while the exact hat algebra is "remarkably useful" and has been increasingly popular throughout the last decade, whether or not this approach is parsimonious is not uncontroversial, since it basically calibrates *all* parameters of the model (or a combination of them) to match the data *exactly*. As shown for example in recent work by Dingel and Tintelnot (2020), this might be of particular concern in cases in which the data features many zeros. Reassuringly, as we show below, our results and counterfactual predictions are largely similar if we define a sector as a two-digit industry instead of a four-digit one, in which case the trade matrix has noticeably fewer zeros (14.4%).

Next, we write total expenditure (14) in relative terms:

$$\hat{X}_n^{jk} = \hat{I}_n(\hat{P}_n^{jk}/\hat{\mathcal{P}}_n^k)^{1-\sigma_n^k}, \tag{21}$$

and use Equation (14) to write

$$\hat{\mathcal{P}}_n^{k\ 1-\sigma_n^k} = \frac{\mathcal{P}_n'^{k\ 1-\sigma_n^k}}{\mathcal{P}_n^{k\ 1-\sigma_n^k}} = \frac{\sum_{j=1}^{J_k} P_n'^{jk\ 1-\sigma_n^k}}{\mathcal{P}_n^{k\ 1-\sigma_n^k}} = \frac{1}{\alpha_n^k I_n}\sum_{l=1}^{J_k} \hat{P}_n^{lk\ 1-\sigma_n^k} X_n^{lk}. \tag{22}$$

Substituting the latter into the former delivers

$$X_n'^{jk} = \alpha_n^k I_n' \frac{\hat{P}_n^{jk\ 1-\sigma_n^k} X_n^{jk}}{\sum_{l=1}^{J_k} \hat{P}_n^{lk\ 1-\sigma_n^k} X_n^{lk}}. \tag{23}$$

Using the final absorption equation (15), we can then write final absorption under counterfactual trade frictions as follows:

$$I_n' = \hat{w}_n w_n L_n + Y_n' + R_n' + D_n, \tag{24}$$

where

$$Y_n' = \sum_{k=1}^{K}\sum_{j=1}^{J_k}\sum_{i\neq n}\left(\frac{\pi_{ni}'^{jk} X_i'^{jk}}{\sigma_i^{jk}(1+t_{ni}'^{jk})} - \pi_{ni}'^{jk} f_x \hat{w}_n w_n\right) + \sum_{k=1}^{K}\sum_{j=1}^{J_k}\left(\frac{\pi_{nn}'^{jk} X_n'^{jk}}{\sigma_n^{jk}} - \pi_{nn}'^{jk} f_d \hat{w}_n w_n\right), \tag{25}$$

$$R_n' = \sum_{k=1}^{K}\sum_{j=1}^{J_k}\sum_{i=1}^{N} \frac{t_{in}'^{jk}}{1+t_{in}'^{jk}} \pi_{in}'^{jk} X_n'^{jk}, \tag{26}$$

and we assume that trade deficits remain unchanged. Similarly, the trade balance equation (18) can be used to derive the trade balance under counterfactual trade frictions as

$$\sum_{k=1}^{K}\sum_{j=1}^{J_k}\sum_{i=1}^{N} \frac{\pi_{in}'^{jk} X_n'^{jk}}{1+t_{in}'^{jk}} - D_n = \sum_{k=1}^{K}\sum_{j=1}^{J_k}\sum_{i=1}^{N} \frac{\pi_{ni}'^{jk} X_i'^{jk}}{1+t_{ni}'^{jk}}. \tag{27}$$

Equilibrium Definition in Relative Terms. Given Fréchet shape parameters θ^{jk}, elasticities of substitution σ_n^k and σ_n^{jk}, Cobb-Douglas shares α_n^k, total expenditures X_n^{jk}, trade shares π_{in}^{jk}, labor endowments L_n, relative trade frictions $\hat{\tau}_{in}^{jk}$, and ad valorem tariffs $t_{in}'^{jk}$, an equilibrium is characterized by a set of relative wages $\{\hat{w}_n\}_{n=1}^N$ that satisfies the equilibrium conditions (19), (20), (23), (24), (25), (26), and (27).

Welfare and Solving for the Equilibrium. The equilibrium objects that need to be solved for are relative changes in trade shares $\hat{\pi}_{in}^{jk}$, relative changes in wages $\hat{w}_n$, relative changes in prices $\hat{P}_n^{jk}$, and counterfactual expenditures $X_n'^{jk}$. The procedure to solve for the equilibrium is provided in Firooz and Heins (forthcoming). We define the welfare of the representative consumer in country n as the country's real final absorption $I_n/\mathcal{P}_n$. As outlined in Firooz and

Heins (forthcoming), we decompose the percentage change in welfare into a weighted average of percentage changes in real wages, real profits, real tariff revenues, and real trade deficits and explore this decomposition in our counterfactuals.

2.6 Extension: Incorporating Multinationals into the Model

So far, we have assumed that all production in each country is done by its own firms, and as a result, all profits generated in each country are owned by individuals in that country. Given the rising role of multinational companies across the world, and as a robustness exercise, the Appendix discusses an extension which adds multinational companies to the model to explore how they affect the welfare consequences of profit shifting. In particular, in that model we use information on and account for the share of multinational enterprises in country n's production in sub-sector j, γ_n^{jk}, as well as the share of country i in total multinational activities in sub-sector j in country n, λ_{in}^{jk}. Firooz and Heins (forthcoming) provides more details.

2.7 Discussion

We close this section with a discussion on the main features and rationales behind the assumptions of our model. Methodologically, our model lies at the intersection of Eaton and Kortum (2002) and Melitz (2003). Compared to Eaton and Kortum (2002), competition is imperfect and entry occurs in two stages, which results in a single supplier of each variety who charges the Dixit-Stiglitz markup. In contrast to Melitz (2003) each variety is sourced from the lowest-price supplier across the world. Consequently, the trade elasticity is governed by the Fréchet parameter θ^{jk}, while the demand elasticity σ_n^{jk} governs substitution across varieties, given prices set by each supplier.

In our view, there are three main benefits of our approach. First, it allows us to tractably introduce markups and their heterogeneity across countries while still relying on many desired features of the elegant probabilistic framework introduced by Eaton and Kortum (2002). The model provides closed-form expressions for expenditure shares, allows model-consistent estimation of trade and demand elasticities, can be solved via hat algebra and is readily brought to the data for a wide range of countries and sectors under moderate data requirements, making it particularly suitable for cross-country analysis. Second, it allows us to explicitly quantify the importance of profit shifting for any arbitrary changes in tariffs and trade costs as we are able to compare our findings to a perfect-competition counterpart, which is especially relevant in our context. Third, the model delivers an intuitive relationship between parameters and outcomes. We show that most differences between the baseline model and perfect competition variant can be explained by the difference between the weighted sectoral average of the inverse demand elasticity on imports versus that on exports. The model also allows us to distinguish between the role of σ_n^{jk} and θ^{jk} in counterfactuals and hence understand how both jointly shape the welfare consequences of tariffs.

3 Counterfactual Design

This section outlines the quantitative framework based on the model described in Section 2, focusing on how cross-country and sectoral heterogeneity in elasticities and profit-shifting potential shapes countries' incentives to cooperate on tariff reductions. We compare outcomes under

three distinct market structures: (i) baseline (heterogeneous elasticities); (ii) homogeneous; and (iii) perfect competition models.[7] The baseline model incorporates country- and sector-specific substitution elasticities (σ_n^k, σ_n^{jk}) as well as markups, calibrated to 2015 trade data as described in Firooz and Heins (forthcoming). To isolate the role of heterogeneity, we construct a homogeneous elasticity model in which all countries share the same elasticities, using the corresponding values estimated for the United States.[8] Finally, we consider a perfect competition benchmark in which firms set prices equal to marginal cost, eliminating markup distortions altogether. In this environment, the profit-shifting channel is shut down by construction.[9]

3.1 Optimal and Nash Tariffs: Definitions and Computation Methods

In this section, we define the two benchmark tariff measures—optimal and Nash tariffs—that serve as reference points for computing cooperative tariff scenarios. The optimal tariff captures a country's unilateral welfare-maximizing choice given fixed foreign tariffs, while the Nash tariff emerges when all countries set tariffs strategically and simultaneously. These benchmarks provide the non-cooperative baselines against which we evaluate the welfare gains from cooperation such as trade talk.

Optimal Tariffs. Following Ossa (2014), we define a country's optimal tariff as the unilaterally welfare-maximizing tariff, assuming that all other countries' tariffs remain fixed. Thus, country n's optimal tariff t_n^{opt} is[10]

$$t_n^{\text{opt}} = \arg\max_{t_n \geq 0} \ \hat{W}_n(t_n; \bar{\boldsymbol{t}}_{-n}) \quad \forall n \in \{1, \ldots, N\}, \tag{28}$$

where $\hat{W}_n(\cdot)$ denotes country n's welfare gain function, computed as

$$\hat{W}_n(\boldsymbol{t}) = \left(\frac{I_n(\boldsymbol{t})/\mathcal{P}_n(\boldsymbol{t})}{I_n^{\text{initial}}/\mathcal{P}_n^{\text{initial}}} - 1 \right) \times 100. \tag{29}$$

These tariffs serve as useful benchmarks for analyzing trade policy (Ossa, 2014).

Nash Tariffs. We define the Nash tariff $\boldsymbol{t}^{\text{Nash}}$ as the set of tariffs $\{t_n^{\text{Nash}}\}_{n=1}^N$ such that each country chooses its own tariff to maximize its own welfare, taking all the tariffs chosen by other

[7] As the profit-shifting channel is eliminated, the perfect competition model becomes identical under both the baseline (heterogeneous elasticities) and the homogeneous elasticity specifications. Consequently, the resulting optimal tariffs and cooperative tariffs also converge across these two settings. In practice, due to minor computational errors, the numerical results of the baseline model and the homogeneous model under perfect competition may not coincide exactly, but the difference is negligible. Unless otherwise noted, the results for perfect competition in this paper are based on the baseline model.

[8] That is, we set $\sigma_n^{jk} = \sigma_{\text{USA}}^{jk}$ for all n and k. This helps isolate the impact of elasticity heterogeneity while maintaining the same market structure.

[9] To prevent firms from making negative profits under zero-markup pricing, we also eliminate fixed domestic and export costs. Specifically, we impose $f_d = f_x = 0$.

[10] If the welfare gain function $\hat{W}_n(\cdot)$ is differentiable in t_n, the optimal tariff satisfies the first-order condition:

$$\frac{\partial \hat{W}_n(t_n)}{\partial t_n} = 0.$$

countries as given, and no country can increase its welfare by unilaterally deviating (Ossa, 2014). Formally, the Nash tariffs satisfy

$$t_n^{\text{Nash}} = \arg\max_{t_n \geq 0} \hat{W}_n(t_n; \boldsymbol{t}_{-n}^{\text{Nash}}) \quad \forall n \in \{1, \ldots, N\}. \tag{30}$$

In practice, we obtain $\boldsymbol{t}^{\text{Nash}}$ using an iterative best-response procedure. Starting from the factual 2015 tariffs presented in Firooz and Heins (forthcoming), we sequentially update each country's tariff to its optimal value given the current tariffs of all other countries. Specifically, we first determine the optimal tariff for country 1 and replace its current tariff with that value. We then proceed to country 2, compute its optimal tariff given the updated tariffs of all others, and update it accordingly. This process is repeated for all countries in turn. After one full round of updates, we return to country 1 and repeat the procedure, allowing each country to reoptimize in sequence. The algorithm continues until convergence, defined as the point where further iterations yield negligible changes[11] in tariffs across all countries. The converged tariff vector constitutes the Nash equilibrium in tariff-setting.

3.2 Cooperative Tariffs: Definitions and Computation Methods

Primary Definition. We conceptualize cooperative tariffs as the outcome of a multilateral negotiation in which all countries agree to reduce their own optimal tariffs by a common percentage. The negotiation concludes at the largest uniform reduction such that the marginal welfare gains from further tariff reductions remain non-negative for all participating countries. The underlying rationale is that no country would accept further tariff cuts once it no longer benefits at the margin; hence, this point marks the negotiated outcome. Specifically, let $x \in [0, 100]$ denote the common percentage reduction from each country's optimal (or Nash) tariff. Then, the cooperation threshold x_{coop} is defined as[12]

$$x_{\text{coop}}^{(1)} = \max \left\{ x \in [0, 100] \;\middle|\; \frac{\partial \hat{W}_n(\boldsymbol{t}^{\text{opt}} \cdot (1 - x/100))}{\partial x} \geq 0 \quad \forall n \in \{1, \ldots, N\} \right\}. \tag{31}$$

Given this threshold, the vector of cooperative tariffs is

$$\boldsymbol{t}_{(1)}^{\text{coop}} = \boldsymbol{t}^{\text{opt}} \cdot \left(1 - \frac{x_{\text{coop}}^{(1)}}{100} \right). \tag{32}$$

In the formulas presented, we use the optimal tariff vector as the reference point for notational convenience. However, the same definitions and computational procedures apply analogously when using the Nash tariff vector as the starting point.

Alternative Definitions. Beyond the primary definition based on marginal welfare gains, we consider several alternative definitions of cooperative tariffs that reflect different negotiation

[11] Less than 0.1 percentage points across all countries.

[12] Note that when computing the cooperative tariff, the initial condition in Equation (29) is evaluated under the optimal/Nash tariff. In practice, the cooperative tariff is computed discretely with 0.01-step grid search.

thresholds as summarized in Table 1. A second variant defines cooperation based on level-based welfare gains rather than marginal ones. Specifically, the cooperative tariff is set at the largest uniform percentage reduction such that all countries experience non-negative welfare improvements relative to the optimal/Nash tariff equilibrium. This yields the lowest level of tariffs that still deliver gains to all participants:

$$x^{(2)}_{\text{coop}} = \max\left\{x \in [0,100] \;\middle|\; \hat{W}_n\left(\boldsymbol{t}^{\text{opt}} \cdot \left(1 - \frac{x}{100}\right)\right) \geq 0 \quad \forall n \in \{1,\ldots,N\}\right\}, \tag{33}$$

with the associated cooperative tariffs given by

$$\boldsymbol{t}^{\text{coop}}_{(2)} = \boldsymbol{t}^{\text{opt}} \cdot \left(1 - \frac{x^{(2)}_{\text{coop}}}{100}\right). \tag{34}$$

A third variant combines the percentage point reduction rule[13] with a marginal welfare threshold. In this formulation, cooperative tariffs are determined at the largest uniform percentage point reduction from each country's optimal tariff such that all countries continue to experience non-negative marginal gains from further reductions:[14]

$$x^{(3)}_{\text{coop}} = \max\left\{x \in \left[0, \max(\boldsymbol{t}^{\text{opt}})\right] \;\middle|\; \frac{\partial \hat{W}_n(\max(0, t_n^{\text{opt}} - x))}{\partial x} \geq 0 \quad \forall n \in \{1,\ldots,N\}\right\}, \tag{35}$$

with cooperative tariffs given by

$$\boldsymbol{t}^{\text{coop}}_{(3)} = \max\left(0, \boldsymbol{t}^{\text{opt}} - x^{(3)}_{\text{coop}}\mathbf{1}_n\right). \tag{36}$$

The final variant also adopts the percentage point approach but replaces the marginal condition with a level-based welfare criterion. Under this rule, the cooperative tariff is the maximum uniform percentage point cut such that all countries experience non-negative welfare gains from cooperation:

$$x^{(4)}_{\text{coop}} = \max\left\{x \in \left[0, \max(\boldsymbol{t}^{\text{opt}})\right] \;\middle|\; \hat{W}_n\left(\max(0,\ t_n^{\text{opt}} - x)\right) \geq 0 \quad \forall n \in \{1,\ldots,N\}\right\}, \tag{37}$$

with resulting cooperative tariffs:

$$\boldsymbol{t}^{\text{coop}}_{(4)} = \max\left(0, \boldsymbol{t}^{\text{opt}} - x^{(4)}_{\text{coop}}\mathbf{1}_n\right). \tag{38}$$

3.3 Regional Free-trade Agreement: Group Classification

In addition to full multilateral cooperation, we consider scenarios in which only specific subsets

[13] In practice, a percentage point rule may be perceived as more equitable, since countries with higher initial tariffs give up more under a percentage-based scheme.

[14] In our framework, negative tariffs are not permitted; once a country's tariff reaches zero, it remains at that level, while others may continue to reduce theirs.

Table 1: Definitions of Cooperative Tariffs

Criterion	% Reduction	%p Reduction
$d\hat{W}_n \geq 0$	$\boldsymbol{t}^{\text{coop}}_{(1)}$	$\boldsymbol{t}^{\text{coop}}_{(3)}$
$\hat{W}_n \geq 0$	$\boldsymbol{t}^{\text{coop}}_{(2)}$	$\boldsymbol{t}^{\text{coop}}_{(4)}$

Notes: Cooperative tariff definitions differ along two dimensions: (i) Welfare criterion — marginal ($d\hat{W}_n \geq 0$) vs. level ($\hat{W}_n \geq 0$); (ii) Reduction rule — percentage (%) vs. percentage point (%p) cuts relative to the optimal or Nash tariffs. Negative tariffs are not permitted; once a tariff reaches zero under percentage point cuts, it remains at zero.

of countries coordinate their tariff reductions. To define these groups, we rank countries along two structural dimensions: (i) sector-weighted average markups and (ii) sector-weighted average profit-shifting potential, computed from the 30-country, 95-sector dataset described in Firooz and Heins (forthcoming). Based on these rankings, we classify countries into four panels:

Panel A (Lowest Markups): Sweden, Canada, India, Belgium, Bangladesh, and Vietnam.

Panel B (Highest Markups): USA, UK, Italy, Greece, Russia, and Austria.

Panel C (Lowest Profit-shifting): Canada, Belgium, Vietnam, Netherlands, Rest of World (ROW), and Austria.

Panel D (Highest Profit-shifting): Brazil, Indonesia, Australia, Russia, Italy, and UK.

In each regional cooperation scenario, only the tariffs applied between members of the same panel are reduced according to the cooperative tariff rules. Tariffs applied to non-members, as well as those levied by non-members on members, remain at their optimal or Nash tariffs. This design allows us to assess how the gains from cooperation depend on the structural characteristics of the participating countries, and whether coordination is more feasible among groups sharing similar market structures.

4 Results

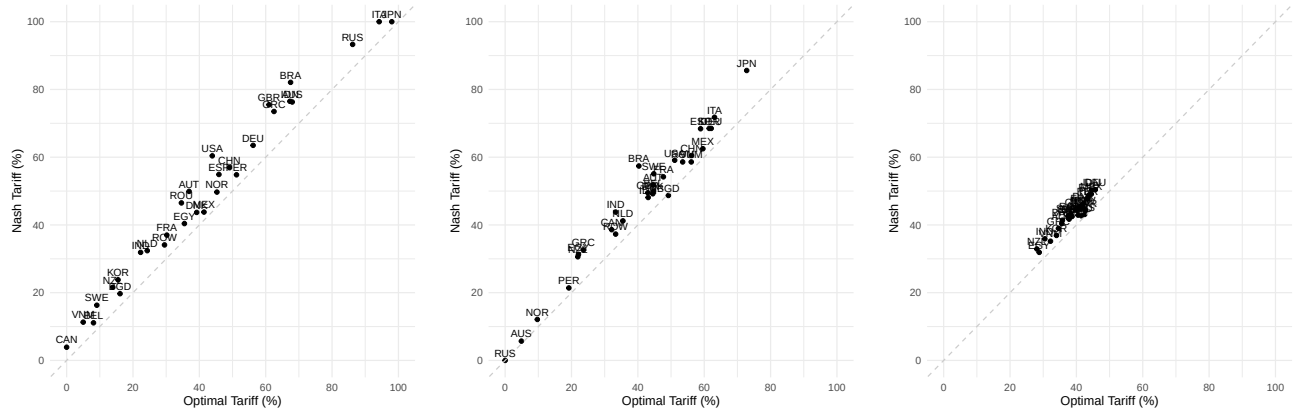
4.1 Optimal and Nash Tariffs

We begin by comparing the two benchmark tariff measures—optimal and Nash tariffs—defined in Section 3.1. In our framework, the two are highly correlated but Nash tariffs are systematically higher than optimal tariffs as illustrated in Figure 1. This contrasts with Ossa (2014), who finds that the two are nearly identical. For instance, in the absence of lobbying, Ossa (2014) reports an average optimal tariff of 62.4% and an average Nash tariff of 63.4%, a numerically negligible difference. In our baseline model, by contrast, the correlation remains very high (0.9902), yet the average optimal tariff is 41.9% while the average Nash tariff is 49.5%,[15] making it difficult to regard the levels as comparable. This discrepancy reflects a structural distinction: in Ossa

[15] See Table 2 for specific values.

(2014)'s framework, demand and trade elasticities are tightly linked by $\theta = \sigma - 1$ and firms are homogeneous in an industry, whereas our model allows for firm heterogeneity drawn from a Fréchet distribution and separates demand elasticity (σ_{njk}) from trade elasticity (θ_{jk}). As a result, high-markup industries may still exhibit high trade elasticities, so the tariffs imposed to shift profits in those sectors inflict larger losses on trading partners and elicit stronger retaliatory responses. Such interactions systematically push Nash tariffs above optimal tariffs.

Figure 1: Optimal and Nash Tariffs Across Market Structures



(a) Baseline (b) Homogeneous (c) Perfect Competition

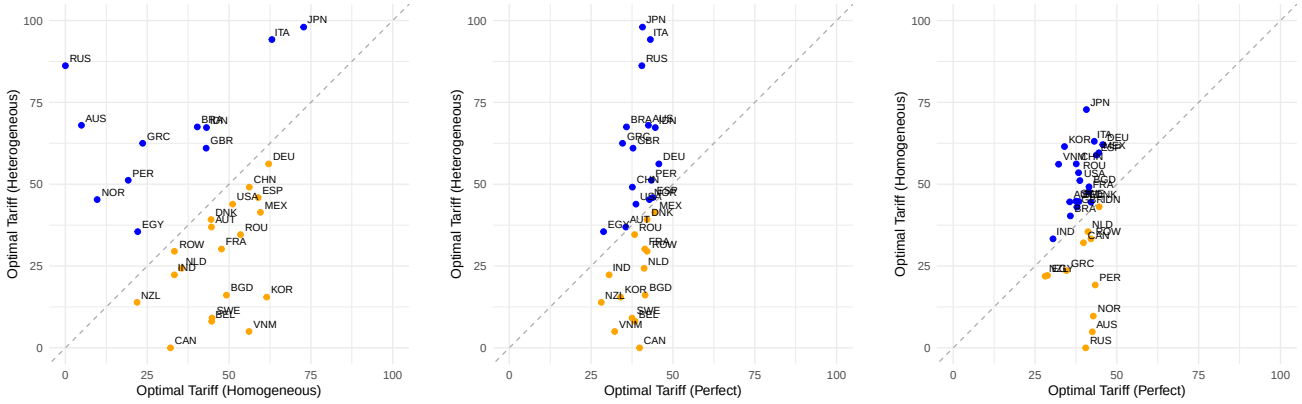
Notes: Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate.

Following Ossa (2014), we take the optimal tariff as the reference point for cooperation in the main text, while presenting the corresponding Nash tariff results in Appendix A. This choice is motivated by the fact that optimal tariffs are widely used in the literature as a starting point for counterfactual policy analysis, are more straightforward to compute than Nash tariffs, and provide a transparent baseline for analyzing cooperative reductions. At the same time, since the two measures remain closely aligned and exhibit a systematic relationship, including the Nash results in the Appendix ensures completeness.

Figure 2 compares the cross-country distribution of optimal tariffs across the three model specifications. In the baseline model, cross-country heterogeneity in substitution elasticities, together with a profit-shifting motive, generates wide variation in tariffs—ranging from 0.0% in Canada to above 85.0% in Japan, Italy, and Russia. When we impose homogeneous elasticities using the USA value, markup variation disappears and the tariff range narrows, though asymmetries in technology, country size, and geography continue to drive dispersion. For example, Japan's tariff falls from 98.0% to 72.8%, while Canada's rises from 0.0% to 32.1%. Under perfect competition, where both markups and the profit-shifting channel are eliminated and fixed costs are set to zero ($f_d = f_x = 0$), optimal tariffs are more tightly clustered, between 30.5% and 45.7%.[16]

[16]When a point lies above the 45-degree line, it indicates that the country sets a higher optimal tariff in the model represented on the vertical axis compared to the model on the horizontal axis. For instance, in Figure 2a,

Figure 2: Comparison of Optimal Tariffs Across Market Structures

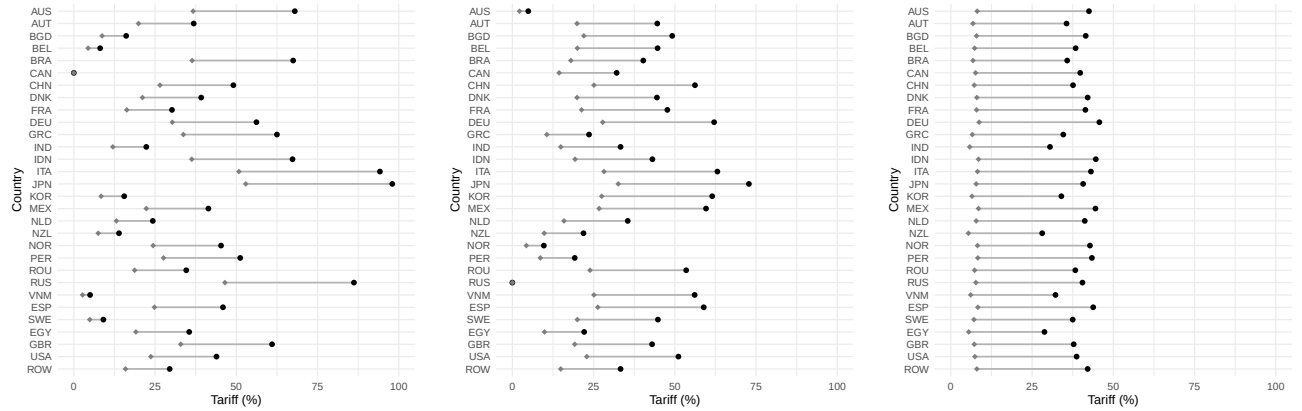


(a) Baseline vs. Homogeneous (b) Baseline vs. Perfect (c) Homogeneous vs. Perfect

Notes: Each panel plots the optimal tariffs (%) under two different market structures for each country. The dashed line indicates the 45-degree line where the two optimal tariffs are equal. Countries above the line set higher tariffs under the y-axis scenario and vice versa.

4.2 Cooperative Tariffs

Figure 3: From Optimal to Cooperative Tariffs by Country



(a) Baseline (b) Homogeneous (c) Perfect Competition

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from each country's optimal tariff that result in positive marginal welfare gains for all. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed.

Figure 3 and Table 2 summarize the cooperative tariff outcomes implied by each market structure.[17] Under the baseline model, cooperation results in a 46.06% reduction from optimal tariffs. In the homogeneous elasticity model, countries accept a deeper cut of 55.27%, while

Japan (JPN) lies well above the 45-degree line, reflecting a sharp increase in its optimal tariff from 72% in the homogeneous model to 98% in the heterogeneous baseline model. Conversely, a point below the 45-degree line indicates a lower optimal tariff in the vertical-axis model.

[17] Refer to Appendix A for the tables summarizing the welfare gains from moving from optimal tariffs to cooperative tariffs, along with the decomposition of these gains into changes in wages, profits, and tariff revenues.

Table 2: Cooperative Tariffs: Largest Uniform Percentage Reductions from Optimal Tariffs Ensuring Positive Marginal Welfare Gains

Countries	Baseline				Homogeneous				Perfect Competition			
	46.06% Red.		51.01% Red.		55.27% Red.		60.47% Red.		80.95% Red.		83.12% Red.	
	Opt. Tariff	Coop. Tariff	Nash Tariff	Coop. Tariff	Opt. Tariff	Coop. Tariff	Nash Tariff	Coop. Tariff	Opt. Tariff	Coop. Tariff	Nash Tariff	Coop. Tariff
Australia	68.0	36.7	76.3	37.4	4.9	2.2	5.7	2.3	42.5	8.1	43.1	7.3
Austria	36.9	19.9	49.9	24.4	44.6	19.9	51.8	20.5	35.6	6.8	40.4	6.8
Bangladesh	16.1	8.7	19.7	9.7	49.2	22.0	48.7	19.3	41.5	7.9	42.7	7.2
Belgium	8.1	4.4	11.1	5.4	44.7	20.0	50.0	19.8	38.4	7.3	42.5	7.2
Brazil	67.5	36.4	82.1	40.2	40.3	18.0	57.4	22.7	35.8	6.8	41.4	7.0
Canada	0.0	0.0	3.9	1.9	32.1	14.4	38.6	15.3	39.8	7.6	44.4	7.5
China	49.1	26.5	56.9	27.9	56.2	25.1	60.5	23.9	37.6	7.2	42.3	7.1
Denmark	39.2	21.1	43.7	21.4	44.5	19.9	49.2	19.4	42.1	8.0	46.3	7.8
France	30.2	16.3	37.0	18.1	47.7	21.3	54.2	21.4	41.4	7.9	45.6	7.7
Germany	56.2	30.3	63.5	31.1	62.1	27.8	68.5	27.1	45.7	8.7	50.4	8.5
Greece	62.5	33.7	73.5	36.0	23.6	10.6	32.6	12.9	34.6	6.6	39	6.6
India	22.3	12.0	31.9	15.6	33.3	14.9	43.8	17.3	30.5	5.8	35.9	6.1
Indonesia	67.3	36.3	76.5	37.5	43.1	19.3	48.1	19.0	44.6	8.5	50.3	8.5
Italy	94.2	50.8	100.0	49.0	63.1	28.2	71.8	28.4	43.1	8.2	47.7	8.1
Japan	98.0	52.9	100.0	49.0	72.8	32.6	85.6	33.8	40.7	7.8	45.1	7.6
Korea	15.5	8.4	23.8	11.7	61.5	27.5	68.5	27.1	34.0	6.5	36.9	6.2
Mexico	41.4	22.3	43.8	21.5	59.6	26.7	62.5	24.7	44.5	8.5	49.1	8.3
Netherlands	24.3	13.1	32.4	15.9	35.5	15.9	41.2	16.3	41.2	7.8	44.7	7.5
New Zealand	13.9	7.5	21.6	10.6	21.9	9.8	30.6	12.1	28.1	5.4	32.9	5.6
Norway	45.3	24.4	49.7	24.3	9.7	4.3	12.1	4.8	42.8	8.2	44.2	7.5
Peru	51.2	27.6	54.8	26.8	19.2	8.6	21.4	8.5	43.4	8.3	47.7	8.1
Romania	34.6	18.7	46.5	22.8	53.5	23.9	58.6	23.2	38.3	7.3	43.3	7.3
Russia	86.2	46.5	93.3	45.7	0.0	0.0	0.0	0.0	40.5	7.7	42.9	7.2
Vietnam	5.0	2.7	11.3	5.5	56.1	25.1	58.6	23.2	32.2	6.1	35.2	5.9
Spain	45.9	24.8	54.9	26.9	58.9	26.3	68.4	27.0	43.8	8.3	48.8	8.2
Sweden	9.1	4.9	16.3	8.0	44.8	20.0	55.1	21.8	37.5	7.1	42.6	7.2
Egypt	35.5	19.1	40.4	19.8	22.1	9.9	31.3	12.4	28.8	5.5	31.9	5.4
UK	61.0	32.9	75.5	37.0	43.0	19.2	49.5	19.6	37.8	7.2	41.7	7.0
USA	43.9	23.7	60.4	29.6	51.1	22.9	59.1	23.4	38.7	7.4	42.5	7.2
ROW	29.5	15.9	34.1	16.7	33.3	14.9	37.3	14.7	42.1	8.0	45.0	7.6

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's optimal tariff that result in positive marginal welfare gains for all. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate.

under perfect competition, the agreed reduction reaches 80.95%, approaching free trade. These results suggest that heterogeneity in substitution elasticities and the presence of the profit-shifting channel may serve as frictions in multilateral negotiations, limiting the extent of achievable cooperation.

To assess robustness across alternative definitions, we compare outcomes under both marginal-gain and positive-gain criteria. Across all four definitions and three market structures, the qualitative conclusion remains robust: cooperation tends to move closer to free trade as we transition from the baseline model with heterogeneous elasticities to the homogeneous elasticity model and, ultimately, to the perfect competition benchmark. Table 3 summarizes the corresponding cooperation thresholds under each definition.

Importantly, approaches based on positive welfare gains allow greater room for tariff reductions than those based on marginal welfare gains. The marginal-gain rule is constrained by the

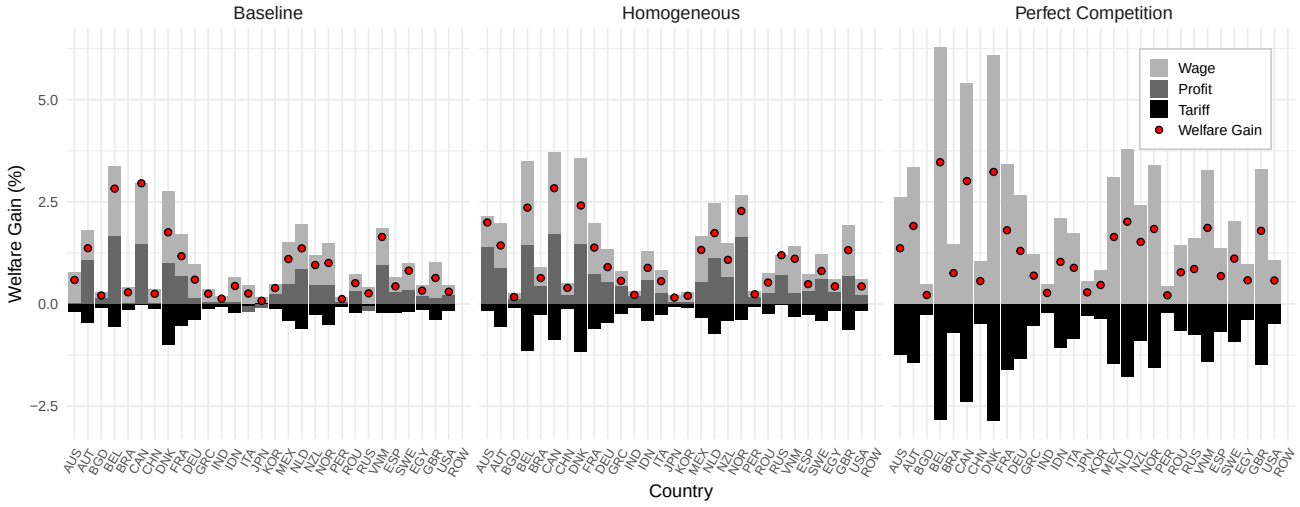
Table 3: Negotiation Thresholds for Cooperations under Various Definitions

Model	Marginal – % ($\boldsymbol{t}^{\text{coop}}_{(1)}$)	Positive – % ($\boldsymbol{t}^{\text{coop}}_{(2)}$)	Marginal – %p ($\boldsymbol{t}^{\text{coop}}_{(3)}$)	Positive – %p ($\boldsymbol{t}^{\text{coop}}_{(4)}$)
Baseline	46.06%	74.89%	28.16%p	60.39%p
Homogeneous	55.27%	87.53%	30.07%p	55.13%p
Perfect Competition	80.95%	**100%**†	32.12%p	**45.70%p**†

Notes: Each cell reports the largest uniform percentage or percentage point reduction from optimal tariffs under which a cooperative negotiation. "Marginal" refers to the thresholds at which all countries experience non-negative marginal welfare gains. "Positive" requires that all countries experience non-negative welfare gains. "%" refers to percentage reductions, whereas "%p" refers to percentage point reductions from optimal levels.† Indicates that the cooperative tariff under this rule reaches full free trade (i.e., zero tariffs). The maximum possible reduction in %p terms corresponds to the highest optimal tariff in each model: 98.0% (Baseline), 63.1% (Homogeneous), and 45.7% (Perfect Competition).

first country to reach its peak welfare gain, halting all further tariff reductions. In contrast, the positive-gain rule allows negotiations to continue past this peak, as long as no country's welfare drops below its initial optimal-tariff level. In the perfect competition model, cooperation under the positive-gain criterion leads to complete tariff elimination. That is, in this setting, all countries are better off setting zero tariffs through coordination than imposing their individually optimal tariffs. While free trade may not be the individually preferred cooperative outcome for every single country,[18] it emerges as the logical outcome under the positive-gain negotiation rule in the perfect competition model. In this environment, the absence of strategic pricing motives makes multilateral cooperation more likely to converge to free trade.

Figure 4: Welfare Gain Decomposition under Cooperative Tariffs



Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's optimal tariff that result in positive marginal welfare gains for all. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The "Welfare Gain" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported as "Wage", "Profit", and "Tariff", respectively.

[18] That is, a country's welfare gain may peak at a lower reduction level, but the negotiation continues as long as all countries maintain gains relative to their respective optimal tariffs.

Welfare Decomposition. Figure 4 and Table 4 report, under the primary cooperative tariff scenario ($\boldsymbol{t}_{(1)}^{\text{coop}}$), the welfare gains and their decomposition (between wage, profit, and tariff revenue) by country for each market structure. In the baseline model, a key pattern is that countries with lower initial optimal tariffs experience larger welfare gains from cooperation. The reason is straightforward: a multilateral tariff cut affects them asymmetrically. First, their own revenue loss is limited because their tariffs were already low. For example, if one country initially imposes only a 4% tariff while another imposes 80%, a 50% cooperative reduction leaves them at 2% and 40%, respectively. The first country sacrifices very little tariff revenue in this process. Second, they benefit disproportionately from market access abroad, since high-tariff countries make much larger cuts. This improved access boosts demand for their exports, which raises real wages through higher labor demand and increases firm profits through greater sales at a markup. Canada (0.0% optimal tariff) and Belgium (8.1%) illustrate this dynamic clearly, with welfare gains of 2.96% and 2.83%, almost entirely driven by wage and profit components.

Conversely, country-specific characteristics lead to different outcomes, particularly in the profit channel. Russia, Italy, and Japan experience welfare losses through profits (-0.13%, -0.15%, and -0.09%, respectively). This seemingly counterintuitive result for high-markup countries like Russia and Italy reflects a critical trade-off. While their firms gain from better access to export markets, they simultaneously lose the significant protection that their own high tariffs provided to their domestic market. For these countries, the negative effect of intensified import competition on domestic profits outweighs the positive effect of increased export profits. The classification of Russia and Italy as having high profit-shifting potential in Section 4.3 further suggests their profit-shifting structures are particularly sensitive to such cooperation.

This pattern resonates with Eaton and Kortum (2012), who show that countries with smaller domestic protection (low home shares or smaller initial trade barriers) tend to reap larger welfare gains from trade liberalization. In our cooperative setting, the same mechanism applies: countries like Canada and Belgium, which start from low optimal tariffs, give up little tariff revenue while enjoying disproportionately larger access to foreign markets. Conversely, just as Eaton and Kortum (2012) highlight that large or relatively closed economies benefit less from globalization, our results show that countries with high initial tariffs and strong profit-shifting motives, such as Russia and Italy, may even experience welfare losses in the profit channel when cooperation removes their protective margins.

In contrast, the homogeneous elasticity model lies between the baseline and perfect competition settings, as shown in Table 5. Profits remain, but with identical substitution elasticities across sectors and countries, markups are constant and profit responses to tariff cooperation are more limited. Countries still benefit from improved market access, but profit shifts are smaller and more uniform. For instance, Canada, Belgium, and Denmark continue to enjoy large welfare gains (2.84%, 2.36%, and 2.41%, respectively), with contributions more evenly split between wage and profit channels. In contrast, Korea and Japan exhibit smaller profit effects and lower overall gains. This model thus captures a simplified mechanism: absent elasticity heterogeneity, gains are concentrated in the wage channel, while profit contributions are modest and less differentiated.

Table 4: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Optimal Tariffs Ensuring Positive Marginal Welfare Gains for All Countries

Countries	Baseline Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Reduction (46.06%)					Optimal Tariffs	Percentage Reduction (80.95%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Australia	68.0	36.7	0.589	0.768	0.006	-0.185	42.5	8.1	1.365	2.610	-1.245
Austria	36.9	19.9	1.367	0.738	1.076	-0.447	35.6	6.8	1.910	3.344	-1.434
Bangladesh	16.1	8.7	0.210	0.151	0.134	-0.075	41.5	7.9	0.220	0.484	-0.264
Belgium	8.1	4.4	2.825	1.708	1.656	-0.539	38.4	7.3	3.470	6.291	-2.821
Brazil	67.5	36.4	0.287	0.396	0.014	-0.123	35.8	6.8	0.757	1.454	-0.697
Canada	0.0	0.0	2.956	1.502	1.454	0.000	39.8	7.6	3.009	5.404	-2.395
China	49.1	26.5	0.249	0.336	0.023	-0.109	37.6	7.2	0.562	1.029	-0.467
Denmark	39.2	21.1	1.756	1.766	0.989	-0.999	42.1	8.0	3.233	6.083	-2.850
France	30.2	16.3	1.170	1.030	0.676	-0.536	41.4	7.9	1.805	3.417	-1.612
Germany	56.2	30.3	0.597	0.832	0.138	-0.373	45.7	8.7	1.299	2.645	-1.345
Greece	62.5	33.7	0.252	0.323	0.034	-0.106	34.6	6.6	0.695	1.211	-0.516
India	22.3	12.0	0.132	0.160	0.042	-0.070	30.5	5.8	0.271	0.468	-0.196
Indonesia	67.3	36.3	0.441	0.599	0.049	-0.207	44.6	8.5	1.032	2.102	-1.070
Italy	94.2	50.8	0.257	0.454	-0.153	-0.044	43.1	8.2	0.886	1.734	-0.848
Japan	98.0	52.9	0.079	0.163	-0.089	0.005	40.7	7.8	0.285	0.555	-0.270
Korea	15.5	8.4	0.390	0.251	0.239	-0.099	34.0	6.5	0.465	0.825	-0.360
Mexico	41.4	22.3	1.101	1.036	0.467	-0.402	44.5	8.5	1.642	3.097	-1.456
Netherlands	24.3	13.1	1.363	1.112	0.852	-0.600	41.2	7.8	2.016	3.782	-1.766
New Zealand	13.9	7.5	0.955	0.756	0.446	-0.246	28.1	5.4	1.520	2.408	-0.888
Norway	45.3	24.4	1.004	1.051	0.445	-0.492	42.8	8.2	1.838	3.387	-1.549
Peru	51.2	27.6	0.123	0.139	0.038	-0.054	43.4	8.3	0.214	0.419	-0.205
Romania	34.6	18.7	0.511	0.419	0.299	-0.208	38.3	7.3	0.777	1.436	-0.659
Russia	86.2	46.5	0.262	0.416	-0.125	-0.029	40.5	7.7	0.857	1.599	-0.741
Vietnam	5.0	2.7	1.642	0.887	0.953	-0.198	32.2	6.1	1.863	3.267	-1.404
Spain	45.9	24.8	0.433	0.372	0.276	-0.214	43.8	8.3	0.684	1.354	-0.670
Sweden	9.1	4.9	0.816	0.679	0.330	-0.192	37.5	7.1	1.111	2.031	-0.919
Egypt	35.5	19.1	0.327	0.274	0.191	-0.138	28.8	5.5	0.581	0.959	-0.378
UK	61.0	32.9	0.638	0.883	0.126	-0.371	37.8	7.2	1.792	3.283	-1.491
USA	43.9	23.7	0.301	0.268	0.201	-0.169	38.7	7.4	0.577	1.059	-0.483
ROW	29.5	15.9	1.952	1.476	1.056	-0.581	42.1	8.0	2.675	4.762	-2.086

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from each country's optimal tariff that result in positive marginal welfare gains for all. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Under the perfect competition model, these profit-driven dynamics are absent by construction. Here, welfare gains revert to the classic channels of trade theory. The elimination of tariffs reduces trade costs, leading to greater efficiency and specialization, which is captured as a rise in real wages. This positive wage effect is then offset by the mechanical loss of tariff revenue. For example, Belgium's 3.47% welfare gain in this model is the net result of a substantial 6.29% gain in the wage component and a 2.82% loss in the tariff revenue component, illustrating the direct trade-off in a world without markups and profits. Ultimately, the trade-off faced by high-markup countries—losing domestic protection in exchange for export access—and the limited gains for low-markup countries illustrate why strategic pricing motives and elasticity heterogeneity serve as central obstacles to achieving deeper multilateral cooperation.

Table 5: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Optimal Tariffs Ensuring Positive Marginal Welfare Gains for All Countries

Countries	Homogenous Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Reduction (55.27%)					Optimal Tariffs	Percentage Reduction (80.92%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Australia	4.9	2.2	1.997	0.778	1.385	-0.167	42.5	8.1	1.362	2.607	-1.245
Austria	44.6	19.9	1.434	1.112	0.863	-0.541	35.6	6.8	1.909	3.342	-1.433
Bangladesh	49.2	22.0	0.171	0.164	0.103	-0.096	41.5	7.9	0.220	0.484	-0.264
Belgium	44.7	20.0	2.358	2.079	1.425	-1.146	38.5	7.3	3.467	6.288	-2.822
Brazil	40.3	18.0	0.635	0.466	0.431	-0.262	35.8	6.8	0.756	1.452	-0.696
Canada	32.1	14.4	2.835	2.019	1.692	-0.877	39.8	7.6	3.003	5.398	-2.395
China	56.2	25.1	0.393	0.314	0.198	-0.119	37.6	7.2	0.561	1.028	-0.467
Denmark	44.5	19.9	2.412	2.120	1.456	-1.164	42.1	8.0	3.231	6.079	-2.848
France	47.7	21.3	1.381	1.239	0.735	-0.593	41.4	7.9	1.804	3.415	-1.611
Germany	62.1	27.8	0.904	0.827	0.523	-0.446	45.7	8.7	1.298	2.643	-1.344
Greece	23.6	10.6	0.566	0.361	0.436	-0.231	34.7	6.6	0.695	1.211	-0.516
India	33.3	14.9	0.224	0.133	0.178	-0.087	29.7	5.7	0.270	0.465	-0.195
Indonesia	43.1	19.3	0.885	0.717	0.583	-0.415	44.6	8.5	1.029	2.099	-1.070
Italy	63.1	28.2	0.559	0.557	0.265	-0.264	43.1	8.2	0.886	1.733	-0.848
Japan	72.8	32.6	0.157	0.175	0.039	-0.057	40.2	7.7	0.284	0.553	-0.269
Korea	61.5	27.5	0.200	0.252	0.031	-0.083	34.1	6.5	0.464	0.825	-0.360
Mexico	59.6	26.7	1.323	1.122	0.539	-0.339	44.4	8.5	1.638	3.093	-1.455
Netherlands	35.5	15.9	1.736	1.352	1.108	-0.724	41.1	7.8	2.015	3.778	-1.764
New Zealand	21.9	9.8	1.082	0.846	0.641	-0.405	28.1	5.4	1.518	2.406	-0.887
Norway	9.7	4.3	2.277	1.031	1.625	-0.380	42.8	8.2	1.837	3.384	-1.547
Peru	19.2	8.6	0.239	0.157	0.153	-0.070	43.1	8.2	0.213	0.418	-0.204
Romania	53.5	23.9	0.526	0.509	0.250	-0.232	38.3	7.3	0.777	1.436	-0.659
Russia	0.0	0.0	1.196	0.508	0.688	0.000	40.6	7.7	0.857	1.598	-0.741
Vietnam	56.1	25.1	1.107	1.155	0.260	-0.308	32.2	6.1	1.861	3.264	-1.403
Spain	58.9	26.3	0.486	0.417	0.315	-0.245	44.0	8.4	0.684	1.354	-0.670
Sweden	44.8	20.0	0.808	0.613	0.603	-0.408	37.5	7.2	1.111	2.030	-0.919
Egypt	22.1	9.9	0.432	0.325	0.278	-0.171	28.8	5.5	0.580	0.958	-0.378
UK	43.0	19.2	1.319	1.256	0.675	-0.612	37.9	7.2	1.791	3.282	-1.491
USA	51.1	22.9	0.430	0.375	0.220	-0.165	38.6	7.4	0.576	1.058	-0.482
Rest of World	33.3	14.9	2.616	1.776	1.560	-0.719	42.1	8.0	2.670	4.756	-2.086

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from each country's optimal tariff that result in positive marginal welfare gains for all. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

4.3 Regional Free-trade Agreement

Now we explore regional free-trade scenarios classified according to the groupings introduced in Section 3.3. This exercise highlights how cooperation incentives differ across structurally distinct country groups. Table 6 reports the outcomes of cooperative tariff reductions within four distinct panels: countries with the lowest and highest markups, and those with the lowest and highest profit-shifting potential.[19] Countries within each panel engage in cooperative tariff reductions only among themselves, while all countries outside the panel continue to impose their optimal tariffs both toward and from group members.

Among the low-markup countries,[20] cooperation yields little to no progress under the baseline model, with the group agreeing to no reduction from their optimal tariffs. This reflects limited

[19] Detailed results for each case, including welfare decompositions, are available in Appendix A.

[20] Panel A: Sweden, Canada, India, Belgium, Bangladesh, and Vietnam.

Table 6: Regional Cooperative Tariffs under Different Market Structures

Countries	Baseline		Homogeneous		Perfect Competition	
	Optimal Tariff	Coop. Tariff	Optimal Tariff	Coop. Tariff	Optimal Tariff	Coop. Tariff
Panel A: Lowest Markup Countries						
	0.00% Reduction		19.00% Reduction		24.00% Reduction	
Sweden	9.1	9.1	44.8	36.3	37.5	28.5
Canada	0.0	0.0	32.1	26.0	39.8	30.2
India	22.3	22.3	33.3	27.0	30.5	23.2
Belgium	8.1	8.1	44.7	36.2	38.4	29.2
Bangladesh	16.1	16.1	49.2	39.9	41.5	31.5
Vietnam	5.0	5.0	56.1	45.4	32.2	24.5
Panel B: Highest Markup Countries						
	50.57% Reduction		38.74% Reduction		73.01% Reduction	
USA	43.9	21.7	51.1	31.3	38.7	10.4
UK	61.0	30.2	43.0	26.3	37.8	10.2
Italy	94.2	46.6	63.1	38.7	43.1	11.6
Greece	62.5	30.9	23.6	14.5	34.6	9.3
Russia	86.2	42.6	0.0	0.0	40.5	10.9
Austria	36.9	18.2	44.6	27.3	35.6	9.6
Panel C: Lowest Profit-shifting Countries						
	22.83% Reduction		38.00% Reduction		86.20% Reduction	
Canada	0.0	0.0	32.1	19.9	39.8	5.5
Belgium	8.1	6.3	44.7	27.7	38.4	5.3
Vietnam	5.0	3.9	56.1	34.8	32.2	4.4
Netherlands	24.3	18.8	35.5	22.0	41.2	5.7
ROW	29.5	22.8	33.2	20.6	42.1	5.8
Austria	36.9	28.5	44.6	27.7	35.6	4.9
Panel D: Highest Profit-shifting Countries						
Reduction	67.62% Reduction		12.00% Reduction		58.00% Reduction	
Brazil	67.5	21.9	40.3	35.5	35.8	15.0
Indonesia	67.3	21.8	43.1	37.9	44.6	18.7
Australia	68.0	22.0	4.9	4.3	42.5	17.9
Russia	86.2	27.9	0.0	0.0	40.5	17.0
Italy	94.2	30.5	63.1	55.5	43.1	18.1
UK	61.0	19.8	43.0	37.8	37.8	15.9

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's optimal tariff that result in positive marginal welfare gains for all. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. Within each panel, countries reduce tariffs only toward other members of the same panel. All other countries, including those outside the panel, maintain their own optimal tariffs and are also faced with optimal tariffs by the panel members.

Figure 5: Regional Cooperative Tariffs and Welfare Gains



(a) Panel-level Reduction (b) Country-level Reduction (c) Welfare Gains from RFTA

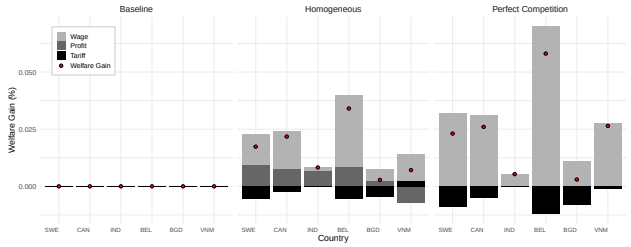
Notes: (i) Figure 5a visualizes, for each panel, the common percentage reduction applied uniformly to members of that panel. Darker shading indicates a larger reduction (i.e., closer to free trade); (ii) Figure 5b shows, given each panel's common percentage reduction, the country-level percentage point decrease in tariffs. Darker shading marks larger percentage-point reductions; (iii) Figure 5c reports welfare gains under each market-structure scenario on a common scale across panels. Darker shading indicates larger gains. The cooperative tariffs correspond to the largest uniform percentage-point reductions from each country's optimal tariff that yield strictly positive marginal welfare gains for all members. "Optimal tariffs" are the unilateral welfare-maximizing tariffs when other countries' tariffs are held fixed. Within each panel, countries reduce tariffs only toward other members of the same panel. All other countries, including those outside the panel, keep their own optimal tariffs and also face optimal tariffs from the panel members. "RFTA" stands for regional free-trade agreement.

incentive to reduce tariffs, as these countries already impose low levels and gain relatively little from strategic pricing due to low markups. In contrast, the same group under the perfect competition model agrees to a reduction of 24.00%, indicating that even modest incentives can enable further cooperation in the absence of markups and profit-shifting. By comparison, the high-markup group[21] exhibits much stronger cooperative potential. In the baseline model, this group achieves a 50.57% reduction from optimal tariffs while maintaining non-negative marginal welfare gains for all members. This result highlights that countries with greater pricing distortions stand to gain more from coordinated tariff reductions.

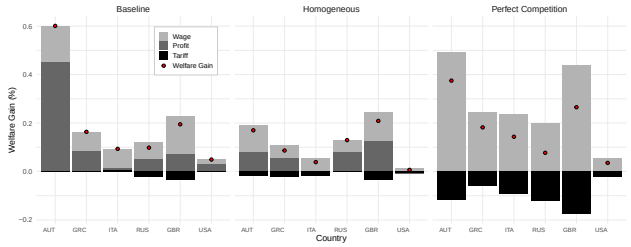
The role of profit-shifting becomes particularly salient when comparing the low versus high profit-shifting groups. Countries with high profit-shifting potential[22] agree to substantial tariff reductions—up to 67.62% under the baseline model—reflecting the fact that strategic pricing motives are more pronounced and the returns to coordination are higher. In contrast, countries with low profit-shifting potential[23] reduce tariffs by only 22.83% under the same model, suggesting weaker incentives to cooperate. Interestingly, this pattern reverses under the perfect competition model, where the profit-shifting channel is shut down. In this case, the low profit-shifting group

[21] Panel B: USA, UK, Italy, Greece, Russia, and Austria.
[22] Panel D: Brazil, Indonesia, Australia, Russia, Italy, and UK.
[23] Panel C: Canada, Belgium, Vietnam, Netherlands, Rest of World (ROW), and Austria.

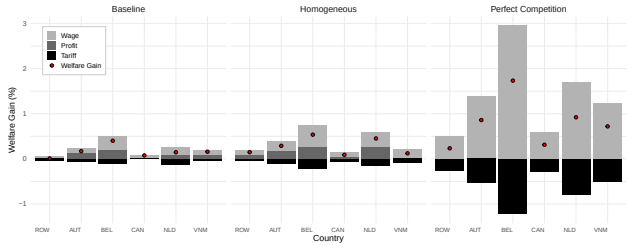
Figure 6: Welfare Gain Decomposition of Regional Cooperation



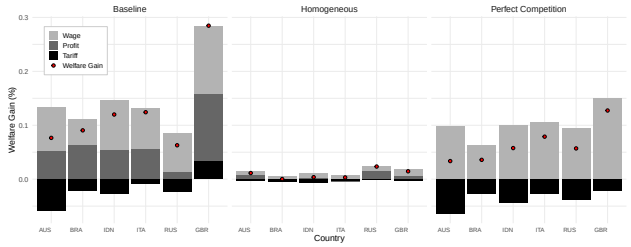
(a) Panel A: Lowest Markup Countries



(b) Panel B: Highest Markup Countries



(c) Panel C: Lowest Profit-shifting Countries



(d) Panel D: Highest Profit-shifting Countries

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's optimal tariff that result in positive marginal welfare gains for all. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The "Welfare Gain" reports the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported as "Wage", "Profit", and "Tariff", respectively. Panel A consists of Sweden, Canada, India, Belgium, and Bangladesh. Panel B includes USA, UK, Italy, Greece, Russia, and Austria. Panel C countries are Canada, Belgium, Vietnam, Netherlands, Rest of World (ROW), and Austria. Panel D consists of Brazil, Indonesia, Australia, Russia, Italy, and UK. Note that the vertical axis scale differs across panels, so caution is required when making direct visual comparisons.

reaches a cooperative reduction of 86.20%, while the high profit-shifting group only achieves 58.00%. This reversal highlights that in the absence of strategic pricing motives, cooperation becomes easier for countries that were previously less distorted by profit-shifting forces, as their economies are better positioned to capture standard efficiency gains.

Taken together, these regional scenarios illustrate how structural characteristics such as markups and profit-shifting potential influence countries' incentives to cooperate in tariff reductions. Under imperfect competition, countries with stronger profit-shifting motives—often associated with higher markups—appear to have greater scope for mutually beneficial tariff reductions, as addressing pricing distortions can yield meaningful welfare gains. In contrast, when such distortions are absent, as in the perfect competition case, countries with initially lower markups or weaker strategic motives tend to find cooperation more attractive, driven by standard efficiency gains. The homogeneous elasticity model lies between these two cases: the lack of heterogeneity weakens strategic asymmetries and narrows the variation in cooperative responses. While these patterns do not fully determine cooperation outcomes, they highlight how underlying economic features shape the alignment of interests in regional free-trade efforts.

Welfare Decomposition Across Regional Scenarios. Countries with low markups (Panel

A) exhibit negligible welfare gains from tariff cooperation.[24] Under the baseline model, all six countries record zero gains, and even under perfect competition, total welfare improvements remain minimal, not exceeding 0.058% for any member. These minimal changes reflect the absence of significant markup distortions to eliminate, resulting in little room for welfare enhancement through cooperation.

By contrast, countries with high markups (Panel B) realize more substantial gains. Under the baseline model, for instance, Austria and the UK achieve welfare improvements of 0.601% and 0.195%, respectively. Profit contributions are a dominant source of these gains—e.g., 0.446% for Austria—highlighting the importance of markup-related rents.

Countries in Panel C display low profit-shifting potential, and their gains are correspondingly muted. For instance, under the baseline model, Canada and the Netherlands report welfare increases of only 0.077% and 0.147%, respectively. Their profit contributions are also modest, at just 0.019% for Canada and 0.087% for the Netherlands. Most of the gains come through real wages, indicating that cooperative tariff reductions in these countries enhance consumption access rather than producer-side rents. This qualitative pattern persists across model variants.

Panel D focuses on countries with strong profit-shifting potential. Brazil and the UK, as an illustration, gain 0.091% and 0.285% respectively under the baseline model. A significant portion of these gains comes from the profit channel, which contributes 0.063% for Brazil and 0.126% for the UK. In the homogeneous elasticity model, however, the cooperative potential for this group drastically diminishes; with the source of their strategic pricing advantage (heterogeneous elasticities) removed, the agreed-upon tariff reduction and the resulting welfare gains become minimal.

These decomposition results reinforce the broader finding that the magnitude and composition of cooperative welfare gains depend critically on structural features such as markup levels and profit-shifting potential. In settings where these features are muted, cooperative benefits remain limited regardless of the degree of tariff reduction.

5 Conclusion

This paper studies tariffs and trade policy in a multi-sector, multi-country model of international trade and profit shifting in which markup distributions for both imports and exports vary across sectors and countries. We show that especially heterogeneity in demand across countries generates large dispersion in optimal tariffs which range from 0 to close to 100%. Further, cross-country inequality in terms of demand elasticities also reduces the ability of countries to engage in cooperation, with countries willing to cut tariffs by at most 46% compared to 81% under perfect competition.

Lastly, we find that groups of countries in which demand is more elastic and markups hence lower will optimally jointly only agree on small or no reductions in tariffs. In contrast, groups of high-markup countries may be able to agree on tariff reductions of close to 50%. Importantly,

[24] Since the model operates in general equilibrium, cooperative agreements among only a subset of countries still lead to changes in the welfare of excluded countries. See Appendix A for details.

since demand tends to be less elastic and markups higher in richer countries, these findings suggest that these countries may find it relatively easier to negotiate regional trade agreements, in line with empirical evidence. We believe that further research aimed at understanding this relationship and its quantitative importance would potentially lead to interesting new insights.

References

Allcott, Hunt, Reigner Kane, Maximilian Maydanchik, Joseph Shapiro, and Felix Tintelnot. 2024. "The Effects of "Buy American": Electric Vehicles and the Inflation Reduction Act." *NBER Working Paper 33032. October 2024.*

Antràs, Pol, and Davin Chor. 2021. "Global value chains."

Atkeson, Andrew, and Ariel Burstein. 2008. "Pricing-to-market, trade costs, and international relative prices." *American Economic Review*, 98(5): 1998–2031.

Bagwell, Kyle, and Robert Staiger. 1999. "An Economic Theory of GATT." *American Economic Review*, 89(1): 215–248.

Bagwell, Kyle, and Robert W Staiger. 2012. "Profit shifting and trade agreements in imperfectly competitive markets." *International Economic Review*, 53(4): 1067–1104.

Baier, Scott L., and Jeffrey H. Bergstrand. 2004. "Economic determinants of free trade agreements." *Journal of International Economics*, 64: 29–63.

Baier, Scott L., Jeffrey H. Bergstrand, and Ronald Mariutto. 2014. "Economic Determinants of Free Trade Agreements Revisited: Distinguishing Sources of Interdependence." *Review of International Economics*, 22(1): 31–58.

Bown, Chad P, and Meredith A Crowley. 2013. "Self-enforcing trade agreements: evidence from time-varying trade policy." *American Economic Review*, 103(2): 1071–1090.

Brander, James A. 1986. "Rationales for strategic trade and industrial policy." *Strategic trade policy and the new international economics*, 23.

Brander, James A, and Barbara J Spencer. 1981. "Tariffs and the extraction of foreign monopoly rents under potential entry." *Canadian journal of Economics*, 371–389.

Brander, James A, and Barbara J Spencer. 1985. "Export subsidies and international market share rivalry." *Journal of international Economics*, 18(1-2): 83–100.

Caliendo, Lorenzo, and Fernando Parro. 2015. "Estimates of the Trade and Welfare Effects of NAFTA." *The Review of Economic Studies*, 82(1): 1–44.

Caliendo, Lorenzo, Robert C Feenstra, John Romalis, and Alan M Taylor. 2023. "Tariff Reductions, Heterogeneous Firms, and Welfare: Theory and Evidence for 1990–2010." *IMF Economic Review*, 71(4): 817–851.

Chaney, Thomas. 2008. "Distorted Gravity: The Intensive and Extensive Margins of International Trade." *American Economic Review*, 98(4): 1707–1721.

Crowley, Meredith A, Lu Han, and Thomas Prayer. 2021. "The value of deep trade agreements in the presence of pricing-to-market."

Crowley, Meredith A, Lu Han, and Thomas Prayer. 2024. "The pro-competitive effects of trade agreements." *Journal of International Economics*, 150: 103936.

Dekle, Robert, Jonathan Eaton, and Samuel Kortum. 2008. "Global rebalancing with gravity: Measuring the burden of adjustment." *IMF Staff Papers*, 55(3): 511–540.

Dingel, Jonathan, and Felix Tintelnot. 2020. "Spatial economics for granular settings." *NBER Working Paper 27287*.

Ding, Siying, A Lashkaripour, and V Lugovskyy. 2022. "Who pays for markups in a global economy." *The unequal impacts of international rent-shifting. Online: https://alashkar. pages. iu. edu/DLL2022. pdf [19.12. 2022]*.

Dinopoulos, Elias, Gunnar Heins, and Bulent Unel. 2024. "Tariff wars, unemployment, and top incomes." *Journal of Monetary Economics*, 148: 103616.

Eaton, Jonathan, and Samuel Kortum. 2002. "Technology, geography, and trade." *Econometrica*, 70(5): 1741–1779.

Eaton, Jonathan, and Samuel Kortum. 2012. "Putting Ricardo to work." *Journal of Economic Perspectives*, 26(2): 65–90.

Eaton, Jonathan, Samuel Kortum, and Francis Kramarz. 2011. "An Anatomy of International Trade: Evidence from French Firms." *Econometrica*, 79(5): 1453–1498.

Edmond, Chris, Virgiliu Midrigan, and Daniel Yi Xu. 2015. "Competition, markups, and the gains from international trade." *American Economic Review*, 105(10): 3183–3221.

Feenstra, Robert C, and John Romalis. 2014. "International prices and endogenous quality." *The Quarterly Journal of Economics*, 129(2): 477–527.

Firooz, Hamid, and Gunnar Heins. forthcoming. "Markups, Production Relocation, and the Gains from Trade." *Journal of the European Economic Association*.

Freund, Caroline. 2000. "Different Paths to Free Trade: The Gains from Regionalism." *Quarterly Journal of Economics*, 115(4): 1317–1341.

Freund, Caroline, and Emanuel Ornelas. 2010. "Regional trade agreements." *Annu. Rev. Econ.*, 2(1): 139–166.

Ganapati, Sharat, Woan Foong Wong, and Oren Ziv. 2022. "Entrepôt: Hubs, Scale, and Trade Costs." *NBER Working Paper 29015*.

Goldberg, Pinelopi Koujianou, and Giovanni Maggi. 1999. "Protection for Sale: An Empirical Investigation." *American Economic Review*, 89(5): 1135–1155.

Grossman, Gene, and Elhanan Helpman. 1994. "Protection for Sale." *American Economic Review*, 84(5): 833–850.

Krugman, Paul R. 1987. "Is free trade passé?" *Journal of economic Perspectives*, 1(2): 131–144.

Lashkaripour, Ahmad, and Vova Lugovskyy. 2018. "Scale economies and the structure of trade and industrial policy." mimeo Indiana University.

Limão, Nuno. 2016. "Preferential trade agreements." In *Handbook of commercial policy*. Vol. 1, 279–367. Elsevier.

Maggi, Giovanni. 2014. "International trade agreements." In *Handbook of international economics*. Vol. 4, 317–390. Elsevier.

Maggi, Giovanni, and Andres Rodriguez-Clare. 2007. "A political-economy theory of trade agreements." *American economic review*, 97(4): 1374–1406.

Melitz, Marc J. 2003. "The impact of trade on intra-industry reallocations and aggregate industry productivity." *Econometrica*, 71(6): 1695–1725.

Ossa, Ralph. 2014. "Trade wars and trade talks with data." *American Economic Review*, 104(12): 410–446.

Rodrik, Dani. 2018. "What do trade agreements really do?" *Journal of economic perspectives*, 32(2): 73–90.

Spencer, Barbara J, and James A Brander. 1983. "International R & D rivalry and industrial strategy." *The Review of Economic Studies*, 50(4): 707–722.

Appendices

A Cooperative Tariffs and Welfare Decompositions

A.1 Baseline Model with Full Sample

A.1.1 Optimal Tariffs

Table A.1: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Optimal Tariffs Ensuring Positive Welfare Gains for All Countries

Countries	Baseline Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Reduction (74.89%)					Optimal Tariffs	Percentage Reduction (100%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Australia	68.0	17.1	0.684	1.550	0.016	-0.883	42.5	0.0	1.440	3.666	-2.225
Austria	36.9	9.3	2.300	1.424	2.078	-1.202	35.6	0.0	2.207	4.656	-2.449
Bangladesh	16.1	4.0	0.376	0.275	0.260	-0.158	41.5	0.0	0.189	0.666	-0.478
Belgium	8.1	2.0	5.089	3.110	3.036	-1.057	38.4	0.0	3.987	8.837	-4.850
Brazil	67.5	16.9	0.252	0.798	0.001	-0.546	35.8	0.0	0.827	2.032	-1.205
Canada	0.0	0.0	5.487	2.760	2.727	0.000	39.8	0.0	3.477	7.656	-4.180
China	49.1	12.3	0.337	0.668	0.064	-0.396	37.6	0.0	0.586	1.448	-0.861
Denmark	39.2	9.8	2.766	3.395	1.905	-2.535	42.1	0.0	3.590	8.580	-4.991
France	30.2	7.6	2.013	1.952	1.345	-1.285	41.4	0.0	1.945	4.785	-2.841
Germany	56.2	14.1	0.789	1.636	0.311	-1.158	45.7	0.0	1.337	3.724	-2.387
Greece	62.5	15.7	0.289	0.645	0.066	-0.422	34.6	0.0	0.790	1.673	-0.883
India	22.3	5.6	0.232	0.300	0.094	-0.162	30.5	0.0	0.309	0.650	-0.341
Indonesia	67.3	16.9	0.473	1.211	0.089	-0.827	44.6	0.0	1.042	2.984	-1.942
Italy	94.2	23.7	0.001	0.936	-0.414	-0.521	43.1	0.0	0.903	2.427	-1.524
Japan	98.0	24.6	0.000	0.343	-0.205	-0.138	40.7	0.0	0.292	0.773	-0.482
Korea	15.5	3.9	0.714	0.467	0.463	-0.216	34.0	0.0	0.517	1.139	-0.622
Mexico	41.4	10.4	1.752	2.027	0.886	-1.162	44.5	0.0	1.742	4.405	-2.663
Netherlands	24.3	6.1	2.416	2.087	1.668	-1.340	41.2	0.0	2.211	5.305	-3.093
New Zealand	13.9	3.5	1.776	1.428	0.873	-0.525	28.1	0.0	1.865	3.343	-1.478
Norway	45.3	11.4	1.549	2.037	0.906	-1.394	42.8	0.0	1.976	4.762	-2.786
Peru	51.2	12.9	0.174	0.268	0.074	-0.168	43.4	0.0	0.213	0.582	-0.368
Romania	34.6	8.7	0.871	0.802	0.609	-0.540	38.3	0.0	0.843	2.002	-1.159
Russia	86.2	21.6	0.070	0.854	-0.334	-0.450	40.5	0.0	0.915	2.240	-1.325
Vietnam	5.0	1.3	3.061	1.634	1.814	-0.386	32.2	0.0	2.137	4.568	-2.431
Spain	45.9	11.5	0.666	0.712	0.531	-0.576	43.8	0.0	0.715	1.883	-1.168
Sweden	9.1	2.3	1.484	1.239	0.623	-0.379	37.5	0.0	1.251	2.826	-1.575
Egypt	35.5	8.9	0.528	0.518	0.357	-0.347	28.8	0.0	0.691	1.303	-0.613
UK	61.0	15.3	0.747	1.746	0.296	-1.294	37.8	0.0	1.989	4.556	-2.567
USA	43.9	11.0	0.472	0.516	0.408	-0.452	38.7	0.0	0.622	1.467	-0.845
ROW	29.5	7.4	3.468	2.872	2.117	-1.522	42.1	0.0	2.940	6.783	-3.843

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from each country's optimal tariff that result in positive welfare gains for all. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.2: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Optimal Tariffs Ensuring Positive Marginal Welfare Gains for All Countries

Countries	Baseline Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Point Reduction (28.16%p)					Optimal Tariffs	Percentage Point Reduction (32.12%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Australia	68.0	39.8	1.037	0.882	0.061	0.093	42.5	10.4	1.520	2.528	-1.008
Austria	36.9	8.7	1.573	1.272	1.617	-1.316	35.6	3.5	1.522	3.430	-1.908
Bangladesh	16.1	0.0	0.244	0.275	0.241	-0.272	41.5	9.4	0.237	0.467	-0.230
Belgium	8.1	0.0	4.405	3.148	2.935	-1.677	38.4	6.3	3.184	6.280	-3.096
Brazil	67.5	39.3	0.622	0.491	0.059	0.072	35.8	3.7	0.647	1.560	-0.913
Canada	0.0	0.0	4.326	2.214	2.112	0.000	39.8	7.7	3.091	5.455	-2.364
China	49.1	20.9	0.342	0.513	-0.032	-0.139	37.6	5.5	0.505	1.056	-0.551
Denmark	39.2	11.0	2.120	3.033	1.453	-2.365	42.1	10.0	3.254	5.692	-2.437
France	30.2	2.0	1.153	1.998	1.267	-2.112	41.4	9.3	1.775	3.222	-1.446
Germany	56.2	28.0	1.035	1.191	0.105	-0.261	45.7	13.6	1.471	2.365	-0.894
Greece	62.5	34.3	0.474	0.421	0.044	0.009	34.6	2.5	0.559	1.294	-0.735
India	22.3	0.0	0.144	0.350	0.093	-0.299	30.5	0.0	0.188	0.529	-0.341
Indonesia	67.3	39.1	0.855	0.737	0.051	0.067	44.6	12.5	1.192	1.937	-0.745
Italy	94.2	66.0	0.675	0.456	-0.104	0.322	43.1	11.0	0.921	1.594	-0.673
Japan	98.0	69.8	0.189	0.154	-0.079	0.113	40.7	8.6	0.297	0.547	-0.250
Korea	15.5	0.0	0.494	0.451	0.417	-0.375	34.0	1.9	0.385	0.924	-0.538
Mexico	41.4	13.2	1.403	1.655	0.700	-0.952	44.5	12.4	1.897	2.900	-1.003
Netherlands	24.3	0.0	1.510	2.228	1.670	-2.387	41.2	9.1	1.984	3.590	-1.606
New Zealand	13.9	0.0	1.014	1.316	0.607	-0.910	28.1	0.0	1.271	2.749	-1.478
Norway	45.3	17.1	1.383	1.629	0.620	-0.866	42.8	10.7	1.946	3.185	-1.239
Peru	51.2	23.0	0.194	0.197	0.061	-0.064	43.4	11.3	0.239	0.396	-0.156
Romania	34.6	6.4	0.527	0.770	0.438	-0.681	38.3	6.2	0.678	1.412	-0.735
Russia	86.2	58.0	0.642	0.437	-0.076	0.280	40.5	8.4	0.849	1.552	-0.703
Vietnam	5.0	0.0	2.309	1.509	1.414	-0.614	32.2	0.1	1.431	3.846	-2.416
Spain	45.9	17.7	0.641	0.589	0.394	-0.342	43.8	11.7	0.712	1.229	-0.517
Sweden	9.1	0.0	1.194	1.205	0.593	-0.604	37.5	5.4	0.974	2.046	-1.072
Egypt	35.5	7.3	0.421	0.508	0.318	-0.405	28.8	0.0	0.463	1.076	-0.613
UK	61.0	32.8	1.279	1.162	0.219	-0.102	37.8	5.7	1.609	3.312	-1.703
USA	43.9	15.7	0.384	0.414	0.286	-0.316	38.7	6.6	0.546	1.065	-0.518
ROW	29.5	1.3	1.753	2.696	1.867	-2.810	42.1	10.0	2.891	4.608	-1.717

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's optimal tariff that result in positive marginal welfare gains for all. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.3: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Optimal Tariffs Ensuring Positive Welfare Gains for All Countries

Countries	Baseline Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Point Reduction (60.39%p)					Optimal Tariffs	Percentage Point Reduction (46.00%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Australia	68.0	7.6	0.576	2.130	0.050	-1.603	42.5	0.0	1.440	3.666	-2.225
Austria	36.9	0.0	2.554	2.158	2.890	-2.493	35.6	0.0	2.207	4.656	-2.449
Bangladesh	16.1	0.0	0.488	0.384	0.376	-0.272	41.5	0.0	0.189	0.666	-0.478
Belgium	8.1	0.0	6.830	4.325	4.183	-1.677	38.4	0.0	3.987	8.837	-4.850
Brazil	67.5	7.1	0.126	1.146	-0.019	-1.001	35.8	0.0	0.827	2.032	-1.205
Canada	0.0	0.0	7.934	3.986	3.948	0.000	39.8	0.0	3.477	7.656	-4.180
China	49.1	0.0	0.068	1.011	0.048	-0.992	37.6	0.0	0.586	1.448	-0.861
Denmark	39.2	0.0	2.947	5.207	2.770	-5.030	42.1	0.0	3.590	8.580	-4.991
France	30.2	0.0	2.329	2.848	1.924	-2.443	41.4	0.0	1.945	4.785	-2.841
Germany	56.2	0.0	0.341	2.541	0.463	-2.663	45.7	0.0	1.337	3.724	-2.387
Greece	62.5	2.1	0.000	0.960	0.044	-1.003	34.6	0.0	0.790	1.673	-0.883
India	22.3	0.0	0.296	0.443	0.152	-0.299	30.5	0.0	0.309	0.650	-0.341
Indonesia	67.3	6.9	0.201	1.678	0.033	-1.511	44.6	0.0	1.042	2.984	-1.942
Italy	94.2	33.8	0.582	0.956	-0.344	-0.030	43.1	0.0	0.903	2.427	-1.524
Japan	98.0	37.6	0.196	0.340	-0.191	0.047	40.7	0.0	0.292	0.773	-0.482
Korea	15.5	0.0	0.943	0.658	0.661	-0.375	34.0	0.0	0.517	1.139	-0.622
Mexico	41.4	0.0	1.932	3.189	1.285	-2.543	44.5	0.0	1.742	4.405	-2.663
Netherlands	24.3	0.0	3.135	3.062	2.460	-2.387	41.2	0.0	2.211	5.305	-3.093
New Zealand	13.9	0.0	2.270	2.002	1.178	-0.910	28.1	0.0	1.865	3.343	-1.478
Norway	45.3	0.0	1.528	3.143	1.377	-2.992	42.8	0.0	1.976	4.762	-2.786
Peru	51.2	0.0	0.126	0.411	0.110	-0.395	43.4	0.0	0.213	0.582	-0.368
Romania	34.6	0.0	0.886	1.166	0.821	-1.100	38.3	0.0	0.843	2.002	-1.159
Russia	86.2	25.8	0.473	0.945	-0.294	-0.178	40.5	0.0	0.915	2.240	-1.325
Vietnam	5.0	0.0	3.956	2.226	2.344	-0.614	32.2	0.0	2.137	4.568	-2.431
Spain	45.9	0.0	0.587	1.066	0.734	-1.212	43.8	0.0	0.715	1.883	-1.168
Sweden	9.1	0.0	2.001	1.758	0.847	-0.604	37.5	0.0	1.251	2.826	-1.575
Egypt	35.5	0.0	0.525	0.753	0.467	-0.694	28.8	0.0	0.691	1.303	-0.613
UK	61.0	0.6	0.085	2.745	0.454	-3.114	37.8	0.0	1.989	4.556	-2.567
USA	43.9	0.0	0.409	0.772	0.587	-0.950	38.7	0.0	0.622	1.467	-0.845
ROW	29.5	0.0	4.179	4.234	3.049	-3.104	42.1	0.0	2.940	6.783	-3.843

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's optimal tariff that result in positive welfare gains for all. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

A.1.2 Nash Tariffs

Table A.4: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Nash Tariffs Ensuring Positive Marginal Welfare Gains for All Countries

Countries	Baseline Model						Perfect Competition Model				
	Nash Tariffs	Percentage Reduction (51.01%)					Nash Tariffs	Percentage Reduction (83.12%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Australia	76.3	37.4	0.795	0.904	0.015	-0.123	43.1	7.3	1.533	2.803	-1.271
Austria	49.9	24.4	1.796	0.887	1.300	-0.391	40.4	6.8	2.153	3.658	-1.505
Bangladesh	19.7	9.7	0.264	0.187	0.160	-0.082	42.7	7.2	0.252	0.522	-0.270
Belgium	11.1	5.4	3.571	2.164	2.091	-0.684	42.5	7.2	3.913	6.857	-2.944
Brazil	82.1	40.2	0.441	0.466	0.032	-0.057	41.4	7.0	0.863	1.594	-0.731
Canada	3.9	1.9	3.733	2.002	1.949	-0.218	44.4	7.5	3.407	5.901	-2.494
China	56.9	27.9	0.342	0.395	0.026	-0.080	42.3	7.1	0.634	1.117	-0.483
Denmark	43.7	21.4	2.314	2.125	1.188	-0.999	46.3	7.8	3.661	6.623	-2.962
France	37.0	18.1	1.501	1.246	0.802	-0.547	45.6	7.7	2.046	3.719	-1.672
Germany	63.5	31.1	0.811	0.987	0.162	-0.338	50.4	8.5	1.479	2.873	-1.394
Greece	73.5	36.0	0.349	0.379	0.045	-0.075	39.0	6.6	0.779	1.321	-0.542
India	31.9	15.6	0.170	0.196	0.045	-0.071	35.9	6.1	0.304	0.512	-0.208
Indonesia	76.5	37.5	0.617	0.706	0.069	-0.158	50.3	8.5	1.180	2.290	-1.109
Italy	100.0	49.0	0.350	0.532	-0.166	-0.016	47.7	8.1	1.007	1.887	-0.880
Japan	100.0	49.0	0.101	0.191	-0.101	0.011	45.1	7.6	0.324	0.603	-0.279
Korea	23.8	11.7	0.486	0.313	0.286	-0.113	36.9	6.2	0.524	0.895	-0.372
Mexico	43.8	21.5	1.448	1.239	0.570	-0.361	49.1	8.3	1.871	3.368	-1.498
Netherlands	32.4	15.9	1.743	1.370	1.015	-0.642	44.7	7.5	2.277	4.105	-1.827
New Zealand	21.6	10.6	1.187	0.944	0.536	-0.293	32.9	5.6	1.692	2.643	-0.951
Norway	49.7	24.3	1.317	1.256	0.525	-0.463	44.2	7.5	2.064	3.647	-1.584
Peru	54.8	26.8	0.158	0.164	0.045	-0.052	47.7	8.1	0.245	0.456	-0.211
Romania	46.5	22.8	0.665	0.506	0.351	-0.192	43.3	7.3	0.879	1.568	-0.689
Russia	93.3	45.7	0.360	0.486	-0.134	0.008	42.9	7.2	0.963	1.726	-0.763
Vietnam	11.3	5.5	2.026	1.161	1.218	-0.353	35.2	5.9	2.098	3.551	-1.454
Spain	54.9	26.9	0.572	0.445	0.332	-0.205	48.8	8.2	0.777	1.476	-0.699
Sweden	16.3	8.0	1.008	0.869	0.421	-0.282	42.6	7.2	1.252	2.218	-0.966
Egypt	40.4	19.8	0.420	0.328	0.232	-0.140	31.9	5.4	0.648	1.047	-0.399
UK	75.5	37.0	0.931	1.045	0.139	-0.253	41.7	7.0	2.021	3.576	-1.555
USA	60.4	29.6	0.424	0.326	0.236	-0.138	42.5	7.2	0.655	1.154	-0.499
ROW	34.1	16.7	2.469	1.772	1.252	-0.555	45.0	7.6	3.037	5.166	-2.129

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from each country's Nash tariff that result in positive marginal welfare gains for all. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.5: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Nash Tariffs Ensuring Positive Welfare Gains for All Countries

Countries	Baseline Model						Perfect Competition Model				
	Nash Tariffs	Percentage Reduction (74.89%)					Nash Tariffs	Percentage Reduction (100%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Australia	76.3	15.2	0.918	1.816	0.032	-0.930	43.1	0.0	1.638	3.805	-2.168
Austria	49.9	10.0	2.895	1.720	2.499	-1.324	40.4	0.0	2.426	4.956	-2.530
Bangladesh	19.7	3.9	0.462	0.335	0.308	-0.182	42.7	0.0	0.228	0.696	-0.468
Belgium	11.1	2.2	6.314	3.892	3.799	-1.377	42.5	0.0	4.404	9.356	-4.952
Brazil	82.1	16.4	0.421	0.944	0.018	-0.541	41.4	0.0	0.919	2.171	-1.252
Canada	3.9	0.8	6.918	3.673	3.671	-0.426	44.4	0.0	3.853	8.125	-4.272
China	56.9	11.4	0.451	0.787	0.072	-0.408	42.3	0.0	0.650	1.527	-0.877
Denmark	43.7	8.7	3.556	4.044	2.255	-2.743	46.3	0.0	4.001	9.070	-5.069
France	37.0	7.4	2.501	2.348	1.592	-1.440	45.6	0.0	2.177	5.058	-2.882
Germany	63.5	12.7	1.056	1.930	0.362	-1.236	50.4	0.0	1.509	3.928	-2.419
Greece	73.5	14.7	0.395	0.756	0.081	-0.443	39.0	0.0	0.864	1.774	-0.910
India	31.9	6.4	0.285	0.369	0.106	-0.190	35.9	0.0	0.335	0.694	-0.359
Indonesia	76.5	15.3	0.667	1.422	0.119	-0.874	50.3	0.0	1.176	3.160	-1.984
Italy	100.0	20.0	0.035	1.088	-0.469	-0.584	47.7	0.0	1.018	2.565	-1.547
Japan	100.0	20.0	0.000	0.397	-0.235	-0.162	45.1	0.0	0.328	0.817	-0.489
Korea	23.8	4.8	0.866	0.582	0.560	-0.276	36.9	0.0	0.575	1.200	-0.625
Mexico	43.8	8.7	2.315	2.422	1.067	-1.174	49.1	0.0	1.965	4.652	-2.688
Netherlands	32.4	6.5	2.992	2.562	2.004	-1.573	44.7	0.0	2.469	5.585	-3.116
New Zealand	21.6	4.3	2.142	1.779	1.052	-0.690	32.9	0.0	2.009	3.573	-1.564
Norway	49.7	9.9	2.000	2.413	1.064	-1.476	44.2	0.0	2.226	4.961	-2.735
Peru	54.8	10.9	0.222	0.314	0.088	-0.179	47.7	0.0	0.244	0.616	-0.372
Romania	46.5	9.3	1.085	0.970	0.717	-0.602	43.3	0.0	0.935	2.126	-1.190
Russia	93.3	18.6	0.130	0.993	-0.374	-0.489	42.9	0.0	1.026	2.343	-1.317
Vietnam	11.3	2.3	3.688	2.122	2.307	-0.741	35.2	0.0	2.364	4.821	-2.457
Spain	54.9	11.0	0.851	0.847	0.633	-0.629	48.8	0.0	0.801	1.995	-1.194
Sweden	16.3	3.3	1.786	1.575	0.802	-0.590	42.6	0.0	1.374	3.002	-1.628
Egypt	40.4	8.1	0.659	0.614	0.426	-0.381	31.9	0.0	0.753	1.384	-0.631
UK	75.5	15.1	1.089	2.076	0.335	-1.322	41.7	0.0	2.205	4.820	-2.615
USA	60.4	12.1	0.627	0.631	0.478	-0.482	42.5	0.0	0.699	1.553	-0.854
ROW	34.1	6.8	4.292	3.430	2.498	-1.635	45.0	0.0	3.320	7.135	-3.815

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from each country's optimal tariff that result in positive welfare gains for all. ash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.6: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Nash Tariffs Ensuring Positive Marginal Welfare Gains for All Countries

Countries	Baseline Model						Perfect Competition Model				
	Nash Tariffs	Percentage Point Reduction (33.28%p)					Nash Tariffs	Percentage Point Reduction (33.16%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Australia	76.3	43.0	1.267	0.970	0.077	0.219	43.1	9.9	1.473	2.503	-1.030
Austria	49.9	16.6	2.247	1.276	1.749	-0.777	40.4	7.2	1.703	3.210	-1.507
Bangladesh	19.7	0.0	0.279	0.314	0.259	-0.294	42.7	9.5	0.238	0.463	-0.225
Belgium	11.1	0.0	5.127	3.708	3.479	-2.061	42.5	9.3	3.415	5.951	-2.535
Brazil	82.1	48.8	0.811	0.509	0.086	0.217	41.4	8.2	0.772	1.444	-0.671
Canada	3.9	0.0	4.458	2.562	2.530	-0.634	44.4	11.2	3.269	5.115	-1.846
China	56.9	23.6	0.451	0.553	-0.036	-0.066	42.3	9.1	0.581	0.990	-0.409
Denmark	43.7	10.4	2.604	3.480	1.621	-2.496	46.3	13.1	3.449	5.407	-1.958
France	37.0	3.7	1.517	2.167	1.358	-2.007	45.6	12.4	1.901	3.061	-1.160
Germany	63.5	30.2	1.259	1.303	0.110	-0.154	50.4	17.2	1.567	2.244	-0.677
Greece	73.5	40.2	0.598	0.449	0.054	0.095	39.0	5.8	0.633	1.226	-0.593
India	31.9	0.0	0.166	0.409	0.102	-0.345	35.9	2.7	0.218	0.507	-0.288
Indonesia	76.5	43.2	1.074	0.807	0.070	0.196	50.3	17.1	1.306	1.812	-0.506
Italy	100.0	66.7	0.781	0.511	-0.109	0.379	47.7	14.5	0.997	1.513	-0.516
Japan	100.0	66.7	0.211	0.177	-0.090	0.125	45.1	11.9	0.324	0.518	-0.194
Korea	23.8	0.0	0.559	0.539	0.489	-0.469	36.9	3.7	0.416	0.886	-0.470
Mexico	43.8	10.5	1.415	1.764	0.789	-1.139	49.1	15.9	1.991	2.727	-0.736
Netherlands	32.4	0.0	1.775	2.578	1.885	-2.689	44.7	11.5	2.086	3.436	-1.350
New Zealand	21.6	0.0	1.116	1.579	0.699	-1.162	32.9	0.0	1.240	2.803	-1.564
Norway	49.7	16.4	1.656	1.862	0.676	-0.882	44.2	11.0	1.927	3.120	-1.193
Peru	54.8	21.5	0.220	0.222	0.070	-0.072	47.7	14.5	0.254	0.376	-0.122
Romania	46.5	13.2	0.782	0.785	0.444	-0.447	43.3	10.1	0.764	1.326	-0.562
Russia	93.3	60.0	0.754	0.487	-0.083	0.349	42.9	9.7	0.871	1.504	-0.633
Vietnam	11.3	0.0	2.623	1.927	1.842	-1.146	35.2	2.0	1.570	3.665	-2.096
Spain	54.9	21.6	0.807	0.633	0.429	-0.256	48.8	15.6	0.770	1.167	-0.397
Sweden	16.3	0.0	1.363	1.499	0.773	-0.909	42.6	9.4	1.093	1.921	-0.827
Egypt	40.4	7.1	0.508	0.571	0.361	-0.423	31.9	0.0	0.458	1.089	-0.631
UK	75.5	42.2	1.661	1.197	0.223	0.242	41.7	8.5	1.749	3.162	-1.413
USA	60.4	27.1	0.609	0.421	0.302	-0.114	42.5	9.3	0.587	1.014	-0.428
ROW	34.1	0.8	2.078	2.978	2.051	-2.950	45.0	11.8	2.947	4.404	-1.457

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's Nash tariff that result in positive marginal welfare gains for all. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.7: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Nash Tariffs Ensuring Positive Welfare Gains for All Countries

Countries	Baseline Model						Perfect Competition Model				
	Nash Tariffs	Percentage Point Reduction (76.08%p)					Nash Tariffs	Percentage Point Reduction (50.40%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Australia	76.3	0.2	0.266	2.671	0.057	-2.461	43.1	0.0	1.638	3.805	-2.168
Austria	49.9	0.0	3.107	2.475	3.347	-2.714	40.4	0.0	2.426	4.956	-2.530
Bangladesh	19.7	0.0	0.587	0.450	0.431	-0.294	42.7	0.0	0.228	0.696	-0.468
Belgium	11.1	0.0	8.135	5.169	5.027	-2.061	42.5	0.0	4.404	9.356	-4.952
Brazil	82.1	6.0	0.268	1.311	0.007	-1.050	41.4	0.0	0.919	2.171	-1.252
Canada	3.9	0.0	9.551	5.071	5.115	-0.634	44.4	0.0	3.853	8.125	-4.272
China	56.9	0.0	0.239	1.135	0.075	-0.971	42.3	0.0	0.650	1.527	-0.877
Denmark	43.7	0.0	3.863	5.780	3.108	-5.025	46.3	0.0	4.001	9.070	-5.069
France	37.0	0.0	2.861	3.251	2.195	-2.584	45.6	0.0	2.177	5.058	-2.882
Germany	63.5	0.0	0.707	2.805	0.531	-2.630	50.4	0.0	1.509	3.928	-2.419
Greece	73.5	0.0	0.042	1.105	0.067	-1.130	39.0	0.0	0.864	1.774	-0.910
India	31.9	0.0	0.347	0.521	0.170	-0.345	35.9	0.0	0.335	0.694	-0.359
Indonesia	76.5	0.4	0.000	2.095	0.073	-2.168	50.3	0.0	1.176	3.160	-1.984
Italy	100.0	23.9	0.443	1.197	-0.467	-0.286	47.7	0.0	1.018	2.565	-1.547
Japan	100.0	23.9	0.129	0.444	-0.255	-0.059	45.1	0.0	0.328	0.817	-0.489
Korea	23.8	0.0	1.102	0.792	0.778	-0.469	36.9	0.0	0.575	1.200	-0.625
Mexico	43.8	0.0	2.648	3.563	1.456	-2.372	49.1	0.0	1.965	4.652	-2.688
Netherlands	32.4	0.0	3.713	3.567	2.834	-2.689	44.7	0.0	2.469	5.585	-3.116
New Zealand	21.6	0.0	2.741	2.456	1.447	-1.162	32.9	0.0	2.009	3.573	-1.564
Norway	49.7	0.0	2.086	3.471	1.531	-2.916	44.2	0.0	2.226	4.961	-2.735
Peru	54.8	0.0	0.190	0.448	0.122	-0.380	47.7	0.0	0.244	0.616	-0.372
Romania	46.5	0.0	1.108	1.350	0.959	-1.201	43.3	0.0	0.935	2.126	-1.190
Russia	93.3	17.2	0.324	1.175	-0.399	-0.451	42.9	0.0	1.026	2.343	-1.317
Vietnam	11.3	0.0	4.662	2.822	2.987	-1.146	35.2	0.0	2.364	4.821	-2.457
Spain	54.9	0.0	0.799	1.196	0.847	-1.245	48.8	0.0	0.801	1.995	-1.194
Sweden	16.3	0.0	2.298	2.130	1.077	-0.909	42.6	0.0	1.374	3.002	-1.628
Egypt	40.4	0.0	0.680	0.843	0.539	-0.702	31.9	0.0	0.753	1.384	-0.631
UK	75.5	0.0	0.373	3.106	0.509	-3.242	41.7	0.0	2.205	4.820	-2.615
USA	60.4	0.0	0.549	0.903	0.667	-1.021	42.5	0.0	0.699	1.553	-0.854
ROW	34.1	0.0	5.159	4.821	3.465	-3.127	45.0	0.0	3.320	7.135	-3.815

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's optimal tariff that result in positive welfare gains for all. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

A.2 Homogeneous Model with Full Sample

A.2.1 Optimal Tariffs

Table A.8: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Optimal Tariffs Ensuring Positive Welfare Gains for All Countries

Countries	Homogeneous Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Reduction (87.53%)					Optimal Tariffs	Percentage Reduction (100.00%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Australia	4.9	0.6	3.728	1.444	2.619	-0.335	42.5	0.0	1.436	3.663	-2.227
Austria	44.6	5.6	2.046	2.205	1.603	-1.762	35.6	0.0	2.206	4.655	-2.449
Bangladesh	49.2	6.1	0.149	0.312	0.165	-0.328	41.5	0.0	0.188	0.666	-0.478
Belgium	44.7	5.6	3.304	4.114	2.716	-3.527	38.5	0.0	3.981	8.840	-4.858
Brazil	40.3	5.0	0.999	0.918	0.897	-0.816	35.8	0.0	0.826	2.031	-1.206
Canada	32.1	4.0	4.886	3.964	3.360	-2.438	39.8	0.0	3.468	7.651	-4.182
China	56.2	7.0	0.281	0.646	0.227	-0.592	37.6	0.0	0.585	1.447	-0.862
Denmark	44.5	5.5	3.420	4.180	2.728	-3.488	42.1	0.0	3.588	8.579	-4.991
France	47.7	5.9	1.905	2.449	1.407	-1.951	41.4	0.0	1.944	4.785	-2.841
Germany	62.1	7.7	0.800	1.672	0.821	-1.692	45.7	0.0	1.336	3.723	-2.387
Greece	23.6	2.9	0.985	0.670	0.854	-0.539	34.7	0.0	0.790	1.674	-0.884
India	33.3	4.2	0.354	0.258	0.347	-0.251	29.7	0.0	0.310	0.646	-0.337
Indonesia	43.1	5.4	1.238	1.419	1.080	-1.261	44.6	0.0	1.038	2.981	-1.943
Italy	63.1	7.9	0.449	1.121	0.410	-1.083	43.1	0.0	0.903	2.427	-1.525
Japan	72.8	9.1	0.044	0.365	0.008	-0.330	40.2	0.0	0.292	0.771	-0.479
Korea	61.5	7.7	0.000	0.518	-0.074	-0.444	34.1	0.0	0.516	1.139	-0.623
Mexico	59.6	7.4	1.428	2.333	0.737	-1.642	44.4	0.0	1.737	4.400	-2.662
Netherlands	35.5	4.4	2.782	2.605	2.170	-1.993	41.1	0.0	2.212	5.302	-3.090
New Zealand	21.9	2.7	1.939	1.617	1.272	-0.951	28.1	0.0	1.863	3.341	-1.479
Norway	9.7	1.2	4.130	1.887	3.035	-0.791	42.8	0.0	1.975	4.761	-2.786
Peru	19.2	2.4	0.427	0.291	0.298	-0.162	43.1	0.0	0.213	0.581	-0.367
Romania	53.5	6.7	0.566	1.013	0.400	-0.847	38.3	0.0	0.843	2.002	-1.159
Russia	0.0	0.0	2.208	0.924	1.284	0.000	40.6	0.0	0.914	2.241	-1.327
Vietnam	56.1	7.0	0.838	2.409	0.109	-1.680	32.2	0.0	2.135	4.566	-2.432
Spain	58.9	7.3	0.535	0.822	0.560	-0.848	44.0	0.0	0.714	1.885	-1.171
Sweden	44.8	5.6	1.134	1.194	1.143	-1.203	37.5	0.0	1.250	2.826	-1.575
Egypt	22.1	2.8	0.760	0.596	0.556	-0.391	28.8	0.0	0.690	1.303	-0.613
UK	43.0	5.4	1.880	2.434	1.294	-1.848	37.9	0.0	1.987	4.558	-2.571
USA	51.1	6.4	0.558	0.740	0.412	-0.594	38.6	0.0	0.621	1.465	-0.844
Rest of World	33.3	4.2	4.426	3.520	3.094	-2.188	42.1	0.0	2.934	6.779	-3.846

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from each country's optimal tariff that result in positive welfare gains for all. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.9: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Optimal Tariffs Ensuring Positive Marginal Welfare Gains for All Countries

Countries	Homogeneous Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Point Reduction (30.07%p)					Optimal Tariffs	Percentage Point Reduction (32.00%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Australia	4.9	0.0	2.144	0.940	1.627	-0.423	42.5	10.5	1.516	2.515	-0.999
Austria	44.6	14.5	1.495	1.387	1.005	-0.898	35.6	3.6	1.520	3.411	-1.891
Bangladesh	49.2	19.1	0.210	0.204	0.113	-0.107	41.5	9.5	0.237	0.465	-0.228
Belgium	44.7	14.6	2.713	2.758	1.719	-1.763	38.5	6.5	3.184	6.235	-3.051
Brazil	40.3	10.2	0.527	0.634	0.461	-0.568	35.8	3.8	0.646	1.552	-0.905
Canada	32.1	2.0	2.292	2.946	2.357	-3.011	39.8	7.8	3.086	5.429	-2.343
China	56.2	26.1	0.566	0.360	0.239	-0.034	37.6	5.6	0.505	1.050	-0.545
Denmark	44.5	14.4	2.743	2.751	1.825	-1.833	42.1	10.1	3.245	5.660	-2.415
France	47.7	17.6	1.559	1.509	0.839	-0.789	41.4	9.4	1.770	3.204	-1.433
Germany	62.1	32.0	1.456	0.899	0.661	-0.104	45.7	13.7	1.466	2.352	-0.886
Greece	23.6	0.0	0.624	0.604	0.742	-0.721	34.7	2.7	0.561	1.286	-0.724
India	33.3	3.2	0.208	0.228	0.259	-0.280	29.7	0.0	0.187	0.524	-0.337
Indonesia	43.1	13.0	0.907	0.962	0.661	-0.716	44.6	12.6	1.188	1.927	-0.739
Italy	63.1	33.0	0.873	0.586	0.318	-0.031	43.1	11.1	0.918	1.585	-0.667
Japan	72.8	42.7	0.273	0.164	0.067	0.042	40.2	8.2	0.291	0.547	-0.256
Korea	61.5	31.4	0.333	0.260	0.072	0.000	34.1	2.1	0.387	0.918	-0.530
Mexico	59.6	29.5	1.613	1.135	0.593	-0.115	44.4	12.4	1.889	2.890	-1.000
Netherlands	35.5	5.4	1.633	2.005	1.548	-1.920	41.1	9.1	1.972	3.574	-1.601
New Zealand	21.9	0.0	0.990	1.315	0.954	-1.278	28.1	0.0	1.263	2.742	-1.479
Norway	9.7	0.0	2.783	1.433	2.358	-1.009	42.8	10.8	1.940	3.167	-1.227
Peru	19.2	0.0	0.205	0.232	0.190	-0.216	43.1	11.1	0.237	0.395	-0.158
Romania	53.5	23.4	0.723	0.589	0.318	-0.184	38.3	6.3	0.677	1.405	-0.728
Russia	0.0	0.0	1.464	0.637	0.826	0.000	40.6	8.6	0.850	1.542	-0.692
Vietnam	56.1	26.0	1.373	1.251	0.264	-0.141	32.2	0.2	1.432	3.826	-2.394
Spain	58.9	28.8	0.704	0.460	0.366	-0.123	44.0	12.0	0.713	1.219	-0.506
Sweden	44.8	14.7	0.951	0.809	0.754	-0.612	37.5	5.5	0.972	2.035	-1.063
Egypt	22.1	0.0	0.422	0.536	0.405	-0.520	28.8	0.0	0.459	1.073	-0.613
UK	43.0	12.9	1.439	1.686	0.801	-1.048	37.9	5.9	1.611	3.289	-1.678
USA	51.1	21.0	0.502	0.439	0.232	-0.168	38.6	6.6	0.543	1.061	-0.517
Rest of World	33.3	3.2	2.071	2.502	2.095	-2.526	42.1	10.1	2.880	4.581	-1.701

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's optimal tariff that result in positive marginal welfare gains for all. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.10: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Optimal Tariffs Ensuring Positive Welfare Gains for All Countries

Countries	Homogeneous Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Point Reduction (55.13%p)					Optimal Tariffs	Percentage Point Reduction (45.70%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Australia	4.9	0.0	4.148	1.617	2.954	-0.423	42.5	0.0	1.436	3.663	-2.227
Austria	44.6	0.0	1.771	2.615	1.790	-2.633	35.6	0.0	2.206	4.655	-2.449
Bangladesh	49.2	0.0	0.054	0.375	0.183	-0.504	41.5	0.0	0.188	0.666	-0.478
Belgium	44.7	0.0	3.042	5.024	3.175	-5.157	38.5	0.0	3.981	8.840	-4.858
Brazil	40.3	0.0	0.958	1.113	1.056	-1.211	35.8	0.0	0.826	2.031	-1.206
Canada	32.1	0.0	5.483	4.862	4.099	-3.478	39.8	0.0	3.468	7.651	-4.182
China	56.2	1.1	0.000	0.771	0.144	-0.915	37.6	0.0	0.585	1.447	-0.862
Denmark	44.5	0.0	3.226	5.067	3.233	-5.074	42.1	0.0	3.588	8.579	-4.991
France	47.7	0.0	1.641	2.950	1.624	-2.933	41.4	0.0	1.944	4.785	-2.841
Germany	62.1	7.0	1.052	1.846	0.943	-1.737	45.7	0.0	1.336	3.723	-2.387
Greece	23.6	0.0	1.087	0.785	1.023	-0.721	34.7	0.0	0.790	1.674	-0.884
India	33.3	0.0	0.371	0.314	0.418	-0.361	29.7	0.0	0.310	0.646	-0.337
Indonesia	43.1	0.0	1.041	1.692	1.208	-1.858	44.6	0.0	1.038	2.981	-1.943
Italy	63.1	8.0	0.639	1.208	0.477	-1.046	43.1	0.0	0.903	2.427	-1.525
Japan	72.8	17.7	0.287	0.346	0.084	-0.143	40.2	0.0	0.292	0.771	-0.479
Korea	61.5	6.4	0.014	0.574	-0.082	-0.478	34.1	0.0	0.516	1.139	-0.623
Mexico	59.6	4.5	1.496	2.742	0.747	-1.994	44.4	0.0	1.737	4.400	-2.662
Netherlands	35.5	0.0	2.871	3.107	2.576	-2.812	41.1	0.0	2.212	5.302	-3.090
New Zealand	21.9	0.0	2.104	1.895	1.488	-1.278	28.1	0.0	1.863	3.341	-1.479
Norway	9.7	0.0	4.740	2.185	3.564	-1.009	42.8	0.0	1.975	4.761	-2.786
Peru	19.2	0.0	0.473	0.342	0.347	-0.216	43.1	0.0	0.213	0.581	-0.367
Romania	53.5	0.0	0.327	1.225	0.422	-1.320	38.3	0.0	0.843	2.002	-1.159
Russia	0.0	0.0	2.489	1.040	1.449	0.000	40.6	0.0	0.914	2.241	-1.327
Vietnam	56.1	1.0	0.104	2.908	-0.158	-2.647	32.2	0.0	2.135	4.566	-2.432
Spain	58.9	3.8	0.526	0.941	0.629	-1.044	44.0	0.0	0.714	1.885	-1.171
Sweden	44.8	0.0	1.012	1.446	1.312	-1.746	37.5	0.0	1.250	2.826	-1.575
Egypt	22.1	0.0	0.829	0.696	0.653	-0.520	28.8	0.0	0.690	1.303	-0.613
UK	43.0	0.0	1.765	2.937	1.528	-2.700	37.9	0.0	1.987	4.558	-2.571
USA	51.1	0.0	0.417	0.887	0.450	-0.920	38.6	0.0	0.621	1.465	-0.844
Rest of World	33.3	0.0	4.603	4.188	3.615	-3.201	42.1	0.0	2.934	6.779	-3.846

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's optimal tariff that result in positive welfare gains for all. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

A.2.2 Nash Tariffs

Table A.11: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Nash Tariffs Ensuring Positive Marginal Welfare Gains for All Countries

Countries	Homogeneous Model						Perfect Competition Model				
	Nash Tariffs	Percentage Reduction (60.47%)					Nash Tariffs	Percentage Reduction (83.05%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Australia	5.7	2.3	2.358	0.924	1.632	-0.198	43.1	7.3	1.527	2.797	-1.270
Austria	51.8	20.5	1.774	1.300	1.024	-0.551	40.2	6.8	2.149	3.649	-1.500
Bangladesh	48.7	19.3	0.204	0.190	0.121	-0.107	41.4	7.0	0.247	0.517	-0.270
Belgium	50.0	19.8	2.931	2.438	1.686	-1.193	42.5	7.2	3.903	6.844	-2.941
Brazil	57.4	22.7	0.827	0.553	0.503	-0.229	41.2	7.0	0.859	1.589	-0.730
Canada	38.6	15.3	3.460	2.389	1.994	-0.923	44.4	7.5	3.405	5.893	-2.489
China	60.5	23.9	0.485	0.363	0.239	-0.117	42.1	7.1	0.632	1.114	-0.482
Denmark	49.2	19.4	2.984	2.489	1.722	-1.227	46.2	7.8	3.661	6.614	-2.952
France	54.2	21.4	1.709	1.449	0.867	-0.607	45.3	7.7	2.041	3.709	-1.668
Germany	68.5	27.1	1.139	0.964	0.629	-0.454	50.5	8.6	1.476	2.869	-1.393
Greece	32.6	12.9	0.695	0.439	0.518	-0.262	39.0	6.6	0.778	1.319	-0.541
India	43.8	17.3	0.284	0.158	0.212	-0.085	32.6	5.5	0.300	0.503	-0.203
Indonesia	48.1	19.0	1.092	0.840	0.690	-0.438	50.5	8.6	1.174	2.284	-1.110
Italy	71.8	28.4	0.721	0.650	0.324	-0.253	47.7	8.1	1.005	1.884	-0.878
Japan	85.6	33.8	0.213	0.203	0.054	-0.044	45.6	7.7	0.324	0.603	-0.279
Korea	68.5	27.1	0.263	0.292	0.046	-0.075	36.9	6.3	0.522	0.894	-0.371
Mexico	62.5	24.7	1.596	1.305	0.640	-0.349	49.0	8.3	1.868	3.362	-1.494
Netherlands	41.2	16.3	2.124	1.593	1.300	-0.769	44.7	7.6	2.275	4.099	-1.824
New Zealand	30.6	12.1	1.315	1.022	0.757	-0.464	32.8	5.6	1.687	2.636	-0.949
Norway	12.1	4.8	2.728	1.241	1.947	-0.459	46.1	7.8	2.081	3.668	-1.587
Peru	21.4	8.5	0.287	0.186	0.179	-0.078	47.7	8.1	0.244	0.455	-0.211
Romania	58.6	23.2	0.650	0.592	0.298	-0.241	45.4	7.7	0.887	1.578	-0.691
Russia	0.0	0.0	1.415	0.603	0.812	0.000	43.5	7.4	0.963	1.727	-0.764
Vietnam	58.6	23.2	1.329	1.339	0.316	-0.326	35.2	6.0	2.092	3.544	-1.452
Spain	68.4	27.0	0.621	0.488	0.377	-0.243	48.9	8.3	0.775	1.473	-0.699
Sweden	55.1	21.8	1.034	0.724	0.718	-0.408	42.6	7.2	1.253	2.216	-0.963
Egypt	31.3	12.4	0.532	0.398	0.333	-0.199	31.7	5.4	0.644	1.043	-0.399
UK	49.5	19.6	1.639	1.476	0.797	-0.634	41.8	7.1	2.017	3.571	-1.554
USA	59.1	23.4	0.538	0.438	0.262	-0.163	42.6	7.2	0.653	1.152	-0.499
Rest of World	37.3	14.7	3.151	2.082	1.822	-0.753	44.8	7.6	3.022	5.151	-2.128

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from each country's Nash tariff that result in positive marginal welfare gains for all. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.12: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Nash Tariffs Ensuring Positive Welfare Gains for All Countries

Countries	Homogeneous Model						Perfect Competition Model				
	Nash Tariffs	Percentage Reduction (92.26%)					Nash Tariffs	Percentage Reduction (100.00%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Australia	5.7	0.4	4.315	1.681	3.032	-0.397	43.1	0.0	1.631	3.801	-2.170
Austria	51.8	4.0	2.398	2.563	1.866	-2.030	40.2	0.0	2.425	4.949	-2.525
Bangladesh	48.7	3.8	0.177	0.353	0.187	-0.363	41.4	0.0	0.225	0.688	-0.463
Belgium	50.0	3.9	3.948	4.782	3.163	-3.998	42.5	0.0	4.394	9.350	-4.956
Brazil	57.4	4.4	1.179	1.106	1.052	-0.979	41.2	0.0	0.915	2.166	-1.251
Canada	38.6	3.0	5.776	4.671	3.950	-2.845	44.4	0.0	3.854	8.125	-4.272
China	60.5	4.7	0.324	0.741	0.259	-0.677	42.1	0.0	0.649	1.525	-0.876
Denmark	49.2	3.8	4.090	4.853	3.179	-3.943	46.2	0.0	4.006	9.068	-5.062
France	54.2	4.2	2.249	2.842	1.637	-2.231	45.3	0.0	2.175	5.049	-2.874
Germany	68.5	5.3	0.956	1.931	0.956	-1.931	50.5	0.0	1.505	3.928	-2.423
Greece	32.6	2.5	1.154	0.810	1.020	-0.677	39.0	0.0	0.864	1.774	-0.910
India	43.8	3.4	0.419	0.306	0.409	-0.297	32.6	0.0	0.337	0.679	-0.342
Indonesia	48.1	3.7	1.464	1.645	1.252	-1.433	50.5	0.0	1.167	3.157	-1.991
Italy	71.8	5.6	0.537	1.301	0.480	-1.244	47.7	0.0	1.016	2.564	-1.548
Japan	85.6	6.6	0.051	0.424	0.009	-0.382	45.6	0.0	0.327	0.818	-0.491
Korea	68.5	5.3	0.000	0.597	-0.085	-0.512	36.9	0.0	0.573	1.199	-0.626
Mexico	62.5	4.8	1.651	2.688	0.834	-1.871	49.0	0.0	1.964	4.650	-2.686
Netherlands	41.2	3.2	3.271	3.038	2.523	-2.290	44.7	0.0	2.468	5.585	-3.117
New Zealand	30.6	2.4	2.258	1.951	1.515	-1.208	32.8	0.0	2.006	3.568	-1.562
Norway	12.1	0.9	4.850	2.233	3.592	-0.975	46.1	0.0	2.224	5.009	-2.785
Peru	21.4	1.7	0.497	0.338	0.343	-0.183	47.7	0.0	0.243	0.615	-0.372
Romania	58.6	4.5	0.661	1.166	0.462	-0.967	45.4	0.0	0.933	2.149	-1.216
Russia	0.0	0.0	2.564	1.075	1.489	0.000	43.5	0.0	1.022	2.349	-1.327
Vietnam	58.6	4.5	0.944	2.759	0.122	-1.937	35.2	0.0	2.358	4.817	-2.459
Spain	68.4	5.3	0.639	0.957	0.655	-0.973	48.9	0.0	0.798	1.994	-1.196
Sweden	55.1	4.3	1.355	1.407	1.342	-1.394	42.6	0.0	1.377	3.004	-1.627
Egypt	31.3	2.4	0.894	0.726	0.668	-0.500	31.7	0.0	0.749	1.379	-0.630
UK	49.5	3.8	2.232	2.833	1.512	-2.113	41.8	0.0	2.200	4.820	-2.619
USA	59.1	4.6	0.655	0.858	0.479	-0.683	42.6	0.0	0.696	1.552	-0.856
Rest of World	37.3	2.9	5.189	4.089	3.585	-2.485	44.8	0.0	3.306	7.119	-3.813

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from each country's optimal tariff that result in positive welfare gains for all. ash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.13: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Nash Tariffs Ensuring Positive Marginal Welfare Gains for All Countries

Countries	Homogeneous Model						Perfect Competition Model				
	Nash Tariffs	Percentage Point Reduction (33.38%p)					Nash Tariffs	Percentage Point Reduction (33.00%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Australia	5.7	0.0	2.256	0.997	1.722	-0.463	43.1	10.1	1.471	2.489	-1.017
Austria	51.8	18.4	1.774	1.388	1.052	-0.666	40.2	7.2	1.688	3.196	-1.508
Bangladesh	48.7	15.3	0.191	0.221	0.121	-0.151	41.4	8.4	0.223	0.467	-0.244
Belgium	50.0	16.6	3.076	2.809	1.797	-1.530	42.5	9.5	3.410	5.916	-2.506
Brazil	57.4	24.0	0.842	0.567	0.442	-0.167	41.2	8.2	0.767	1.439	-0.672
Canada	38.6	5.2	2.658	2.901	2.317	-2.561	44.4	11.4	3.255	5.077	-1.823
China	60.5	27.1	0.618	0.370	0.260	-0.012	42.1	9.1	0.576	0.986	-0.410
Denmark	49.2	15.8	3.035	2.836	1.886	-1.686	46.2	13.2	3.425	5.372	-1.947
France	54.2	20.8	1.787	1.527	0.865	-0.605	45.3	12.3	1.882	3.052	-1.170
Germany	68.5	35.1	1.627	0.919	0.709	0.000	50.5	17.5	1.566	2.228	-0.662
Greece	32.6	0.0	0.666	0.681	0.821	-0.837	39.0	6.0	0.631	1.217	-0.586
India	43.8	10.4	0.311	0.215	0.263	-0.167	32.6	0.0	0.183	0.525	-0.342
Indonesia	48.1	14.7	1.031	0.985	0.689	-0.643	50.5	17.5	1.309	1.799	-0.490
Italy	71.8	38.4	1.008	0.588	0.347	0.072	47.7	14.7	0.994	1.503	-0.509
Japan	85.6	52.2	0.324	0.159	0.082	0.082	45.6	12.6	0.327	0.511	-0.184
Korea	68.5	35.1	0.393	0.263	0.092	0.038	36.9	3.9	0.416	0.881	-0.465
Mexico	62.5	29.1	1.671	1.171	0.631	-0.131	49.0	16.0	1.977	2.709	-0.733
Netherlands	41.2	7.8	1.904	2.031	1.570	-1.698	44.7	11.7	2.078	3.412	-1.334
New Zealand	30.6	0.0	1.026	1.479	1.048	-1.501	32.8	0.0	1.231	2.793	-1.562
Norway	12.1	0.0	2.890	1.527	2.512	-1.149	46.1	13.1	2.008	3.028	-1.021
Peru	21.4	0.0	0.221	0.242	0.201	-0.222	47.7	14.7	0.254	0.374	-0.120
Romania	58.6	25.2	0.808	0.609	0.342	-0.143	45.4	12.4	0.804	1.283	-0.479
Russia	0.0	0.0	1.535	0.672	0.863	0.000	43.5	10.5	0.886	1.485	-0.599
Vietnam	58.6	25.2	1.451	1.320	0.294	-0.163	35.2	2.2	1.570	3.641	-2.071
Spain	68.4	35.0	0.816	0.459	0.385	-0.028	48.9	15.9	0.770	1.159	-0.390
Sweden	55.1	21.7	1.205	0.785	0.777	-0.357	42.6	9.6	1.088	1.905	-0.817
Egypt	31.3	0.0	0.431	0.606	0.440	-0.615	31.7	0.0	0.456	1.086	-0.630
UK	49.5	16.1	1.680	1.705	0.814	-0.839	41.8	8.8	1.750	3.138	-1.388
USA	59.1	25.7	0.594	0.440	0.248	-0.094	42.6	9.6	0.588	1.007	-0.420
Rest of World	37.3	3.9	2.244	2.556	2.132	-2.444	44.8	11.8	2.931	4.392	-1.461

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's Nash tariff that result in positive marginal welfare gains for all. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.14: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Nash Tariffs Ensuring Positive Welfare Gains for All Countries

Countries	Homogeneous Model						Perfect Competition Model				
	Nash Tariffs	Percentage Point Reduction (63.93%p)					Nash Tariffs	Percentage Point Reduction (50.50%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Australia	5.7	0.0	4.531	1.774	3.221	-0.463	43.1	0.0	1.631	3.801	-2.170
Austria	51.8	0.0	2.156	2.857	1.991	-2.691	40.2	0.0	2.425	4.949	-2.525
Bangladesh	48.7	0.0	0.114	0.394	0.199	-0.478	41.4	0.0	0.225	0.688	-0.463
Belgium	50.0	0.0	3.699	5.423	3.466	-5.190	42.5	0.0	4.394	9.350	-4.956
Brazil	57.4	0.0	1.090	1.262	1.169	-1.341	41.2	0.0	0.915	2.166	-1.251
Canada	38.6	0.0	6.180	5.340	4.498	-3.659	44.4	0.0	3.854	8.125	-4.272
China	60.5	0.0	0.044	0.831	0.171	-0.958	42.1	0.0	0.649	1.525	-0.876
Denmark	49.2	0.0	3.939	5.484	3.546	-5.091	46.2	0.0	4.006	9.068	-5.062
France	54.2	0.0	2.001	3.189	1.774	-2.962	45.3	0.0	2.175	5.049	-2.874
Germany	68.5	4.6	1.085	2.059	1.027	-2.001	50.5	0.0	1.505	3.928	-2.423
Greece	32.6	0.0	1.207	0.896	1.148	-0.837	39.0	0.0	0.864	1.774	-0.910
India	43.8	0.0	0.421	0.350	0.463	-0.391	32.6	0.0	0.337	0.679	-0.342
Indonesia	48.1	0.0	1.259	1.814	1.314	-1.869	50.5	0.0	1.167	3.157	-1.991
Italy	71.8	7.9	0.810	1.313	0.542	-1.045	47.7	0.0	1.016	2.564	-1.548
Japan	85.6	21.7	0.400	0.359	0.116	-0.075	45.6	0.0	0.327	0.818	-0.491
Korea	68.5	4.6	0.000	0.634	-0.098	-0.535	36.9	0.0	0.573	1.199	-0.626
Mexico	62.5	0.0	1.241	3.128	0.744	-2.631	49.0	0.0	1.964	4.650	-2.686
Netherlands	41.2	0.0	3.308	3.398	2.817	-2.906	44.7	0.0	2.468	5.585	-3.117
New Zealand	30.6	0.0	2.308	2.148	1.661	-1.501	32.8	0.0	2.006	3.568	-1.562
Norway	12.1	0.0	5.266	2.446	3.969	-1.149	46.1	0.0	2.224	5.009	-2.785
Peru	21.4	0.0	0.529	0.374	0.377	-0.222	47.7	0.0	0.243	0.615	-0.372
Romania	58.6	0.0	0.474	1.310	0.472	-1.308	45.4	0.0	0.933	2.149	-1.216
Russia	0.0	0.0	2.737	1.146	1.591	0.000	43.5	0.0	1.022	2.349	-1.327
Vietnam	58.6	0.0	0.251	3.119	-0.127	-2.741	35.2	0.0	2.358	4.817	-2.459
Spain	68.4	4.5	0.698	1.013	0.700	-1.015	48.9	0.0	0.798	1.994	-1.196
Sweden	55.1	0.0	1.231	1.596	1.460	-1.826	42.6	0.0	1.377	3.004	-1.627
Egypt	31.3	0.0	0.926	0.801	0.741	-0.615	31.7	0.0	0.749	1.379	-0.630
UK	49.5	0.0	2.117	3.193	1.677	-2.752	41.8	0.0	2.200	4.820	-2.619
USA	59.1	0.0	0.547	0.967	0.510	-0.931	42.6	0.0	0.696	1.552	-0.856
Rest of World	37.3	0.0	5.233	4.545	3.915	-3.228	44.8	0.0	3.306	7.119	-3.813

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's optimal tariff that result in positive welfare gains for all. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

A.3 Baseline Model with Lowest Markup Countries

A.3.1 Optimal Tariffs

Table A.15: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Optimal Tariffs Among Lowest Markup Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Reduction (0.00%)					Optimal Tariffs	Percentage Reduction (24.00%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Sweden	9.1	9.1	0.000	0.000	0.000	0.000	37.5	28.5	0.023	0.032	-0.009
Canada	0.0	0.0	0.000	0.000	0.000	0.000	39.8	30.2	0.026	0.031	-0.005
India	22.3	22.3	0.000	0.000	0.000	0.000	30.5	23.2	0.005	0.006	0.000
Belgium	8.1	8.1	0.000	0.000	0.000	0.000	38.4	29.2	0.058	0.070	-0.012
Bangladesh	16.1	16.1	0.000	0.000	0.000	0.000	41.5	31.5	0.003	0.011	-0.008
Vietnam	5.0	5.0	0.000	0.000	0.000	0.000	32.2	24.5	0.026	0.028	-0.001
Australia	68.0	68.0	0.000	0.000	0.000	0.000	42.5	42.5	0.000	0.000	0.000
Austria	36.9	36.9	0.000	0.000	0.000	0.000	35.6	35.6	0.000	0.000	0.000
Brazil	67.5	67.5	0.000	0.000	0.000	0.000	35.8	35.8	0.000	0.000	0.000
China	49.1	49.1	0.000	0.000	0.000	0.000	37.6	37.6	0.000	0.000	0.000
Denmark	39.2	39.2	0.000	0.000	0.000	0.000	42.1	42.1	-0.001	0.000	0.000
France	30.2	30.2	0.000	0.000	0.000	0.000	41.4	41.4	0.000	0.000	0.000
Germany	56.2	56.2	0.000	0.000	0.000	0.000	45.7	45.7	0.000	0.000	0.000
Greece	62.5	62.5	0.000	0.000	0.000	0.000	34.6	34.6	0.000	0.000	0.000
Indonesia	67.3	67.3	0.000	0.000	0.000	0.000	44.6	44.6	-0.001	0.000	0.000
Italy	94.2	94.2	0.000	0.000	0.000	0.000	43.1	43.1	0.000	0.000	0.000
Japan	98.0	98.0	0.000	0.000	0.000	0.000	40.7	40.7	0.000	0.000	0.000
Korea	15.5	15.5	0.000	0.000	0.000	0.000	34.0	34.0	0.000	0.000	0.000
Mexico	41.4	41.4	0.000	0.000	0.000	0.000	44.5	44.5	0.000	0.000	0.000
Netherlands	24.3	24.3	0.000	0.000	0.000	0.000	41.2	41.2	-0.001	0.000	0.000
New Zealand	13.9	13.9	0.000	0.000	0.000	0.000	28.1	28.1	0.000	0.000	0.000
Norway	45.3	45.3	0.000	0.000	0.000	0.000	42.8	42.8	0.000	0.000	0.000
Peru	51.2	51.2	0.000	0.000	0.000	0.000	43.4	43.4	0.000	0.000	0.000
Romania	34.6	34.6	0.000	0.000	0.000	0.000	38.3	38.3	0.000	0.000	0.000
Russia	86.2	86.2	0.000	0.000	0.000	0.000	40.5	40.5	0.000	0.000	0.000
Spain	45.9	45.9	0.000	0.000	0.000	0.000	43.8	43.8	0.000	0.000	0.000
Egypt	35.5	35.5	0.000	0.000	0.000	0.000	28.8	28.8	0.000	0.000	0.000
UK	61.0	61.0	0.000	0.000	0.000	0.000	37.8	37.8	0.000	0.000	0.000
USA	43.9	43.9	0.000	0.000	0.000	0.000	38.7	38.7	0.000	0.000	0.000
ROW	29.5	29.5	0.000	0.000	0.000	0.000	42.1	42.1	-0.001	0.000	0.000

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the optimal tariffs of the six lowest-markup countries—Sweden, Canada, India, Belgium, Bangladesh, and Vietnam—such that all of these countries experience positive marginal welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.16: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Optimal Tariffs Among Lowest Markup Countries Ensuring Positive Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Reduction (0.00%)					Optimal Tariffs	Percentage Reduction (44.44%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Sweden	9.1	9.1	0.000	0.000	0.000	0.000	37.5	20.8	0.044	0.068	-0.024
Canada	0.0	0.0	0.000	0.000	0.000	0.000	39.8	22.1	0.052	0.066	-0.014
India	22.3	22.3	0.000	0.000	0.000	0.000	30.5	16.9	0.010	0.012	-0.002
Belgium	8.1	8.1	0.000	0.000	0.000	0.000	38.4	21.3	0.115	0.152	-0.037
Bangladesh	16.1	16.1	0.000	0.000	0.000	0.000	41.5	23.1	0.000	0.021	-0.021
Vietnam	5.0	5.0	0.000	0.000	0.000	0.000	32.2	17.9	0.053	0.058	-0.005
Australia	68.0	68.0	0.000	0.000	0.000	0.000	42.5	42.5	0.000	0.000	0.000
Austria	36.9	36.9	0.000	0.000	0.000	0.000	35.6	35.6	0.000	0.000	0.000
Brazil	67.5	67.5	0.000	0.000	0.000	0.000	35.8	35.8	0.000	0.000	0.000
China	49.1	49.1	0.000	0.000	0.000	0.000	37.6	37.6	0.000	0.000	0.000
Denmark	39.2	39.2	0.000	0.000	0.000	0.000	42.1	42.1	-0.001	-0.001	-0.001
France	30.2	30.2	0.000	0.000	0.000	0.000	41.4	41.4	-0.001	0.000	0.000
Germany	56.2	56.2	0.000	0.000	0.000	0.000	45.7	45.7	0.000	0.000	0.000
Greece	62.5	62.5	0.000	0.000	0.000	0.000	34.6	34.6	0.000	0.000	0.000
Indonesia	67.3	67.3	0.000	0.000	0.000	0.000	44.6	44.6	-0.001	-0.001	-0.001
Italy	94.2	94.2	0.000	0.000	0.000	0.000	43.1	43.1	0.000	0.000	0.000
Japan	98.0	98.0	0.000	0.000	0.000	0.000	40.7	40.7	0.000	0.000	0.000
Korea	15.5	15.5	0.000	0.000	0.000	0.000	34.0	34.0	0.000	0.000	0.000
Mexico	41.4	41.4	0.000	0.000	0.000	0.000	44.5	44.5	0.000	0.000	0.000
Netherlands	24.3	24.3	0.000	0.000	0.000	0.000	41.2	41.2	-0.001	-0.001	-0.001
New Zealand	13.9	13.9	0.000	0.000	0.000	0.000	28.1	28.1	0.000	0.000	0.000
Norway	45.3	45.3	0.000	0.000	0.000	0.000	42.8	42.8	0.000	0.000	0.000
Peru	51.2	51.2	0.000	0.000	0.000	0.000	43.4	43.4	0.000	0.000	0.000
Romania	34.6	34.6	0.000	0.000	0.000	0.000	38.3	38.3	0.000	0.000	0.000
Russia	86.2	86.2	0.000	0.000	0.000	0.000	40.5	40.5	0.000	0.000	0.000
Spain	45.9	45.9	0.000	0.000	0.000	0.000	43.8	43.8	0.000	0.000	0.000
Egypt	35.5	35.5	0.000	0.000	0.000	0.000	28.8	28.8	0.000	0.000	0.000
UK	61.0	61.0	0.000	0.000	0.000	0.000	37.8	37.8	0.000	0.000	0.000
USA	43.9	43.9	0.000	0.000	0.000	0.000	38.7	38.7	0.000	0.000	0.000
ROW	29.5	29.5	0.000	0.000	0.000	0.000	42.1	42.1	-0.002	-0.001	-0.001

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the optimal tariffs of the six lowest-markup countries—Sweden, Canada, India, Belgium, Bangladesh, and Vietnam—such that all of these countries experience positive welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.17: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Optimal Tariffs Among Lowest Markup Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Point Reduction (0.00%p)					Optimal Tariffs	Percentage Point Reduction (12.00%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Sweden	9.1	9.1	0.000	0.000	0.000	0.000	37.5	25.5	0.032	0.045	-0.014
Canada	0.0	0.0	0.000	0.000	0.000	0.000	39.8	27.8	0.043	0.046	-0.004
India	22.3	22.3	0.000	0.000	0.000	0.000	30.5	18.5	0.006	0.008	-0.002
Belgium	8.1	8.1	0.000	0.000	0.000	0.000	38.4	26.4	0.095	0.108	-0.012
Bangladesh	16.1	16.1	0.000	0.000	0.000	0.000	41.5	29.5	0.005	0.015	-0.010
Vietnam	5.0	5.0	0.000	0.000	0.000	0.000	32.2	20.2	0.035	0.042	-0.006
Australia	68.0	68.0	0.000	0.000	0.000	0.000	42.5	42.5	0.000	0.000	0.000
Austria	36.9	36.9	0.000	0.000	0.000	0.000	35.6	35.6	0.000	0.000	0.000
Brazil	67.5	67.5	0.000	0.000	0.000	0.000	35.8	35.8	0.000	0.000	0.000
China	49.1	49.1	0.000	0.000	0.000	0.000	37.6	37.6	0.000	0.000	0.000
Denmark	39.2	39.2	0.000	0.000	0.000	0.000	42.1	42.1	-0.001	-0.001	-0.001
France	30.2	30.2	0.000	0.000	0.000	0.000	41.4	41.4	0.000	0.000	0.000
Germany	56.2	56.2	0.000	0.000	0.000	0.000	45.7	45.7	0.000	0.000	0.000
Greece	62.5	62.5	0.000	0.000	0.000	0.000	34.6	34.6	0.000	0.000	0.000
Indonesia	67.3	67.3	0.000	0.000	0.000	0.000	44.6	44.6	-0.001	-0.001	0.000
Italy	94.2	94.2	0.000	0.000	0.000	0.000	43.1	43.1	0.000	0.000	0.000
Japan	98.0	98.0	0.000	0.000	0.000	0.000	40.7	40.7	0.000	0.000	0.000
Korea	15.5	15.5	0.000	0.000	0.000	0.000	34.0	34.0	0.000	0.000	0.000
Mexico	41.4	41.4	0.000	0.000	0.000	0.000	44.5	44.5	0.000	0.000	0.000
Netherlands	24.3	24.3	0.000	0.000	0.000	0.000	41.2	41.2	-0.001	0.000	0.000
New Zealand	13.9	13.9	0.000	0.000	0.000	0.000	28.1	28.1	0.000	0.000	0.000
Norway	45.3	45.3	0.000	0.000	0.000	0.000	42.8	42.8	0.000	0.000	0.000
Peru	51.2	51.2	0.000	0.000	0.000	0.000	43.4	43.4	0.000	0.000	0.000
Romania	34.6	34.6	0.000	0.000	0.000	0.000	38.3	38.3	0.000	0.000	0.000
Russia	86.2	86.2	0.000	0.000	0.000	0.000	40.5	40.5	0.000	0.000	0.000
Spain	45.9	45.9	0.000	0.000	0.000	0.000	43.8	43.8	0.000	0.000	0.000
Egypt	35.5	35.5	0.000	0.000	0.000	0.000	28.8	28.8	0.000	0.000	0.000
UK	61.0	61.0	0.000	0.000	0.000	0.000	37.8	37.8	0.000	0.000	0.000
USA	43.9	43.9	0.000	0.000	0.000	0.000	38.7	38.7	0.000	0.000	0.000
ROW	29.5	29.5	0.000	0.000	0.000	0.000	42.1	42.1	-0.001	-0.001	-0.001

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the optimal tariffs of the six lowest-markup countries—Sweden, Canada, India, Belgium, Bangladesh, and Vietnam—such that all of these countries experience positive marginal welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.18: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Optimal Tariffs Among Lowest Markup Countries Ensuring Positive Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Point Reduction (0.00%p)					Optimal Tariffs	Percentage Point Reduction (22.17%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Sweden	9.1	9.1	0.000	0.000	0.000	0.000	37.5	15.3	0.059	0.099	-0.040
Canada	0.0	0.0	0.000	0.000	0.000	0.000	39.8	17.6	0.092	0.105	-0.013
India	22.3	22.3	0.000	0.000	0.000	0.000	30.5	8.3	0.009	0.018	-0.009
Belgium	8.1	8.1	0.000	0.000	0.000	0.000	38.4	16.2	0.202	0.248	-0.046
Bangladesh	16.1	16.1	0.000	0.000	0.000	0.000	41.5	19.3	0.000	0.028	-0.028
Vietnam	5.0	5.0	0.000	0.000	0.000	0.000	32.2	10.0	0.065	0.091	-0.026
Australia	68.0	68.0	0.000	0.000	0.000	0.000	42.5	42.5	-0.001	0.000	0.000
Austria	36.9	36.9	0.000	0.000	0.000	0.000	35.6	35.6	0.000	0.000	0.000
Brazil	67.5	67.5	0.000	0.000	0.000	0.000	35.8	35.8	-0.001	0.000	0.000
China	49.1	49.1	0.000	0.000	0.000	0.000	37.6	37.6	0.000	0.000	0.000
Denmark	39.2	39.2	0.000	0.000	0.000	0.000	42.1	42.1	-0.003	-0.001	-0.001
France	30.2	30.2	0.000	0.000	0.000	0.000	41.4	41.4	-0.001	-0.001	-0.001
Germany	56.2	56.2	0.000	0.000	0.000	0.000	45.7	45.7	0.000	0.000	0.000
Greece	62.5	62.5	0.000	0.000	0.000	0.000	34.6	34.6	0.000	0.000	0.000
Indonesia	67.3	67.3	0.000	0.000	0.000	0.000	44.6	44.6	-0.003	-0.002	-0.001
Italy	94.2	94.2	0.000	0.000	0.000	0.000	43.1	43.1	-0.001	0.000	0.000
Japan	98.0	98.0	0.000	0.000	0.000	0.000	40.7	40.7	0.000	0.000	0.000
Korea	15.5	15.5	0.000	0.000	0.000	0.000	34.0	34.0	0.000	0.000	0.000
Mexico	41.4	41.4	0.000	0.000	0.000	0.000	44.5	44.5	0.001	0.001	0.000
Netherlands	24.3	24.3	0.000	0.000	0.000	0.000	41.2	41.2	-0.002	-0.001	-0.001
New Zealand	13.9	13.9	0.000	0.000	0.000	0.000	28.1	28.1	0.000	0.000	0.000
Norway	45.3	45.3	0.000	0.000	0.000	0.000	42.8	42.8	0.000	0.000	0.000
Peru	51.2	51.2	0.000	0.000	0.000	0.000	43.4	43.4	0.000	0.000	0.000
Romania	34.6	34.6	0.000	0.000	0.000	0.000	38.3	38.3	-0.001	0.000	0.000
Russia	86.2	86.2	0.000	0.000	0.000	0.000	40.5	40.5	0.000	0.000	0.000
Spain	45.9	45.9	0.000	0.000	0.000	0.000	43.8	43.8	-0.001	-0.001	0.000
Egypt	35.5	35.5	0.000	0.000	0.000	0.000	28.8	28.8	0.000	0.000	0.000
UK	61.0	61.0	0.000	0.000	0.000	0.000	37.8	37.8	-0.001	-0.001	0.000
USA	43.9	43.9	0.000	0.000	0.000	0.000	38.7	38.7	0.000	0.000	0.000
ROW	29.5	29.5	0.000	0.000	0.000	0.000	42.1	42.1	-0.003	-0.002	-0.001

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the optimal tariffs of the six lowest-markup countries—Sweden, Canada, India, Belgium, Bangladesh, and Vietnam—such that all of these countries experience positive welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

A.3.2 Nash Tariffs

Table A.19: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Nash Tariffs Among Lowest Markup Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Nash Tariffs	Percentage Reduction (0.00%)					Nash Tariffs	Percentage Reduction (29.80%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Sweden	16.3	16.3	0.000	0.000	0.000	0.000	42.6	29.9	0.033	0.044	-0.011
Canada	3.9	3.9	0.000	0.000	0.000	0.000	44.4	31.2	0.039	0.042	-0.004
India	31.9	31.9	0.000	0.000	0.000	0.000	35.9	25.2	0.006	0.006	0.000
Belgium	11.1	11.1	0.000	0.000	0.000	0.000	42.5	29.8	0.084	0.096	-0.012
Bangladesh	19.7	19.7	0.000	0.000	0.000	0.000	42.7	30.0	0.005	0.014	-0.009
Vietnam	11.3	11.3	0.000	0.000	0.000	0.000	35.2	24.7	0.037	0.037	0.000
Australia	76.3	76.3	0.000	0.000	0.000	0.000	43.1	43.1	0.000	0.000	0.000
Austria	49.9	49.9	0.000	0.000	0.000	0.000	40.4	40.4	0.000	-0.001	0.000
Brazil	82.1	82.1	0.000	0.000	0.000	0.000	41.4	41.4	0.000	0.000	0.000
China	56.9	56.9	0.000	0.000	0.000	0.000	42.3	42.3	0.000	0.000	0.000
Denmark	43.7	43.7	0.000	0.000	0.000	0.000	46.3	46.3	-0.001	-0.001	-0.001
France	37.0	37.0	0.000	0.000	0.000	0.000	45.6	45.6	0.000	0.000	0.000
Germany	63.5	63.5	0.000	0.000	0.000	0.000	50.4	50.4	0.000	0.000	0.000
Greece	73.5	73.5	0.000	0.000	0.000	0.000	39.0	39.0	0.000	0.000	0.000
Indonesia	76.5	76.5	0.000	0.000	0.000	0.000	50.3	50.3	-0.001	0.000	0.000
Italy	100.0	100.0	0.000	0.000	0.000	0.000	47.7	47.7	0.000	0.000	0.000
Japan	100.0	100.0	0.000	0.000	0.000	0.000	45.1	45.1	0.000	0.000	0.000
Korea	23.8	23.8	0.000	0.000	0.000	0.000	36.9	36.9	0.000	0.000	0.000
Mexico	43.8	43.8	0.000	0.000	0.000	0.000	49.1	49.1	0.001	0.001	0.000
Netherlands	32.4	32.4	0.000	0.000	0.000	0.000	44.7	44.7	-0.001	-0.001	0.000
New Zealand	21.6	21.6	0.000	0.000	0.000	0.000	32.9	32.9	0.000	0.000	0.000
Norway	49.7	49.7	0.000	0.000	0.000	0.000	44.2	44.2	0.000	0.000	0.000
Peru	54.8	54.8	0.000	0.000	0.000	0.000	47.7	47.7	0.000	0.000	0.000
Romania	46.5	46.5	0.000	0.000	0.000	0.000	43.3	43.3	0.000	0.000	0.000
Russia	93.3	93.3	0.000	0.000	0.000	0.000	42.9	42.9	0.000	0.000	0.000
Spain	54.9	54.9	0.000	0.000	0.000	0.000	48.8	48.8	0.000	0.000	0.000
Egypt	40.4	40.4	0.000	0.000	0.000	0.000	31.9	31.9	0.000	0.000	0.000
UK	75.5	75.5	0.000	0.000	0.000	0.000	41.7	41.7	0.000	0.000	0.000
USA	60.4	60.4	0.000	0.000	0.000	0.000	42.5	42.5	0.000	0.000	0.000
ROW	34.1	34.1	0.000	0.000	0.000	0.000	45.0	45.0	-0.001	-0.001	0.000

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the Nash tariffs of the six lowest-markup countries—Sweden, Canada, India, Belgium, Bangladesh, and Vietnam—such that all of these countries experience positive marginal welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.20: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Nash Tariffs Among Lowest Markup Countries Ensuring Positive Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Nash Tariffs	Percentage Reduction (0.00%)					Nash Tariffs	Percentage Reduction (51.86%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Sweden	16.3	16.3	0.000	0.000	0.000	0.000	42.6	20.5	0.056	0.086	-0.029
Canada	3.9	3.9	0.000	0.000	0.000	0.000	44.4	21.4	0.069	0.083	-0.015
India	31.9	31.9	0.000	0.000	0.000	0.000	35.9	17.3	0.013	0.014	-0.002
Belgium	11.1	11.1	0.000	0.000	0.000	0.000	42.5	20.5	0.152	0.193	-0.041
Bangladesh	19.7	19.7	0.000	0.000	0.000	0.000	42.7	20.6	0.000	0.025	-0.025
Vietnam	11.3	11.3	0.000	0.000	0.000	0.000	35.2	16.9	0.071	0.074	0.000
Australia	76.3	76.3	0.000	0.000	0.000	0.000	43.1	43.1	0.000	0.000	0.000
Austria	49.9	49.9	0.000	0.000	0.000	0.000	40.4	40.4	0.000	-0.001	0.000
Brazil	82.1	82.1	0.000	0.000	0.000	0.000	41.4	41.4	0.000	0.000	0.000
China	56.9	56.9	0.000	0.000	0.000	0.000	42.3	42.3	0.000	0.000	0.000
Denmark	43.7	43.7	0.000	0.000	0.000	0.000	46.3	46.3	-0.002	-0.001	-0.001
France	37.0	37.0	0.000	0.000	0.000	0.000	45.6	45.6	-0.001	0.000	0.000
Germany	63.5	63.5	0.000	0.000	0.000	0.000	50.4	50.4	0.000	0.000	0.000
Greece	73.5	73.5	0.000	0.000	0.000	0.000	39.0	39.0	0.000	0.000	0.000
Indonesia	76.5	76.5	0.000	0.000	0.000	0.000	50.3	50.3	-0.002	-0.001	-0.001
Italy	100.0	100.0	0.000	0.000	0.000	0.000	47.7	47.7	0.000	0.000	0.000
Japan	100.0	100.0	0.000	0.000	0.000	0.000	45.1	45.1	0.000	0.000	0.000
Korea	23.8	23.8	0.000	0.000	0.000	0.000	36.9	36.9	0.000	0.000	0.000
Mexico	43.8	43.8	0.000	0.000	0.000	0.000	49.1	49.1	0.000	0.000	0.000
Netherlands	32.4	32.4	0.000	0.000	0.000	0.000	44.7	44.7	-0.002	-0.001	-0.001
New Zealand	21.6	21.6	0.000	0.000	0.000	0.000	32.9	32.9	0.000	0.000	0.000
Norway	49.7	49.7	0.000	0.000	0.000	0.000	44.2	44.2	0.000	0.000	0.000
Peru	54.8	54.8	0.000	0.000	0.000	0.000	47.7	47.7	0.000	0.000	0.000
Romania	46.5	46.5	0.000	0.000	0.000	0.000	43.3	43.3	0.000	0.000	0.000
Russia	93.3	93.3	0.000	0.000	0.000	0.000	42.9	42.9	0.000	0.000	0.000
Spain	54.9	54.9	0.000	0.000	0.000	0.000	48.8	48.8	0.000	0.000	0.000
Egypt	40.4	40.4	0.000	0.000	0.000	0.000	31.9	31.9	0.000	0.000	0.000
UK	75.5	75.5	0.000	0.000	0.000	0.000	41.7	41.7	0.000	0.000	0.000
USA	60.4	60.4	0.000	0.000	0.000	0.000	42.5	42.5	0.000	0.000	0.000
ROW	34.1	34.1	0.000	0.000	0.000	0.000	45.0	45.0	-0.002	-0.001	-0.001

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the Nash tariffs of the six lowest-markup countries—Sweden, Canada, India, Belgium, Bangladesh, and Vietnam—such that all of these countries experience positive welfare gains. All other countries retain their optimal tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.21: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Nash Tariffs Among Lowest Markup Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Nash Tariffs	Percentage Point Reduction (0.00%p)					Nash Tariffs	Percentage Point Reduction (13.39%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Sweden	16.3	16.3	0.000	0.000	0.000	0.000	42.6	29.2	0.036	0.048	-0.012
Canada	3.9	3.9	0.000	0.000	0.000	0.000	44.4	31.0	0.048	0.048	0.000
India	31.9	31.9	0.000	0.000	0.000	0.000	35.9	22.5	0.007	0.008	-0.001
Belgium	11.1	11.1	0.000	0.000	0.000	0.000	42.5	29.1	0.103	0.111	-0.008
Bangladesh	19.7	19.7	0.000	0.000	0.000	0.000	42.7	29.3	0.006	0.016	-0.010
Vietnam	11.3	11.3	0.000	0.000	0.000	0.000	35.2	21.8	0.039	0.044	-0.005
Australia	76.3	76.3	0.000	0.000	0.000	0.000	43.1	43.1	0.000	0.000	0.000
Austria	49.9	49.9	0.000	0.000	0.000	0.000	40.4	40.4	0.000	-0.001	0.000
Brazil	82.1	82.1	0.000	0.000	0.000	0.000	41.4	41.4	0.000	0.000	0.000
China	56.9	56.9	0.000	0.000	0.000	0.000	42.3	42.3	0.000	0.000	0.000
Denmark	43.7	43.7	0.000	0.000	0.000	0.000	46.3	46.3	-0.002	-0.001	-0.001
France	37.0	37.0	0.000	0.000	0.000	0.000	45.6	45.6	0.000	0.000	0.000
Germany	63.5	63.5	0.000	0.000	0.000	0.000	50.4	50.4	0.000	0.000	0.000
Greece	73.5	73.5	0.000	0.000	0.000	0.000	39	39.0	0.000	0.000	0.000
Indonesia	76.5	76.5	0.000	0.000	0.000	0.000	50.3	50.3	-0.001	-0.001	0.000
Italy	100.0	100.0	0.000	0.000	0.000	0.000	47.7	47.7	0.000	0.000	0.000
Japan	100.0	100.0	0.000	0.000	0.000	0.000	45.1	45.1	0.000	0.000	0.000
Korea	23.8	23.8	0.000	0.000	0.000	0.000	36.9	36.9	0.000	0.000	0.000
Mexico	43.8	43.8	0.000	0.000	0.000	0.000	49.1	49.1	0.001	0.001	0.000
Netherlands	32.4	32.4	0.000	0.000	0.000	0.000	44.7	44.7	-0.001	-0.001	0.000
New Zealand	21.6	21.6	0.000	0.000	0.000	0.000	32.9	32.9	0.000	0.000	0.000
Norway	49.7	49.7	0.000	0.000	0.000	0.000	44.2	44.2	0.000	0.000	0.000
Peru	54.8	54.8	0.000	0.000	0.000	0.000	47.7	47.7	0.000	0.000	0.000
Romania	46.5	46.5	0.000	0.000	0.000	0.000	43.3	43.3	0.000	0.000	0.000
Russia	93.3	93.3	0.000	0.000	0.000	0.000	42.9	42.9	0.000	0.000	0.000
Spain	54.9	54.9	0.000	0.000	0.000	0.000	48.8	48.8	0.000	0.000	0.000
Egypt	40.4	40.4	0.000	0.000	0.000	0.000	31.9	31.9	0.000	0.000	0.000
UK	75.5	75.5	0.000	0.000	0.000	0.000	41.7	41.7	0.000	0.000	0.000
USA	60.4	60.4	0.000	0.000	0.000	0.000	42.5	42.5	0.000	0.000	0.000
ROW	34.1	34.1	0.000	0.000	0.000	0.000	45.0	45.0	-0.001	-0.001	-0.001

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the Nash tariffs of the six lowest-markup countries—Sweden, Canada, India, Belgium, Bangladesh, and Vietnam—such that all of these countries experience positive marginal welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.22: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Nash Tariffs Among Lowest Markup Countries Ensuring Positive Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Nash Tariffs	Percentage Point Reduction (0.00%p)					Nash Tariffs	Percentage Point Reduction (23.41%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Sweden	16.3	16.3	0.000	0.000	0.000	0.000	42.6	19.2	0.064	0.095	-0.031
Canada	3.9	3.9	0.000	0.000	0.000	0.000	44.4	21.0	0.093	0.100	-0.007
India	31.9	31.9	0.000	0.000	0.000	0.000	35.9	12.5	0.012	0.017	-0.006
Belgium	11.1	11.1	0.000	0.000	0.000	0.000	42.5	19.1	0.199	0.233	-0.034
Bangladesh	19.7	19.7	0.000	0.000	0.000	0.000	42.7	19.3	0.000	0.028	-0.028
Vietnam	11.3	11.3	0.000	0.000	0.000	0.000	35.2	11.8	0.067	0.088	-0.021
Australia	76.3	76.3	0.000	0.000	0.000	0.000	43.1	43.1	-0.001	0.000	0.000
Austria	49.9	49.9	0.000	0.000	0.000	0.000	40.4	40.4	-0.001	-0.001	0.000
Brazil	82.1	82.1	0.000	0.000	0.000	0.000	41.4	41.4	0.000	0.000	0.000
China	56.9	56.9	0.000	0.000	0.000	0.000	42.3	42.3	0.000	0.000	0.000
Denmark	43.7	43.7	0.000	0.000	0.000	0.000	46.3	46.3	-0.003	-0.001	-0.001
France	37.0	37.0	0.000	0.000	0.000	0.000	45.6	45.6	-0.001	0.000	0.000
Germany	63.5	63.5	0.000	0.000	0.000	0.000	50.4	50.4	0.000	0.000	0.000
Greece	73.5	73.5	0.000	0.000	0.000	0.000	39	39.0	0.000	0.000	0.000
Indonesia	76.5	76.5	0.000	0.000	0.000	0.000	50.3	50.3	-0.003	-0.001	-0.001
Italy	100.0	100.0	0.000	0.000	0.000	0.000	47.7	47.7	-0.001	0.000	0.000
Japan	100.0	100.0	0.000	0.000	0.000	0.000	45.1	45.1	0.000	0.000	0.000
Korea	23.8	23.8	0.000	0.000	0.000	0.000	36.9	36.9	0.000	0.000	0.000
Mexico	43.8	43.8	0.000	0.000	0.000	0.000	49.1	49.1	0.001	0.001	0.000
Netherlands	32.4	32.4	0.000	0.000	0.000	0.000	44.7	44.7	-0.002	-0.001	-0.001
New Zealand	21.6	21.6	0.000	0.000	0.000	0.000	32.9	32.9	0.000	0.000	0.000
Norway	49.7	49.7	0.000	0.000	0.000	0.000	44.2	44.2	0.000	0.000	0.000
Peru	54.8	54.8	0.000	0.000	0.000	0.000	47.7	47.7	0.000	0.000	0.000
Romania	46.5	46.5	0.000	0.000	0.000	0.000	43.3	43.3	0.000	0.000	0.000
Russia	93.3	93.3	0.000	0.000	0.000	0.000	42.9	42.9	0.000	0.000	0.000
Spain	54.9	54.9	0.000	0.000	0.000	0.000	48.8	48.8	0.000	0.000	0.000
Egypt	40.4	40.4	0.000	0.000	0.000	0.000	31.9	31.9	0.000	0.000	0.000
UK	75.5	75.5	0.000	0.000	0.000	0.000	41.7	41.7	-0.001	-0.001	0.000
USA	60.4	60.4	0.000	0.000	0.000	0.000	42.5	42.5	0.000	0.000	0.000
ROW	34.1	34.1	0.000	0.000	0.000	0.000	45.0	45.0	-0.003	-0.002	-0.001

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the Nash tariffs of the six lowest-markup countries—Sweden, Canada, India, Belgium, Bangladesh, and Vietnam—such that all of these countries experience positive welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

A.4 Baseline Model with Highest Markup Countries

A.4.1 Optimal Tariffs

Table A.23: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Optimal Tariffs Among Highest Markup Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Reduction (50.57%)					Optimal Tariffs	Percentage Reduction (73.01%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
USA	43.9	21.7	0.049	0.022	0.030	-0.002	38.7	10.4	0.035	0.057	-0.022
UK	61.0	30.2	0.195	0.155	0.073	-0.033	37.8	10.2	0.265	0.441	-0.176
Italy	94.2	46.6	0.093	0.078	0.011	0.005	43.1	11.6	0.143	0.236	-0.092
Greece	62.5	30.9	0.164	0.082	0.079	0.003	34.6	9.3	0.182	0.244	-0.062
Russia	86.2	42.6	0.098	0.069	0.053	-0.024	40.5	10.9	0.077	0.198	-0.121
Austria	36.9	18.2	0.601	0.152	0.446	0.003	35.6	9.6	0.375	0.494	-0.119
Australia	68.0	68.0	-0.002	-0.001	-0.001	-0.001	42.5	42.5	-0.003	-0.002	-0.001
Bangladesh	16.1	16.1	-0.001	0.000	-0.001	0.000	41.5	41.5	0.000	0.000	0.000
Belgium	8.1	8.1	-0.019	-0.005	-0.012	-0.002	38.4	38.4	-0.011	-0.007	-0.004
Brazil	67.5	67.5	-0.002	0.000	-0.001	-0.001	35.8	35.8	-0.002	-0.001	-0.001
Canada	0.0	0.0	-0.008	-0.004	-0.003	0.000	39.8	39.8	-0.011	-0.007	-0.004
China	49.1	49.1	-0.001	0.000	-0.001	0.000	37.6	37.6	-0.001	-0.001	0.000
Denmark	39.2	39.2	-0.003	0.001	-0.003	0.000	42.1	42.1	-0.007	-0.004	-0.003
France	30.2	30.2	-0.007	-0.001	-0.004	-0.002	41.4	41.4	-0.008	-0.005	-0.003
Germany	56.2	56.2	-0.006	-0.001	-0.003	-0.002	45.7	45.7	-0.006	-0.004	-0.003
India	22.3	22.3	0.000	0.000	0.000	0.000	30.5	30.5	-0.001	-0.001	0.000
Indonesia	67.3	67.3	-0.001	0.000	0.000	0.000	44.6	44.6	-0.001	-0.001	0.000
Japan	98.0	98.0	0.000	0.000	0.000	0.000	40.7	40.7	-0.001	0.000	0.000
Korea	15.5	15.5	0.000	0.000	0.000	0.000	34.0	34.0	0.000	0.000	0.000
Mexico	41.4	41.4	0.001	0.001	0.000	0.001	44.5	44.5	-0.004	-0.002	-0.002
Netherlands	24.3	24.3	-0.013	-0.003	-0.008	-0.002	41.2	41.2	-0.006	-0.004	-0.002
New Zealand	13.9	13.9	-0.003	0.000	-0.002	0.000	28.1	28.1	-0.002	-0.001	0.000
Norway	45.3	45.3	-0.004	-0.001	-0.001	-0.002	42.8	42.8	-0.002	-0.001	-0.001
Peru	51.2	51.2	-0.001	0.000	0.000	0.000	43.4	43.4	0.000	0.000	0.000
Romania	34.6	34.6	-0.007	0.000	-0.006	-0.001	38.3	38.3	-0.003	-0.002	-0.001
Vietnam	5.0	5.0	-0.005	0.001	-0.006	0.000	32.2	32.2	-0.001	-0.001	0.000
Spain	45.9	45.9	-0.004	-0.001	-0.003	-0.001	43.8	43.8	-0.002	-0.001	-0.001
Sweden	9.1	9.1	-0.002	0.001	-0.003	0.000	37.5	37.5	-0.002	-0.001	-0.001
Egypt	35.5	35.5	-0.001	0.000	-0.001	0.000	28.8	28.8	-0.001	-0.001	0.000
ROW	29.5	29.5	-0.005	0.000	-0.004	-0.001	42.1	42.1	-0.007	-0.004	-0.003

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the optimal tariffs of the six highest-markup countries—USA, UK, Italy, Greece, Russia, and Austria—such that all of these countries experience positive marginal welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.24: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Optimal Tariffs Among Highest Markup Countries Ensuring Positive Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Reduction (77.52%)					Optimal Tariffs	Percentage Reduction (100%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
USA	43.9	9.9	0.102	0.044	0.065	-0.007	38.7	0.0	0.044	0.095	-0.050
UK	61.0	13.7	0.274	0.299	0.151	-0.177	37.8	0.0	0.327	0.736	-0.408
Italy	94.2	21.2	0.000	0.139	-0.023	-0.116	43.1	0.0	0.131	0.381	-0.250
Greece	62.5	14.1	0.313	0.170	0.170	-0.027	34.6	0.0	0.277	0.415	-0.138
Russia	86.2	19.4	0.074	0.131	0.090	-0.147	40.5	0.0	0.054	0.323	-0.269
Austria	36.9	8.3	1.322	0.322	0.995	0.005	35.6	0.0	0.555	0.847	-0.292
Australia	68.0	68.0	-0.006	-0.003	-0.002	-0.001	42.5	42.5	-0.005	-0.003	-0.002
Bangladesh	16.1	16.1	-0.003	0.000	-0.003	0.000	41.5	41.5	0.000	0.000	0.000
Belgium	8.1	8.1	-0.043	-0.011	-0.028	-0.003	38.4	38.4	-0.021	-0.013	-0.008
Brazil	67.5	67.5	-0.005	-0.001	-0.001	-0.002	35.8	35.8	-0.003	-0.002	-0.001
Canada	0.0	0.0	-0.015	-0.008	-0.007	0.000	39.8	39.8	-0.018	-0.011	-0.006
China	49.1	49.1	-0.002	0.000	-0.002	0.000	37.6	37.6	-0.001	-0.001	-0.001
Denmark	39.2	39.2	-0.003	0.003	-0.006	0.000	42.1	42.1	-0.011	-0.006	-0.005
France	30.2	30.2	-0.014	-0.002	-0.008	-0.004	41.4	41.4	-0.013	-0.007	-0.005
Germany	56.2	56.2	-0.011	-0.001	-0.007	-0.003	45.7	45.7	-0.011	-0.006	-0.005
India	22.3	22.3	-0.001	0.000	-0.001	0.000	30.5	30.5	-0.001	0.000	0.000
Indonesia	67.3	67.3	-0.002	-0.001	-0.001	-0.001	44.6	44.6	-0.002	-0.001	-0.001
Japan	98.0	98.0	0.000	0.000	0.000	0.000	40.7	40.7	-0.001	-0.001	0.000
Korea	15.5	15.5	0.000	0.000	-0.001	0.000	34.0	34.0	-0.001	-0.001	0.000
Mexico	41.4	41.4	0.005	0.003	-0.001	0.003	44.5	44.5	-0.006	-0.003	-0.002
Netherlands	24.3	24.3	-0.031	-0.006	-0.020	-0.005	41.2	41.2	-0.011	-0.007	-0.005
New Zealand	13.9	13.9	-0.005	0.000	-0.005	0.000	28.1	28.1	-0.002	-0.002	-0.001
Norway	45.3	45.3	-0.007	-0.002	-0.001	-0.004	42.8	42.8	-0.004	-0.002	-0.002
Peru	51.2	51.2	-0.002	-0.001	-0.001	-0.001	43.4	43.4	-0.001	0.000	0.000
Romania	34.6	34.6	-0.017	-0.001	-0.015	-0.002	38.3	38.3	-0.006	-0.004	-0.003
Vietnam	5.0	5.0	-0.013	0.003	-0.015	0.000	32.2	32.2	-0.002	-0.001	-0.001
Spain	45.9	45.9	-0.009	-0.001	-0.006	-0.002	43.8	43.8	-0.004	-0.003	-0.002
Sweden	9.1	9.1	-0.004	0.002	-0.006	0.000	37.5	37.5	-0.004	-0.002	-0.002
Egypt	35.5	35.5	-0.004	-0.001	-0.003	-0.001	28.8	28.8	-0.002	-0.002	-0.001
ROW	29.5	29.5	-0.010	0.001	-0.009	-0.002	42.1	42.1	-0.013	-0.007	-0.006

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the optimal tariffs of the six highest-markup countries—USA, UK, Italy, Greece, Russia, and Austria—such that all of these countries experience positive welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.25: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Optimal Tariffs Among Highest Markup Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Point Reduction (35.56%p)					Optimal Tariffs	Percentage Point Reduction (29.15%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
USA	43.9	8.3	0.025	0.028	0.025	-0.028	38.7	9.6	0.035	0.059	-0.024
UK	61.0	25.4	0.282	0.221	0.080	-0.020	37.8	8.7	0.244	0.456	-0.211
Italy	94.2	58.6	0.222	0.100	0.026	0.096	43.1	14.0	0.183	0.241	-0.058
Greece	62.5	26.9	0.149	0.090	0.067	-0.008	34.6	5.5	0.148	0.254	-0.107
Russia	86.2	50.6	0.175	0.070	0.084	0.021	40.5	11.4	0.081	0.196	-0.116
Austria	36.9	1.3	0.334	0.213	0.411	-0.291	35.6	6.5	0.309	0.506	-0.198
Australia	68.0	68.0	-0.001	-0.001	0.000	-0.001	42.5	42.5	-0.003	-0.002	-0.001
Bangladesh	16.1	16.1	0.001	0.000	0.001	0.000	41.5	41.5	0.000	0.000	0.000
Belgium	8.1	8.1	-0.001	-0.001	0.000	0.000	38.4	38.4	-0.010	-0.007	-0.004
Brazil	67.5	67.5	-0.001	0.000	0.000	0.000	35.8	35.8	-0.002	-0.001	-0.001
Canada	0.0	0.0	-0.008	-0.005	-0.003	0.000	39.8	39.8	-0.012	-0.007	-0.004
China	49.1	49.1	0.000	0.000	0.000	0.000	37.6	37.6	-0.001	-0.001	0.000
Denmark	39.2	39.2	-0.009	-0.003	-0.003	-0.003	42.1	42.1	-0.007	-0.004	-0.003
France	30.2	30.2	-0.003	-0.003	0.001	-0.001	41.4	41.4	-0.008	-0.005	-0.003
Germany	56.2	56.2	-0.004	-0.002	0.000	-0.002	45.7	45.7	-0.007	-0.004	-0.003
India	22.3	22.3	-0.001	-0.001	0.000	0.000	30.5	30.5	-0.001	-0.001	0.000
Indonesia	67.3	67.3	0.000	0.000	0.000	0.000	44.6	44.6	-0.001	-0.001	0.000
Japan	98.0	98.0	0.000	0.000	0.000	0.000	40.7	40.7	-0.001	0.000	0.000
Korea	15.5	15.5	0.000	0.000	0.000	0.000	34.0	34.0	0.000	0.000	0.000
Mexico	41.4	41.4	-0.006	-0.003	0.000	-0.003	44.5	44.5	-0.005	-0.003	-0.002
Netherlands	24.3	24.3	0.003	0.000	0.002	0.000	41.2	41.2	-0.005	-0.003	-0.002
New Zealand	13.9	13.9	-0.001	-0.001	0.000	0.000	28.1	28.1	-0.002	-0.001	-0.001
Norway	45.3	45.3	-0.001	0.000	0.000	0.000	42.8	42.8	-0.005	-0.003	-0.002
Peru	51.2	51.2	0.000	0.000	0.000	0.000	43.4	43.4	0.000	0.000	0.000
Romania	34.6	34.6	0.003	-0.001	0.004	0.000	38.3	38.3	-0.002	-0.001	-0.001
Vietnam	5.0	5.0	0.003	-0.001	0.004	0.000	32.2	32.2	-0.001	-0.001	0.000
Spain	45.9	45.9	0.000	0.000	0.001	0.000	43.8	43.8	-0.002	-0.001	-0.001
Sweden	9.1	9.1	-0.001	-0.002	0.001	0.000	37.5	37.5	-0.002	-0.001	-0.001
Egypt	35.5	35.5	0.002	0.000	0.001	0.000	28.8	28.8	0.000	0.000	0.000
ROW	29.5	29.5	-0.004	-0.003	0.000	-0.001	42.1	42.1	-0.007	-0.004	-0.003

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the optimal tariffs of the six highest-markup countries—USA, UK, Italy, Greece, Russia, and Austria—such that all of these countries experience positive marginal welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.26: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Optimal Tariffs Among Highest Markup Countries Ensuring Positive Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Point Reduction (78.81%p)					Optimal Tariffs	Percentage Point Reduction (43.10%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
USA	43.9	0.0	0.135	0.066	0.096	-0.027	38.7	0.0	0.044	0.095	-0.050
UK	61.0	0.0	0.071	0.438	0.182	-0.549	37.8	0.0	0.327	0.736	-0.408
Italy	94.2	15.4	0.053	0.199	-0.022	-0.124	43.1	0.0	0.131	0.381	-0.250
Greece	62.5	0.0	0.278	0.243	0.202	-0.167	34.6	0.0	0.277	0.415	-0.138
Russia	86.2	7.4	0.000	0.174	0.124	-0.298	40.5	0.0	0.054	0.323	-0.269
Austria	36.9	0.0	1.713	0.462	1.360	-0.108	35.6	0.0	0.555	0.847	-0.292
Australia	68.0	68.0	-0.008	-0.002	-0.003	-0.002	42.5	42.5	-0.005	-0.003	-0.002
Bangladesh	16.1	16.1	-0.004	0.000	-0.003	0.000	41.5	41.5	0.000	0.000	0.000
Belgium	8.1	8.1	-0.063	-0.015	-0.044	-0.004	38.4	38.4	-0.021	-0.013	-0.008
Brazil	67.5	67.5	-0.007	-0.002	-0.002	-0.003	35.8	35.8	-0.003	-0.002	-0.001
Canada	0.0	0.0	-0.028	-0.014	-0.014	0.000	39.8	39.8	-0.018	-0.011	-0.006
China	49.1	49.1	-0.002	0.000	-0.002	0.000	37.6	37.6	-0.001	-0.001	-0.001
Denmark	39.2	39.2	-0.004	0.003	-0.008	0.001	42.1	42.1	-0.011	-0.006	-0.005
France	30.2	30.2	-0.020	-0.004	-0.011	-0.005	41.4	41.4	-0.013	-0.007	-0.005
Germany	56.2	56.2	-0.017	-0.002	-0.011	-0.004	45.7	45.7	-0.011	-0.006	-0.005
India	22.3	22.3	-0.002	0.000	-0.002	0.000	30.5	30.5	-0.001	0.000	0.000
Indonesia	67.3	67.3	-0.002	-0.001	-0.001	-0.001	44.6	44.6	-0.002	-0.001	-0.001
Japan	98.0	98.0	0.000	0.000	0.000	0.000	40.7	40.7	-0.001	-0.001	0.000
Korea	15.5	15.5	-0.001	0.000	-0.001	0.000	34.0	34.0	-0.001	-0.001	0.000
Mexico	41.4	41.4	0.005	0.004	-0.001	0.003	44.5	44.5	-0.006	-0.003	-0.002
Netherlands	24.3	24.3	-0.041	-0.008	-0.027	-0.006	41.2	41.2	-0.011	-0.007	-0.005
New Zealand	13.9	13.9	-0.008	0.000	-0.007	-0.001	28.1	28.1	-0.002	-0.002	-0.001
Norway	45.3	45.3	-0.020	-0.006	-0.006	-0.008	42.8	42.8	-0.004	-0.002	-0.002
Peru	51.2	51.2	-0.003	-0.001	-0.001	-0.001	43.4	43.4	-0.001	0.000	0.000
Romania	34.6	34.6	-0.018	-0.001	-0.016	-0.002	38.3	38.3	-0.006	-0.004	-0.003
Vietnam	5.0	5.0	-0.015	0.003	-0.019	0.000	32.2	32.2	-0.002	-0.001	-0.001
Spain	45.9	45.9	-0.012	-0.002	-0.008	-0.002	43.8	43.8	-0.004	-0.003	-0.002
Sweden	9.1	9.1	-0.005	0.003	-0.008	0.000	37.5	37.5	-0.004	-0.002	-0.002
Egypt	35.5	35.5	-0.003	0.000	-0.003	0.000	28.8	28.8	-0.002	-0.002	-0.001
ROW	29.5	29.5	-0.014	0.001	-0.013	-0.002	42.1	42.1	-0.013	-0.007	-0.006

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the optimal tariffs of the six highest-markup countries—USA, UK, Italy, Greece, Russia, and Austria—such that all of these countries experience positive welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

A.4.2 Nash Tariffs

Table A.27: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Nash Tariffs Among Highest Markup Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Nash Tariffs	Percentage Reduction (58.35%)					Nash Tariffs	Percentage Reduction (79.98%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
USA	60.4	25.2	0.062	0.027	0.034	0.001	42.5	8.5	0.043	0.069	-0.026
UK	75.5	31.4	0.270	0.193	0.089	-0.012	41.7	8.3	0.318	0.528	-0.211
Italy	100.0	41.7	0.129	0.099	0.019	0.011	47.7	9.5	0.162	0.279	-0.117
Greece	73.5	30.6	0.211	0.103	0.097	0.011	39	7.8	0.222	0.295	-0.073
Russia	93.3	38.9	0.127	0.085	0.068	-0.026	42.9	8.6	0.092	0.235	-0.143
Austria	49.9	20.8	0.775	0.194	0.548	0.033	40.4	8.1	0.450	0.594	-0.144
Australia	76.3	76.3	-0.002	-0.001	-0.001	-0.001	43.1	43.1	-0.003	-0.002	-0.001
Bangladesh	19.7	19.7	-0.001	0.000	-0.001	0.000	42.7	42.7	0.000	0.000	0.000
Belgium	11.1	11.1	-0.020	-0.005	-0.013	-0.002	42.5	42.5	-0.015	-0.009	-0.006
Brazil	82.1	82.1	-0.002	-0.001	-0.001	-0.001	41.4	41.4	-0.002	-0.001	-0.001
Canada	3.9	3.9	-0.009	-0.005	-0.003	0.000	44.4	44.4	-0.012	-0.007	-0.004
China	56.9	56.9	-0.001	0.000	-0.001	0.000	42.3	42.3	-0.001	-0.001	0.000
Denmark	43.7	43.7	-0.004	0.000	-0.003	-0.001	46.3	46.3	-0.008	-0.004	-0.004
France	37.0	37.0	-0.007	-0.002	-0.003	-0.002	45.6	45.6	-0.009	-0.005	-0.004
Germany	63.5	63.5	-0.006	-0.001	-0.003	-0.002	50.4	50.4	-0.008	-0.004	-0.003
India	31.9	31.9	0.000	0.000	0.000	0.000	35.9	35.9	-0.001	-0.001	0.000
Indonesia	76.5	76.5	-0.001	0.000	0.000	0.000	50.3	50.3	-0.001	-0.001	-0.001
Japan	100.0	100.0	0.000	0.000	0.000	0.000	45.1	45.1	0.000	0.000	0.000
Korea	23.8	23.8	0.000	0.000	0.000	0.000	36.9	36.9	0.000	0.000	0.000
Mexico	43.8	43.8	0.000	0.000	-0.001	0.001	49.1	49.1	-0.004	-0.002	-0.002
Netherlands	32.4	32.4	-0.012	-0.003	-0.007	-0.002	44.7	44.7	-0.008	-0.005	-0.003
New Zealand	21.6	21.6	-0.003	-0.001	-0.002	0.000	32.9	32.9	-0.002	-0.001	-0.001
Norway	49.7	49.7	-0.004	-0.001	-0.001	-0.002	44.2	44.2	-0.003	-0.001	-0.002
Peru	54.8	54.8	-0.001	0.000	0.000	0.000	47.7	47.7	0.000	0.000	0.000
Romania	46.5	46.5	-0.006	0.000	-0.005	-0.001	43.3	43.3	-0.004	-0.002	-0.002
Vietnam	11.3	11.3	-0.004	0.001	-0.005	0.000	35.2	35.2	-0.001	-0.001	0.000
Spain	54.9	54.9	-0.004	-0.001	-0.002	-0.001	48.8	48.8	-0.003	-0.002	-0.001
Sweden	16.3	16.3	-0.002	0.000	-0.002	0.000	42.6	42.6	-0.003	-0.002	-0.001
Egypt	40.4	40.4	-0.001	0.000	-0.001	0.000	31.9	31.9	-0.001	-0.001	0.000
ROW	34.1	34.1	-0.006	-0.001	-0.004	-0.001	45.0	45.0	-0.008	-0.005	-0.004

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the Nash tariffs of the six highest-markup countries—USA, UK, Italy, Greece, Russia, and Austria—such that all of these countries experience positive marginal welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.28: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Nash Tariffs Among Highest Markup Countries Ensuring Positive Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Nash Tariffs	Percentage Reduction (86.48%)					Nash Tariffs	Percentage Reduction (100%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
USA	60.4	8.2	0.128	0.058	0.079	-0.009	42.5	0.0	0.050	0.100	-0.050
UK	75.5	10.2	0.358	0.388	0.189	-0.219	41.7	0.0	0.364	0.777	-0.413
Italy	100.0	13.5	0.000	0.183	-0.025	-0.159	47.7	0.0	0.141	0.399	-0.258
Greece	73.5	9.9	0.402	0.222	0.216	-0.035	39	0.0	0.300	0.440	-0.141
Russia	93.3	12.6	0.094	0.164	0.124	-0.194	42.9	0.0	0.077	0.341	-0.264
Austria	49.9	6.7	1.721	0.426	1.259	0.036	40.4	0.0	0.589	0.894	-0.305
Australia	76.3	76.3	-0.005	-0.001	-0.002	-0.002	43.1	43.1	-0.004	-0.003	-0.002
Bangladesh	19.7	19.7	-0.003	0.000	-0.003	0.000	42.7	42.7	0.000	0.000	0.000
Belgium	11.1	11.1	-0.047	-0.012	-0.030	-0.005	42.5	42.5	-0.023	-0.014	-0.009
Brazil	82.1	82.1	-0.005	-0.001	-0.001	-0.002	41.4	41.4	-0.003	-0.002	-0.001
Canada	3.9	3.9	-0.018	-0.011	-0.007	-0.001	44.4	44.4	-0.017	-0.011	-0.006
China	56.9	56.9	-0.001	0.000	-0.001	0.000	42.3	42.3	-0.001	-0.001	-0.001
Denmark	43.7	43.7	-0.005	0.002	-0.007	0.000	46.3	46.3	-0.011	-0.006	-0.005
France	37.0	37.0	-0.015	-0.003	-0.008	-0.004	45.6	45.6	-0.013	-0.007	-0.006
Germany	63.5	63.5	-0.012	-0.002	-0.008	-0.003	50.4	50.4	-0.011	-0.006	-0.005
India	31.9	31.9	-0.001	0.000	-0.001	0.000	35.9	35.9	-0.001	0.000	0.000
Indonesia	76.5	76.5	-0.003	-0.001	-0.001	-0.001	50.3	50.3	-0.002	-0.001	-0.001
Japan	100.0	100.0	0.000	0.000	0.000	0.000	45.1	45.1	-0.001	0.000	0.000
Korea	23.8	23.8	0.000	0.000	-0.001	0.000	36.9	36.9	-0.001	0.000	0.000
Mexico	43.8	43.8	0.004	0.003	-0.001	0.003	49.1	49.1	-0.005	-0.003	-0.002
Netherlands	32.4	32.4	-0.031	-0.006	-0.019	-0.006	44.7	44.7	-0.013	-0.008	-0.005
New Zealand	21.6	21.6	-0.006	0.000	-0.005	0.000	32.9	32.9	-0.003	-0.002	-0.001
Norway	49.7	49.7	-0.009	-0.003	-0.002	-0.004	44.2	44.2	-0.004	-0.002	-0.002
Peru	54.8	54.8	-0.002	-0.001	-0.001	-0.001	47.7	47.7	-0.001	0.000	0.000
Romania	46.5	46.5	-0.017	-0.001	-0.014	-0.002	43.3	43.3	-0.006	-0.003	-0.003
Vietnam	11.3	11.3	-0.011	0.003	-0.014	0.001	35.2	35.2	-0.001	-0.001	0.000
Spain	54.9	54.9	-0.010	-0.002	-0.006	-0.002	48.8	48.8	-0.005	-0.003	-0.002
Sweden	16.3	16.3	-0.004	0.002	-0.006	0.000	42.6	42.6	-0.004	-0.002	-0.002
Egypt	40.4	40.4	-0.004	-0.001	-0.003	-0.001	31.9	31.9	-0.002	-0.002	-0.001
ROW	34.1	34.1	-0.011	0.000	-0.009	-0.002	45.0	45.0	-0.013	-0.007	-0.006

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the Nash tariffs of the six highest-markup countries—USA, UK, Italy, Greece, Russia, and Austria—such that all of these countries experience positive welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.29: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Nash Tariffs Among Highest Markup Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Nash Tariffs	Percentage Point Reduction (49.66%p)					Nash Tariffs	Percentage Point Reduction (31.01%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
USA	60.4	10.7	0.040	0.034	0.031	-0.025	42.5	11.5	0.038	0.058	-0.021
UK	75.5	25.8	0.375	0.268	0.101	0.006	41.7	10.7	0.267	0.449	-0.183
Italy	100.0	50.3	0.279	0.132	0.034	0.113	47.7	16.7	0.197	0.238	-0.041
Greece	73.5	23.8	0.197	0.119	0.088	-0.010	39	8.0	0.159	0.248	-0.090
Russia	93.3	43.6	0.215	0.093	0.105	0.017	42.9	11.9	0.082	0.196	-0.114
Austria	49.9	0.2	0.444	0.264	0.532	-0.352	40.4	9.4	0.336	0.492	-0.156
Australia	76.3	76.3	-0.002	-0.001	0.000	-0.001	43.1	43.1	-0.003	-0.002	-0.001
Bangladesh	19.7	19.7	0.001	0.000	0.001	0.000	42.7	42.7	0.000	0.000	0.000
Belgium	11.1	11.1	-0.001	-0.001	0.000	0.000	42.5	42.5	-0.010	-0.007	-0.004
Brazil	82.1	82.1	-0.001	0.000	0.000	0.000	41.4	41.4	-0.002	-0.001	-0.001
Canada	3.9	3.9	-0.008	-0.005	-0.002	-0.001	44.4	44.4	-0.011	-0.007	-0.004
China	56.9	56.9	0.000	0.000	0.000	0.000	42.3	42.3	-0.001	0.000	0.000
Denmark	43.7	43.7	-0.010	-0.004	-0.003	-0.003	46.3	46.3	-0.007	-0.004	-0.003
France	37.0	37.0	-0.003	-0.003	0.001	-0.001	45.6	45.6	-0.008	-0.005	-0.003
Germany	63.5	63.5	-0.004	-0.002	0.000	-0.002	50.4	50.4	-0.007	-0.004	-0.003
India	31.9	31.9	-0.001	-0.001	0.000	0.000	35.9	35.9	-0.001	-0.001	0.000
Indonesia	76.5	76.5	0.000	0.000	0.000	0.000	50.3	50.3	-0.001	-0.001	0.000
Japan	100.0	100.0	0.000	0.000	0.000	0.000	45.1	45.1	0.000	0.000	0.000
Korea	23.8	23.8	0.000	0.000	0.000	0.000	36.9	36.9	0.000	0.000	0.000
Mexico	43.8	43.8	-0.007	-0.003	-0.001	-0.003	49.1	49.1	-0.004	-0.002	-0.002
Netherlands	32.4	32.4	0.003	0.000	0.002	0.001	44.7	44.7	-0.005	-0.003	-0.002
New Zealand	21.6	21.6	-0.001	-0.001	0.000	0.000	32.9	32.9	-0.002	-0.001	-0.001
Norway	49.7	49.7	0.000	0.000	0.000	0.000	44.2	44.2	-0.005	-0.002	-0.002
Peru	54.8	54.8	0.000	0.000	0.000	0.000	47.7	47.7	0.000	0.000	0.000
Romania	46.5	46.5	0.003	-0.001	0.004	0.000	43.3	43.3	-0.002	-0.001	-0.001
Vietnam	11.3	11.3	0.002	-0.001	0.004	0.000	35.2	35.2	-0.001	-0.001	0.000
Spain	54.9	54.9	0.000	0.000	0.001	0.000	48.8	48.8	-0.002	-0.001	-0.001
Sweden	16.3	16.3	-0.001	-0.002	0.001	0.000	42.6	42.6	-0.002	-0.001	-0.001
Egypt	40.4	40.4	0.002	0.000	0.001	0.000	31.9	31.9	0.000	0.000	0.000
ROW	34.1	34.1	-0.004	-0.003	0.000	-0.002	45.0	45.0	-0.007	-0.004	-0.003

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the Nash tariffs of the six highest-markup countries—USA, UK, Italy, Greece, Russia, and Austria—such that all of these countries experience positive marginal welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.30: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Nash Tariffs Among Highest Markup Countries Ensuring Positive Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Nash Tariffs	Percentage Point Reduction (90.88%p)					Nash Tariffs	Percentage Point Reduction (47.70%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
USA	60.4	0.0	0.151	0.076	0.103	-0.028	42.5	0.0	0.050	0.100	-0.050
UK	75.5	0.0	0.210	0.506	0.221	-0.517	41.7	0.0	0.364	0.777	-0.413
Italy	100.0	9.1	0.035	0.238	-0.026	-0.177	47.7	0.0	0.141	0.399	-0.258
Greece	73.5	0.0	0.391	0.285	0.249	-0.144	39	0.0	0.300	0.440	-0.141
Russia	93.3	2.4	0.000	0.204	0.156	-0.360	42.9	0.0	0.077	0.341	-0.264
Austria	49.9	0.0	2.061	0.548	1.577	-0.065	40.4	0.0	0.589	0.894	-0.305
Australia	76.3	76.3	-0.007	-0.002	-0.003	-0.003	43.1	43.1	-0.004	-0.003	-0.002
Bangladesh	19.7	19.7	-0.003	0.000	-0.003	0.000	42.7	42.7	0.000	0.000	0.000
Belgium	11.1	11.1	-0.060	-0.015	-0.040	-0.005	42.5	42.5	-0.023	-0.014	-0.009
Brazil	82.1	82.1	-0.007	-0.002	-0.002	-0.003	41.4	41.4	-0.003	-0.002	-0.001
Canada	3.9	3.9	-0.028	-0.015	-0.012	-0.001	44.4	44.4	-0.017	-0.011	-0.006
China	56.9	56.9	-0.002	0.000	-0.002	0.000	42.3	42.3	-0.001	-0.001	-0.001
Denmark	43.7	43.7	-0.006	0.002	-0.008	0.000	46.3	46.3	-0.011	-0.006	-0.005
France	37.0	37.0	-0.019	-0.004	-0.009	-0.006	45.6	45.6	-0.013	-0.007	-0.006
Greece	73.5	0.0	0.391	0.285	0.249	-0.144	39	0.0	0.300	0.440	-0.141
India	31.9	31.9	-0.002	0.000	-0.001	0.000	35.9	35.9	-0.001	0.000	0.000
Indonesia	76.5	76.5	-0.003	-0.001	-0.001	-0.001	50.3	50.3	-0.002	-0.001	-0.001
Japan	100.0	100.0	0.000	0.000	0.000	0.000	45.1	45.1	-0.001	0.000	0.000
Korea	23.8	23.8	0.000	0.001	-0.001	0.000	36.9	36.9	-0.001	0.000	0.000
Mexico	43.8	43.8	0.004	0.003	-0.002	0.003	49.1	49.1	-0.005	-0.003	-0.002
Netherlands	32.4	32.4	-0.036	-0.007	-0.023	-0.006	44.7	44.7	-0.013	-0.008	-0.005
New Zealand	21.6	21.6	-0.007	-0.001	-0.006	-0.001	32.9	32.9	-0.003	-0.002	-0.001
Norway	49.7	49.7	-0.017	-0.005	-0.004	-0.008	44.2	44.2	-0.004	-0.002	-0.002
Peru	54.8	54.8	-0.003	-0.001	-0.001	-0.001	47.7	47.7	-0.001	0.000	0.000
Romania	46.5	46.5	-0.017	-0.001	-0.014	-0.002	43.3	43.3	-0.006	-0.003	-0.003
Vietnam	11.3	11.3	-0.012	0.003	-0.016	0.001	35.2	35.2	-0.001	-0.001	0.000
Spain	54.9	54.9	-0.012	-0.002	-0.007	-0.003	48.8	48.8	-0.005	-0.003	-0.002
Sweden	16.3	16.3	-0.004	0.002	-0.007	0.000	42.6	42.6	-0.004	-0.002	-0.002
Egypt	40.4	40.4	-0.003	0.000	-0.003	0.000	31.9	31.9	-0.002	-0.002	-0.001
ROW	34.1	34.1	-0.013	0.000	-0.011	-0.002	45.0	45.0	-0.013	-0.007	-0.006

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the Nash tariffs of the six highest-markup countries—USA, UK, Italy, Greece, Russia, and Austria—such that all of these countries experience positive welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

A.5 Baseline Model with Lowest Profit-shift Countries

A.5.1 Optimal Tariffs

Table A.31: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Optimal Tariffs Among Lowest Profit-shifting Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Reduction (22.83%)					Optimal Tariffs	Percentage Reduction (86.20%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Canada	0.0	0.0	0.077	0.058	0.019	0.000	39.8	5.5	0.313	0.587	-0.274
Belgium	8.1	6.3	0.402	0.308	0.199	-0.105	38.4	5.3	1.735	2.953	-1.218
Vietnam	5.0	3.9	0.158	0.118	0.072	-0.032	32.2	4.4	0.720	1.224	-0.504
Netherlands	24.3	18.8	0.147	0.177	0.087	-0.118	41.2	5.7	0.922	1.704	-0.783
ROW	29.5	22.8	0.009	0.048	0.005	-0.044	42.1	5.8	0.235	0.489	-0.254
Austria	36.9	28.5	0.170	0.106	0.128	-0.064	35.6	4.9	0.861	1.393	-0.532
Australia	68.0	68.0	-0.002	-0.001	0.000	-0.001	42.5	42.5	-0.012	-0.007	-0.005
Bangladesh	16.1	16.1	0.001	0.000	0.000	0.000	41.5	41.5	-0.002	-0.001	-0.001
Brazil	67.5	67.5	-0.002	0.000	-0.001	-0.001	35.8	35.8	-0.010	-0.006	-0.004
China	49.1	49.1	-0.001	0.000	0.000	-0.001	37.6	37.6	-0.007	-0.004	-0.003
Denmark	39.2	39.2	-0.016	-0.005	-0.005	-0.005	42.1	42.1	-0.062	-0.038	-0.024
France	30.2	30.2	-0.014	-0.003	-0.007	-0.003	41.4	41.4	-0.042	-0.025	-0.017
Germany	56.2	56.2	-0.005	-0.002	0.000	-0.003	45.7	45.7	-0.037	-0.022	-0.016
Greece	62.5	62.5	-0.004	-0.001	-0.001	-0.002	34.6	34.6	-0.014	-0.009	-0.005
India	22.3	22.3	0.001	0.000	0.001	0.000	30.5	30.5	-0.005	-0.003	-0.002
Indonesia	67.3	67.3	0.000	0.000	0.001	-0.001	44.6	44.6	-0.014	-0.008	-0.006
Italy	94.2	94.2	-0.004	-0.001	-0.001	-0.002	43.1	43.1	-0.021	-0.012	-0.009
Japan	98.0	98.0	0.000	0.000	0.000	0.000	40.7	40.7	-0.003	-0.002	-0.001
Korea	15.5	15.5	-0.001	0.000	-0.001	0.000	34.0	34.0	-0.005	-0.003	-0.002
Mexico	41.4	41.4	0.001	0.001	-0.001	0.001	44.5	44.5	-0.007	-0.004	-0.003
New Zealand	13.9	13.9	-0.001	0.001	-0.002	0.000	28.1	28.1	-0.012	-0.009	-0.004
Norway	45.3	45.3	0.000	0.001	-0.001	0.000	42.8	42.8	-0.014	-0.008	-0.006
Peru	51.2	51.2	-0.001	0.000	0.000	0.000	43.4	43.4	-0.003	-0.002	-0.001
Romania	34.6	34.6	-0.001	-0.001	0.001	-0.001	38.3	38.3	-0.014	-0.009	-0.005
Russia	86.2	86.2	-0.002	0.000	0.000	-0.001	40.5	40.5	-0.011	-0.007	-0.004
Spain	45.9	45.9	-0.003	-0.001	-0.001	-0.001	43.8	43.8	-0.013	-0.008	-0.005
Sweden	9.1	9.1	-0.006	-0.003	-0.002	-0.001	37.5	37.5	-0.024	-0.016	-0.008
Egypt	35.5	35.5	-0.003	-0.001	-0.002	-0.001	28.8	28.8	-0.008	-0.006	-0.002
UK	61.0	61.0	-0.011	-0.003	-0.002	-0.005	37.8	37.8	-0.044	-0.028	-0.016
USA	43.9	43.9	-0.003	-0.001	-0.002	-0.001	38.7	38.7	-0.008	-0.005	-0.003

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the optimal tariffs of the six lowest profit-shifting countries—Canada, Belgium, Vietnam, Netherlands, ROW (Rest of World), and Austria—such that all of these countries experience positive marginal welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.32: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Optimal Tariffs Among Lowest Profit-shifting Countries Ensuring Positive Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Reduction (42.59%)					Optimal Tariffs	Percentage Reduction (100%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Canada	0.0	0.0	0.164	0.121	0.043	0.000	39.8	0.0	0.347	0.766	-0.419
Belgium	8.1	4.7	0.816	0.621	0.404	-0.210	38.4	0.0	1.937	3.834	-1.898
Vietnam	5.0	2.9	0.335	0.242	0.154	-0.061	32.2	0.0	0.837	1.595	-0.758
Netherlands	24.3	14.0	0.272	0.356	0.180	-0.264	41.2	0.0	0.976	2.196	-1.219
ROW	29.5	16.9	0.000	0.095	0.009	-0.104	42.1	0.0	0.222	0.626	-0.404
Austria	36.9	21.2	0.302	0.217	0.257	-0.172	35.6	0.0	0.988	1.812	-0.824
Australia	68.0	68.0	-0.005	-0.001	-0.001	-0.002	42.5	42.5	-0.015	-0.009	-0.006
Bangladesh	16.1	16.1	0.002	0.001	0.001	0.000	41.5	41.5	-0.003	-0.002	-0.001
Brazil	67.5	67.5	-0.004	-0.001	-0.001	-0.002	35.8	35.8	-0.013	-0.008	-0.005
China	49.1	49.1	-0.002	-0.001	0.000	-0.001	37.6	37.6	-0.009	-0.005	-0.004
Denmark	39.2	39.2	-0.032	-0.010	-0.011	-0.011	42.1	42.1	-0.081	-0.049	-0.031
France	30.2	30.2	-0.028	-0.006	-0.015	-0.007	41.4	41.4	-0.056	-0.034	-0.022
Germany	56.2	56.2	-0.011	-0.005	0.000	-0.007	45.7	45.7	-0.049	-0.029	-0.020
Greece	62.5	62.5	-0.007	-0.002	-0.001	-0.003	34.6	34.6	-0.019	-0.013	-0.007
India	22.3	22.3	0.001	-0.001	0.002	-0.001	30.5	30.5	-0.006	-0.003	-0.002
Indonesia	67.3	67.3	0.000	0.000	0.001	-0.002	44.6	44.6	-0.018	-0.010	-0.008
Italy	94.2	94.2	-0.008	-0.002	-0.002	-0.004	43.1	43.1	-0.028	-0.016	-0.012
Japan	98.0	98.0	0.000	0.000	0.000	0.000	40.7	40.7	-0.004	-0.003	-0.002
Korea	15.5	15.5	-0.003	0.000	-0.003	0.000	34.0	34.0	-0.006	-0.004	-0.002
Mexico	41.4	41.4	0.003	0.003	-0.002	0.001	44.5	44.5	-0.008	-0.004	-0.004
New Zealand	13.9	13.9	-0.003	0.001	-0.004	0.000	28.1	28.1	-0.017	-0.012	-0.005
Norway	45.3	45.3	0.000	0.001	-0.002	0.000	42.8	42.8	-0.019	-0.011	-0.008
Peru	51.2	51.2	-0.001	0.000	0.000	0.000	43.4	43.4	-0.004	-0.002	-0.001
Romania	34.6	34.6	-0.002	-0.002	0.001	-0.002	38.3	38.3	-0.019	-0.012	-0.007
Russia	86.2	86.2	-0.003	-0.001	0.000	-0.002	40.5	40.5	-0.015	-0.009	-0.006
Spain	45.9	45.9	-0.006	-0.002	-0.002	-0.002	43.8	43.8	-0.017	-0.011	-0.006
Sweden	9.1	9.1	-0.012	-0.007	-0.004	-0.001	37.5	37.5	-0.032	-0.021	-0.011
Egypt	35.5	35.5	-0.006	-0.002	-0.003	-0.001	28.8	28.8	-0.011	-0.008	-0.003
UK	61.0	61.0	-0.021	-0.007	-0.005	-0.010	37.8	37.8	-0.058	-0.038	-0.021
USA	43.9	43.9	-0.007	-0.001	-0.004	-0.002	38.7	38.7	-0.011	-0.007	-0.004

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the optimal tariffs of the six lowest profit-shifting countries—Canada, Belgium, Vietnam, Netherlands, ROW (Rest of World), and Austria—such that all of these countries experience positive welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.33: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Optimal Tariffs Among Lowest Profit-shifting Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Point Reduction (8.00%p)					Optimal Tariffs	Percentage Point Reduction (35.00%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Canada	0.0	0.0	0.102	0.081	0.021	0.000	39.8	4.8	0.272	0.577	-0.305
Belgium	8.1	0.1	0.379	0.610	0.520	-0.751	38.4	3.4	1.468	2.972	-1.505
Vietnam	5.0	0.0	0.129	0.210	0.138	-0.218	32.2	0.0	0.443	1.284	-0.842
Netherlands	24.3	16.3	0.239	0.291	0.123	-0.175	41.2	6.2	0.935	1.683	-0.748
ROW	29.5	21.5	0.034	0.079	-0.004	-0.041	42.1	7.1	0.302	0.509	-0.208
Austria	36.9	28.9	0.236	0.121	0.152	-0.037	35.6	0.6	0.594	1.445	-0.851
Australia	68.0	68.0	-0.003	-0.001	-0.001	-0.002	42.5	42.5	-0.011	-0.007	-0.004
Bangladesh	16.1	16.1	-0.001	0.000	0.000	0.000	41.5	41.5	-0.004	-0.002	-0.002
Brazil	67.5	67.5	-0.003	-0.001	0.000	-0.002	35.8	35.8	-0.010	-0.007	-0.004
China	49.1	49.1	-0.001	-0.001	0.000	-0.001	37.6	37.6	-0.008	-0.004	-0.003
Denmark	39.2	39.2	-0.014	-0.005	-0.003	-0.005	42.1	42.1	-0.057	-0.035	-0.022
France	30.2	30.2	-0.010	-0.006	-0.001	-0.004	41.4	41.4	-0.041	-0.025	-0.016
Germany	56.2	56.2	-0.008	-0.004	0.000	-0.004	45.7	45.7	-0.039	-0.023	-0.016
Greece	62.5	62.5	-0.003	-0.001	-0.001	-0.001	34.6	34.6	-0.013	-0.008	-0.004
India	22.3	22.3	-0.001	-0.001	0.000	0.000	30.5	30.5	-0.005	-0.003	-0.002
Indonesia	67.3	67.3	-0.003	-0.001	0.000	-0.002	44.6	44.6	-0.016	-0.009	-0.007
Italy	94.2	94.2	-0.003	-0.001	0.001	-0.002	43.1	43.1	-0.021	-0.012	-0.008
Japan	98.0	98.0	-0.001	0.000	0.000	-0.001	40.7	40.7	-0.004	-0.002	-0.001
Korea	15.5	15.5	-0.001	-0.001	0.000	0.000	34.0	34.0	-0.006	-0.004	-0.002
Mexico	41.4	41.4	0.000	0.001	-0.001	0.000	44.5	44.5	-0.008	-0.004	-0.004
New Zealand	13.9	13.9	-0.002	-0.001	-0.001	0.000	28.1	28.1	-0.014	-0.010	-0.004
Norway	45.3	45.3	-0.007	-0.003	-0.001	-0.003	42.8	42.8	-0.017	-0.010	-0.007
Peru	51.2	51.2	-0.001	0.000	0.000	0.000	43.4	43.4	-0.003	-0.002	-0.001
Romania	34.6	34.6	-0.003	-0.001	0.000	-0.001	38.3	38.3	-0.014	-0.009	-0.005
Russia	86.2	86.2	-0.003	-0.001	0.000	-0.002	40.5	40.5	-0.010	-0.006	-0.004
Spain	45.9	45.9	-0.004	-0.001	-0.001	-0.001	43.8	43.8	-0.013	-0.008	-0.005
Sweden	9.1	9.1	-0.006	-0.004	-0.001	-0.001	37.5	37.5	-0.023	-0.015	-0.008
Egypt	35.5	35.5	-0.002	-0.001	-0.001	-0.001	28.8	28.8	-0.007	-0.005	-0.002
UK	61.0	61.0	-0.009	-0.003	0.000	-0.006	37.8	37.8	-0.039	-0.025	-0.014
USA	43.9	43.9	-0.004	-0.001	-0.002	-0.001	38.7	38.7	-0.007	-0.005	-0.003

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the optimal tariffs of the six lowest profit-shifting countries—Canada, Belgium, Vietnam, Netherlands, ROW (Rest of World), and Austria—such that all of these countries experience positive marginal welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.34: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Optimal Tariffs Among Lowest Profit-shifting Countries Ensuring Positive Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Point Reduction (16.66%p)					Optimal Tariffs	Percentage Point Reduction (42.10%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Canada	0.0	0.0	0.245	0.183	0.062	0.000	39.8	0.0	0.347	0.766	-0.419
Belgium	8.1	0.0	1.119	1.078	0.762	-0.721	38.4	0.0	1.937	3.834	-1.898
Vietnam	5.0	0.0	0.448	0.391	0.259	-0.202	32.2	0.0	0.837	1.595	-0.758
Netherlands	24.3	7.6	0.331	0.588	0.309	-0.566	41.2	0.0	0.976	2.196	-1.219
ROW	29.5	12.8	0.000	0.150	0.003	-0.153	42.1	0.0	0.222	0.626	-0.404
Austria	36.9	20.2	0.495	0.281	0.358	-0.144	35.6	0.0	0.988	1.812	-0.824
Australia	68.0	68.0	-0.007	-0.002	-0.002	-0.004	42.5	42.5	-0.015	-0.009	-0.006
Bangladesh	16.1	16.1	0.001	0.001	0.001	0.000	41.5	41.5	-0.003	-0.002	-0.001
Brazil	67.5	67.5	-0.006	-0.002	-0.001	-0.003	35.8	35.8	-0.013	-0.008	-0.005
China	49.1	49.1	-0.003	-0.001	0.000	-0.002	37.6	37.6	-0.009	-0.005	-0.004
Denmark	39.2	39.2	-0.039	-0.014	-0.012	-0.014	42.1	42.1	-0.081	-0.049	-0.031
France	30.2	30.2	-0.036	-0.010	-0.016	-0.010	41.4	41.4	-0.056	-0.034	-0.022
Germany	56.2	56.2	-0.017	-0.007	0.000	-0.009	45.7	45.7	-0.049	-0.029	-0.020
Greece	62.5	62.5	-0.009	-0.003	-0.001	-0.004	34.6	34.6	-0.019	-0.013	-0.007
India	22.3	22.3	0.000	-0.001	0.003	-0.001	30.5	30.5	-0.006	-0.003	-0.002
Indonesia	67.3	67.3	-0.004	-0.001	0.001	-0.003	44.6	44.6	-0.018	-0.010	-0.008
Italy	94.2	94.2	-0.010	-0.003	-0.002	-0.006	43.1	43.1	-0.028	-0.016	-0.012
Japan	98.0	98.0	-0.001	0.000	0.000	-0.001	40.7	40.7	-0.004	-0.003	-0.002
Korea	15.5	15.5	-0.004	0.000	-0.003	0.000	34.0	34.0	-0.006	-0.004	-0.002
Mexico	41.4	41.4	0.002	0.003	-0.002	0.002	44.5	44.5	-0.008	-0.004	-0.004
New Zealand	13.9	13.9	-0.004	0.001	-0.005	0.000	28.1	28.1	-0.017	-0.012	-0.005
Norway	45.3	45.3	-0.011	-0.002	-0.004	-0.004	42.8	42.8	-0.019	-0.011	-0.008
Peru	51.2	51.2	-0.002	0.000	-0.001	-0.001	43.4	43.4	-0.004	-0.002	-0.001
Romania	34.6	34.6	-0.005	-0.003	0.000	-0.003	38.3	38.3	-0.019	-0.012	-0.007
Russia	86.2	86.2	-0.006	-0.002	-0.001	-0.004	40.5	40.5	-0.015	-0.009	-0.006
Spain	45.9	45.9	-0.009	-0.003	-0.003	-0.003	43.8	43.8	-0.017	-0.011	-0.006
Sweden	9.1	9.1	-0.016	-0.009	-0.005	-0.002	37.5	37.5	-0.032	-0.021	-0.011
Egypt	35.5	35.5	-0.008	-0.002	-0.004	-0.002	28.8	28.8	-0.011	-0.008	-0.003
UK	61.0	61.0	-0.026	-0.009	-0.004	-0.013	37.8	37.8	-0.058	-0.038	-0.021
USA	43.9	43.9	-0.010	-0.002	-0.006	-0.003	38.7	38.7	-0.011	-0.007	-0.004

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the optimal tariffs of the six lowest profit-shifting countries—Canada, Belgium, Vietnam, Netherlands, ROW (Rest of World), and Austria—such that all of these countries experience positive welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

A.5.2 Nash Tariffs

Table A.35: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Nash Tariffs Among Lowest Profit-shifting Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Nash Tariffs	Percentage Reduction (34.21%)					Nash Tariffs	Percentage Reduction (90.00%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Canada	3.9	2.6	0.146	0.112	0.051	-0.017	44.4	4.4	0.340	0.655	-0.315
Belgium	11.1	7.3	0.733	0.547	0.360	-0.175	42.5	4.3	1.925	3.306	-1.381
Vietnam	11.3	7.4	0.268	0.218	0.130	-0.079	35.2	3.5	0.803	1.371	-0.568
Netherlands	32.4	21.3	0.273	0.304	0.149	-0.180	44.7	4.5	1.026	1.905	-0.879
ROW	34.1	22.4	0.026	0.084	0.006	-0.063	45.0	4.5	0.271	0.550	-0.279
Austria	49.9	32.8	0.315	0.175	0.215	-0.076	40.4	4.0	0.940	1.558	-0.618
Australia	76.3	76.3	-0.004	-0.001	-0.001	-0.002	43.1	43.1	-0.012	-0.007	-0.005
Bangladesh	19.7	19.7	0.001	0.000	0.001	0.000	42.7	42.7	-0.003	-0.002	-0.001
Brazil	82.1	82.1	-0.003	-0.001	-0.001	-0.002	41.4	41.4	-0.011	-0.006	-0.004
China	56.9	56.9	-0.001	0.000	0.000	-0.001	42.3	42.3	-0.008	-0.004	-0.003
Denmark	43.7	43.7	-0.024	-0.008	-0.008	-0.009	46.3	46.3	-0.066	-0.039	-0.027
France	37.0	37.0	-0.022	-0.005	-0.011	-0.006	45.6	45.6	-0.046	-0.027	-0.019
Germany	63.5	63.5	-0.008	-0.004	0.001	-0.005	50.4	50.4	-0.041	-0.023	-0.017
Greece	73.5	73.5	-0.005	-0.002	-0.001	-0.003	39	39.0	-0.015	-0.010	-0.006
India	31.9	31.9	0.001	0.000	0.002	-0.001	35.9	35.9	-0.007	-0.005	-0.002
Indonesia	76.5	76.5	-0.001	-0.001	0.001	-0.001	50.3	50.3	-0.016	-0.009	-0.007
Italy	100.0	100.0	-0.006	-0.001	-0.001	-0.003	47.7	47.7	-0.023	-0.013	-0.010
Japan	100.0	100.0	0.000	0.000	0.000	0.000	45.1	45.1	-0.004	-0.002	-0.001
Korea	23.8	23.8	-0.002	0.000	-0.001	0.000	36.9	36.9	-0.005	-0.003	-0.002
Mexico	43.8	43.8	0.002	0.002	-0.001	0.001	49.1	49.1	-0.008	-0.005	-0.004
New Zealand	21.6	21.6	-0.002	0.001	-0.003	0.000	32.9	32.9	-0.014	-0.009	-0.004
Norway	49.7	49.7	-0.002	0.000	-0.002	-0.001	44.2	44.2	-0.016	-0.010	-0.007
Peru	54.8	54.8	-0.001	0.000	0.000	0.000	47.7	47.7	-0.003	-0.002	-0.001
Romania	46.5	46.5	-0.001	-0.001	0.001	-0.001	43.3	43.3	-0.016	-0.009	-0.006
Russia	93.3	93.3	-0.002	-0.001	0.000	-0.001	42.9	42.9	-0.012	-0.007	-0.005
Spain	54.9	54.9	-0.005	-0.001	-0.002	-0.002	48.8	48.8	-0.014	-0.009	-0.005
Sweden	16.3	16.3	-0.009	-0.005	-0.003	-0.001	42.6	42.6	-0.026	-0.016	-0.010
Egypt	40.4	40.4	-0.004	-0.001	-0.002	-0.001	31.9	31.9	-0.008	-0.006	-0.003
UK	75.5	75.5	-0.015	-0.005	-0.003	-0.007	41.7	41.7	-0.047	-0.029	-0.017
USA	60.4	60.4	-0.005	-0.001	-0.003	-0.001	42.5	42.5	-0.009	-0.005	-0.003

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the Nash tariffs of the six lowest profit-shifting countries—Canada, Belgium, Vietnam, Netherlands, ROW (Rest of World), and Austria—such that all of these countries experience positive marginal welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.36: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Nash Tariffs Among Lowest Profit-shifting Countries Ensuring Positive Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Nash Tariffs	Percentage Reduction (63.60%)					Optimal Tariffs	Percentage Reduction (100%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Canada	3.9	1.4	0.339	0.252	0.117	-0.030	44.4	0.0	0.356	0.797	-0.441
Belgium	11.1	4.0	1.567	1.172	0.780	-0.386	42.5	0.0	2.061	4.017	-1.956
Vietnam	11.3	4.1	0.607	0.475	0.301	-0.170	35.2	0.0	0.888	1.669	-0.781
Netherlands	32.4	11.8	0.487	0.648	0.335	-0.495	44.7	0.0	1.060	2.299	-1.240
ROW	34.1	12.4	0.000	0.176	0.005	-0.182	45.0	0.0	0.262	0.661	-0.399
Austria	49.9	18.2	0.508	0.386	0.452	-0.331	40.4	0.0	1.021	1.895	-0.874
Australia	76.3	76.3	-0.008	-0.002	-0.001	-0.004	43.1	43.1	-0.015	-0.009	-0.006
Bangladesh	19.7	19.7	0.002	0.001	0.001	0.000	42.7	42.7	-0.004	-0.002	-0.001
Brazil	82.1	82.1	-0.006	-0.001	-0.002	-0.003	41.4	41.4	-0.013	-0.008	-0.005
China	56.9	56.9	-0.003	-0.001	0.000	-0.002	42.3	42.3	-0.010	-0.005	-0.004
Denmark	43.7	43.7	-0.051	-0.016	-0.017	-0.018	46.3	46.3	-0.081	-0.048	-0.033
France	37.0	37.0	-0.045	-0.009	-0.023	-0.012	45.6	45.6	-0.056	-0.033	-0.023
Germany	63.5	63.5	-0.017	-0.007	0.001	-0.011	50.4	50.4	-0.050	-0.029	-0.021
Greece	73.5	73.5	-0.011	-0.004	-0.002	-0.005	39	39.0	-0.019	-0.012	-0.007
India	31.9	31.9	0.002	-0.001	0.004	-0.001	35.9	35.9	-0.007	-0.005	-0.002
Indonesia	76.5	76.5	-0.003	-0.001	0.001	-0.003	50.3	50.3	-0.019	-0.011	-0.008
Italy	100.0	100.0	-0.013	-0.003	-0.003	-0.007	47.7	47.7	-0.028	-0.016	-0.012
Japan	100.0	100.0	-0.001	0.000	0.000	-0.001	45.1	45.1	-0.005	-0.003	-0.002
Korea	23.8	23.8	-0.004	0.000	-0.003	0.000	36.9	36.9	-0.006	-0.004	-0.002
Mexico	43.8	43.8	0.005	0.005	-0.003	0.003	49.1	49.1	-0.009	-0.005	-0.005
New Zealand	21.6	21.6	-0.004	0.002	-0.006	0.000	32.9	32.9	-0.017	-0.012	-0.006
Norway	49.7	49.7	-0.003	0.002	-0.004	-0.001	44.2	44.2	-0.021	-0.012	-0.008
Peru	54.8	54.8	-0.002	0.000	-0.001	-0.001	47.7	47.7	-0.004	-0.002	-0.002
Romania	46.5	46.5	-0.003	-0.003	0.002	-0.003	43.3	43.3	-0.019	-0.012	-0.008
Russia	93.3	93.3	-0.005	-0.001	-0.001	-0.003	42.9	42.9	-0.015	-0.009	-0.006
Spain	54.9	54.9	-0.010	-0.003	-0.003	-0.004	48.8	48.8	-0.017	-0.010	-0.007
Sweden	16.3	16.3	-0.018	-0.010	-0.006	-0.003	42.6	42.6	-0.032	-0.020	-0.012
Egypt	40.4	40.4	-0.009	-0.002	-0.005	-0.002	31.9	31.9	-0.011	-0.007	-0.003
UK	75.5	75.5	-0.032	-0.010	-0.006	-0.016	41.7	41.7	-0.057	-0.036	-0.021
USA	60.4	60.4	-0.010	-0.001	-0.006	-0.003	42.5	42.5	-0.011	-0.007	-0.004

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the Nash tariffs of the six lowest profit-shifting countries—Canada, Belgium, Vietnam, Netherlands, ROW (Rest of World), and Austria—such that all of these countries experience positive welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.37: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Nash Tariffs Among Lowest Profit-shifting Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Nash Tariffs	Percentage Point Reduction (9.32%p)					Nash Tariffs	Percentage Point Reduction (38.17%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Canada	3.9	0.0	0.115	0.118	0.072	-0.076	44.4	6.2	0.327	0.602	-0.275
Belgium	11.1	1.8	0.449	0.643	0.550	-0.744	42.5	4.3	1.680	3.105	-1.425
Vietnam	11.3	2.0	0.106	0.267	0.175	-0.335	35.2	0.0	0.494	1.360	-0.865
Netherlands	32.4	23.1	0.307	0.299	0.118	-0.110	44.7	6.5	1.029	1.769	-0.740
ROW	34.1	24.8	0.054	0.090	-0.009	-0.027	45.0	6.8	0.319	0.534	-0.214
Austria	49.9	40.6	0.297	0.119	0.160	0.018	40.4	2.2	0.722	1.497	-0.776
Australia	76.3	76.3	-0.003	-0.001	0.000	-0.002	43.1	43.1	-0.011	-0.007	-0.004
Bangladesh	19.7	19.7	-0.001	-0.001	0.000	0.000	42.7	42.7	-0.004	-0.002	-0.001
Brazil	82.1	82.1	-0.003	-0.001	0.000	-0.002	41.4	41.4	-0.010	-0.006	-0.004
China	56.9	56.9	-0.002	-0.001	0.000	-0.001	42.3	42.3	-0.008	-0.004	-0.003
Denmark	43.7	43.7	-0.014	-0.005	-0.004	-0.005	46.3	46.3	-0.059	-0.035	-0.024
France	37.0	37.0	-0.010	-0.005	0.000	-0.005	45.6	45.6	-0.042	-0.025	-0.017
Germany	63.5	63.5	-0.008	-0.004	0.000	-0.004	50.4	50.4	-0.039	-0.023	-0.016
Greece	73.5	73.5	-0.003	-0.001	0.000	-0.001	39	39.0	-0.013	-0.008	-0.005
India	31.9	31.9	-0.001	-0.001	0.000	-0.001	35.9	35.9	-0.006	-0.004	-0.002
Indonesia	76.5	76.5	-0.004	-0.002	0.000	-0.002	50.3	50.3	-0.016	-0.009	-0.007
Italy	100.0	100.0	-0.003	-0.001	0.000	-0.002	47.7	47.7	-0.021	-0.012	-0.009
Japan	100.0	100.0	-0.001	0.000	0.000	-0.001	45.1	45.1	-0.004	-0.002	-0.001
Korea	23.8	23.8	-0.001	-0.001	0.001	-0.001	36.9	36.9	-0.006	-0.004	-0.002
Mexico	43.8	43.8	-0.001	0.000	-0.001	0.000	49.1	49.1	-0.008	-0.004	-0.004
New Zealand	21.6	21.6	-0.003	-0.002	0.000	-0.001	32.9	32.9	-0.013	-0.009	-0.004
Norway	49.7	49.7	-0.005	-0.002	0.000	-0.003	44.2	44.2	-0.017	-0.010	-0.007
Peru	54.8	54.8	-0.001	0.000	0.000	0.000	47.7	47.7	-0.003	-0.002	-0.001
Romania	46.5	46.5	-0.003	-0.001	0.000	-0.001	43.3	43.3	-0.014	-0.009	-0.006
Russia	93.3	93.3	-0.002	-0.001	0.000	-0.002	42.9	42.9	-0.010	-0.006	-0.004
Spain	54.9	54.9	-0.003	-0.001	-0.001	-0.001	48.8	48.8	-0.013	-0.008	-0.005
Sweden	16.3	16.3	-0.006	-0.004	0.000	-0.001	42.6	42.6	-0.024	-0.015	-0.009
Egypt	40.4	40.4	-0.002	-0.001	0.000	-0.001	31.9	31.9	-0.007	-0.005	-0.002
UK	75.5	75.5	-0.008	-0.003	0.000	-0.005	41.7	41.7	-0.040	-0.025	-0.015
USA	60.4	60.4	-0.003	-0.001	-0.001	-0.001	42.5	42.5	-0.008	-0.005	-0.003

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the Nash tariffs of the six lowest profit-shifting countries—Canada, Belgium, Vietnam, Netherlands, ROW (Rest of World), and Austria—such that all of these countries experience positive marginal welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.38: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Nash Tariffs Among Lowest Profit-shifting Countries Ensuring Positive Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Nash Tariffs	Percentage Point Reduction (22.89%p)					Nash Tariffs	Percentage Point Reduction (45.00%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Canada	3.9	0.0	0.370	0.290	0.142	-0.062	44.4	0.0	0.356	0.797	-0.441
Belgium	11.1	0.0	1.584	1.427	1.031	-0.873	42.5	0.0	2.061	4.017	-1.956
Vietnam	11.3	0.0	0.572	0.581	0.389	-0.397	35.2	0.0	0.888	1.669	-0.781
Netherlands	32.4	9.5	0.527	0.750	0.382	-0.605	44.7	0.0	1.060	2.299	-1.240
ROW	34.1	11.2	0.000	0.200	-0.005	-0.195	45.0	0.0	0.262	0.661	-0.399
Austria	49.9	27.0	0.787	0.345	0.475	-0.034	40.4	0.0	1.021	1.895	-0.874
Australia	76.3	76.3	-0.009	-0.003	-0.001	-0.005	43.1	43.1	-0.015	-0.009	-0.006
Bangladesh	19.7	19.7	0.002	0.001	0.001	0.000	42.7	42.7	-0.004	-0.002	-0.001
Brazil	82.1	82.1	-0.008	-0.002	-0.002	-0.004	41.4	41.4	-0.013	-0.008	-0.005
China	56.9	56.9	-0.004	-0.002	0.000	-0.003	42.3	42.3	-0.010	-0.005	-0.004
Denmark	43.7	43.7	-0.052	-0.017	-0.016	-0.019	46.3	46.3	-0.081	-0.048	-0.033
France	37.0	37.0	-0.045	-0.012	-0.020	-0.014	45.6	45.6	-0.056	-0.033	-0.023
Germany	63.5	63.5	-0.020	-0.008	0.000	-0.012	50.4	50.4	-0.050	-0.029	-0.021
Greece	73.5	73.5	-0.011	-0.004	-0.002	-0.005	39	39.0	-0.019	-0.012	-0.007
India	31.9	31.9	0.001	-0.001	0.004	-0.002	35.9	35.9	-0.007	-0.005	-0.002
Indonesia	76.5	76.5	-0.005	-0.002	0.001	-0.004	50.3	50.3	-0.019	-0.011	-0.008
Italy	100.0	100.0	-0.013	-0.003	-0.002	-0.007	47.7	47.7	-0.028	-0.016	-0.012
Japan	100.0	100.0	-0.001	-0.001	0.000	-0.001	45.1	45.1	-0.005	-0.003	-0.002
Korea	23.8	23.8	-0.004	-0.001	-0.002	-0.001	36.9	36.9	-0.006	-0.004	-0.002
Mexico	43.8	43.8	0.004	0.005	-0.003	0.003	49.1	49.1	-0.009	-0.005	-0.005
New Zealand	21.6	21.6	-0.006	0.000	-0.005	-0.001	32.9	32.9	-0.017	-0.012	-0.006
Norway	49.7	49.7	-0.010	-0.002	-0.005	-0.004	44.2	44.2	-0.021	-0.012	-0.008
Peru	54.8	54.8	-0.002	-0.001	-0.001	-0.001	47.7	47.7	-0.004	-0.002	-0.002
Romania	46.5	46.5	-0.007	-0.004	0.000	-0.003	43.3	43.3	-0.019	-0.012	-0.008
Russia	93.3	93.3	-0.007	-0.002	-0.001	-0.004	42.9	42.9	-0.015	-0.009	-0.006
Spain	54.9	54.9	-0.011	-0.004	-0.003	-0.004	48.8	48.8	-0.017	-0.010	-0.007
Sweden	16.3	16.3	-0.020	-0.011	-0.005	-0.003	42.6	42.6	-0.032	-0.020	-0.012
Egypt	40.4	40.4	-0.009	-0.002	-0.005	-0.002	31.9	31.9	-0.011	-0.007	-0.003
UK	75.5	75.5	-0.032	-0.011	-0.005	-0.017	41.7	41.7	-0.057	-0.036	-0.021
USA	60.4	60.4	-0.012	-0.002	-0.006	-0.004	42.5	42.5	-0.011	-0.007	-0.004

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the Nash tariffs of the six lowest profit-shifting countries—Canada, Belgium, Vietnam, Netherlands, ROW (Rest of World), and Austria—such that all of these countries experience positive welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

A.6 Baseline Model with Highest Profit-shift Countries

A.6.1 Optimal Tariffs

Table A.39: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Optimal Tariffs Among Highest Profit-shifting Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Reduction (67.62%)					Optimal Tariffs	Percentage Reduction (58.00%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Brazil	67.5	21.9	0.091	0.049	0.063	-0.022	35.8	15.0	0.036	0.063	-0.027
Indonesia	67.3	21.8	0.120	0.093	0.054	-0.027	44.6	18.7	0.058	0.100	-0.043
Australia	68.0	22.0	0.077	0.082	0.052	-0.058	42.5	17.9	0.034	0.098	-0.064
Russia	86.2	27.9	0.063	0.072	0.013	-0.023	40.5	17.0	0.057	0.095	-0.038
Italy	94.2	30.5	0.124	0.077	0.055	-0.008	43.1	18.1	0.079	0.105	-0.027
UK	61.0	19.8	0.285	0.126	0.126	0.033	37.8	15.9	0.127	0.149	-0.022
Austria	36.9	36.9	-0.004	-0.001	-0.002	-0.001	35.6	35.6	-0.002	-0.001	-0.001
Bangladesh	16.1	16.1	0.001	0.000	0.001	0.000	41.5	41.5	0.000	0.000	0.000
Belgium	8.1	8.1	0.001	-0.002	0.003	0.000	38.4	38.4	-0.002	-0.001	0.000
Canada	0.0	0.0	0.003	0.000	0.002	0.000	39.8	39.8	-0.002	-0.001	-0.001
China	49.1	49.1	0.000	0.000	0.000	0.000	37.6	37.6	0.000	0.000	0.000
Denmark	39.2	39.2	-0.006	-0.002	-0.002	-0.002	42.1	42.1	-0.004	-0.002	-0.002
France	30.2	30.2	-0.001	-0.001	0.000	-0.001	41.4	41.4	-0.002	-0.001	-0.001
Germany	56.2	56.2	0.000	0.000	0.001	0.000	45.7	45.7	-0.001	-0.001	0.000
Greece	62.5	62.5	-0.002	0.000	-0.001	0.000	34.6	34.6	-0.001	-0.001	0.000
India	22.3	22.3	0.000	0.000	0.000	0.000	30.5	30.5	0.000	0.000	0.000
Japan	98.0	98.0	0.001	0.001	0.000	0.000	40.7	40.7	0.000	0.000	0.000
Korea	15.5	15.5	0.000	0.000	0.000	0.000	34.0	34.0	0.000	0.000	0.000
Mexico	41.4	41.4	0.001	0.001	0.000	0.000	44.5	44.5	-0.001	0.000	0.000
Netherlands	24.3	24.3	0.001	0.000	0.001	0.000	41.2	41.2	0.000	0.000	0.000
New Zealand	13.9	13.9	-0.006	-0.001	-0.005	0.000	28.1	28.1	-0.003	-0.002	-0.001
Norway	45.3	45.3	0.008	0.002	0.004	0.002	42.8	42.8	0.002	0.001	0.001
Peru	51.2	51.2	0.000	0.000	0.000	0.000	43.4	43.4	0.000	0.000	0.000
Romania	34.6	34.6	-0.002	0.000	-0.001	0.000	38.3	38.3	-0.001	-0.001	0.000
Vietnam	5.0	5.0	-0.001	0.000	-0.001	0.000	32.2	32.2	-0.001	0.000	0.000
Spain	45.9	45.9	-0.001	-0.001	0.000	0.000	43.8	43.8	-0.001	-0.001	0.000
Sweden	9.1	9.1	-0.002	-0.002	0.000	0.000	37.5	37.5	-0.002	-0.001	-0.001
Egypt	35.5	35.5	-0.001	0.000	-0.001	0.000	28.8	28.8	0.000	0.000	0.000
USA	43.9	43.9	0.000	0.000	0.000	0.000	38.7	38.7	0.000	0.000	0.000
ROW	29.5	29.5	-0.003	-0.002	0.000	-0.002	42.1	42.1	-0.004	-0.002	-0.002

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the optimal tariffs of the six highest profit-shifting countries—Brazil, Indonesia, Australia, Russia, Italy, and UK—such that all of these countries experience positive marginal welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.40: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Optimal Tariffs Among Highest Profit-shifting Countries Ensuring Positive Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Reduction (96.46%)					Optimal Tariffs	Percentage Reduction (93.93%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Brazil	67.5	2.4	0.212	0.106	0.185	-0.079	35.8	2.2	0.061	0.136	-0.075
Indonesia	67.3	2.4	0.131	0.174	0.095	-0.138	44.6	2.7	0.035	0.193	-0.158
Australia	68.0	2.4	0.087	0.159	0.128	-0.200	42.5	2.6	0.000	0.197	-0.197
Russia	86.2	3.1	0.000	0.143	0.019	-0.162	40.5	2.5	0.073	0.194	-0.121
Italy	94.2	3.3	0.035	0.143	0.061	-0.169	43.1	2.6	0.106	0.213	-0.107
UK	61.0	2.2	0.633	0.283	0.303	0.047	37.8	2.3	0.239	0.319	-0.080
Austria	36.9	36.9	-0.009	-0.001	-0.007	-0.001	35.6	35.6	-0.004	-0.003	-0.001
Bangladesh	16.1	16.1	0.003	0.001	0.002	0.000	41.5	41.5	0.002	0.001	0.001
Belgium	8.1	8.1	0.004	-0.004	0.008	0.000	38.4	38.4	-0.004	-0.003	-0.001
Canada	0.0	0.0	0.008	0.001	0.007	0.000	39.8	39.8	-0.003	-0.001	-0.001
China	49.1	49.1	0.001	0.000	0.000	0.000	37.6	37.6	0.000	0.000	0.000
Denmark	39.2	39.2	-0.011	-0.003	-0.005	-0.003	42.1	42.1	-0.008	-0.005	-0.003
France	30.2	30.2	-0.002	-0.001	-0.001	-0.001	41.4	41.4	-0.004	-0.002	-0.001
Germany	56.2	56.2	0.001	-0.001	0.002	-0.001	45.7	45.7	-0.003	-0.002	-0.001
Greece	62.5	62.5	-0.005	0.000	-0.004	-0.001	34.6	34.6	-0.002	-0.001	-0.001
India	22.3	22.3	0.001	0.000	0.001	0.000	30.5	30.5	-0.001	-0.001	0.000
Japan	98.0	98.0	0.001	0.000	0.000	0.000	40.7	40.7	0.000	0.000	0.000
Korea	15.5	15.5	0.000	0.000	0.000	0.000	34.0	34.0	0.000	0.000	0.000
Mexico	41.4	41.4	0.000	0.000	0.000	0.000	44.5	44.5	-0.001	0.000	0.000
Netherlands	24.3	24.3	0.000	0.000	0.000	0.000	41.2	41.2	-0.001	0.000	0.000
New Zealand	13.9	13.9	-0.012	-0.001	-0.010	-0.001	28.1	28.1	-0.006	-0.004	-0.002
Norway	45.3	45.3	0.025	0.007	0.010	0.007	42.8	42.8	0.005	0.003	0.002
Peru	51.2	51.2	0.000	0.000	0.000	0.000	43.4	43.4	0.000	0.000	0.000
Romania	34.6	34.6	-0.007	-0.001	-0.006	-0.001	38.3	38.3	-0.002	-0.001	-0.001
Vietnam	5.0	5.0	-0.004	0.000	-0.004	0.000	32.2	32.2	-0.001	-0.001	0.000
Spain	45.9	45.9	-0.002	-0.001	-0.001	-0.001	43.8	43.8	-0.001	-0.001	-0.001
Sweden	9.1	9.1	-0.003	-0.003	0.000	0.000	37.5	37.5	-0.004	-0.002	-0.001
Egypt	35.5	35.5	-0.004	-0.001	-0.003	0.000	28.8	28.8	-0.001	-0.001	0.000
USA	43.9	43.9	0.000	0.000	0.001	0.000	38.7	38.7	-0.001	-0.001	0.000
ROW	29.5	29.5	-0.007	-0.003	0.000	-0.004	42.1	42.1	-0.009	-0.005	-0.004

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the optimal tariffs of the six highest profit-shifting countries—Brazil, Indonesia, Australia, Russia, Italy, and UK—such that all of these countries experience positive welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.41: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Optimal Tariffs Among Highest Profit-shifting Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Point Reduction (46.34%p)					Optimal Tariffs	Percentage Point Reduction (25.33%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Brazil	67.5	21.2	0.057	0.043	0.048	-0.034	35.8	10.5	0.025	0.072	-0.046
Indonesia	67.3	21.0	0.083	0.085	0.041	-0.043	44.6	19.3	0.072	0.107	-0.035
Australia	68.0	21.7	0.068	0.082	0.046	-0.061	42.5	17.2	0.036	0.103	-0.067
Russia	86.2	39.9	0.073	0.055	0.015	0.004	40.5	15.2	0.058	0.103	-0.045
Italy	94.2	47.9	0.184	0.071	0.063	0.051	43.1	17.8	0.098	0.119	-0.021
UK	61.0	14.7	0.145	0.102	0.077	-0.035	37.8	12.5	0.124	0.165	-0.041
Austria	36.9	36.9	-0.001	-0.001	0.000	0.000	35.6	35.6	-0.002	-0.001	-0.001
Bangladesh	16.1	16.1	0.002	0.000	0.001	0.000	41.5	41.5	0.000	0.000	0.000
Belgium	8.1	8.1	0.000	-0.001	0.000	0.000	38.4	38.4	-0.001	-0.001	0.000
Canada	0.0	0.0	-0.002	-0.002	-0.001	0.000	39.8	39.8	-0.002	-0.001	-0.001
China	49.1	49.1	0.001	0.000	0.001	0.000	37.6	37.6	0.000	0.000	0.000
Denmark	39.2	39.2	-0.004	-0.002	-0.001	-0.002	42.1	42.1	-0.005	-0.003	-0.002
France	30.2	30.2	-0.001	-0.001	0.001	0.000	41.4	41.4	-0.002	-0.002	-0.001
Germany	56.2	56.2	-0.001	-0.001	0.000	0.000	45.7	45.7	-0.002	-0.001	-0.001
Greece	62.5	62.5	0.000	0.000	0.000	0.000	34.6	34.6	-0.001	0.000	0.000
India	22.3	22.3	0.000	0.000	0.000	0.000	30.5	30.5	0.000	0.000	0.000
Japan	98.0	98.0	0.000	0.000	0.000	0.000	40.7	40.7	0.000	0.000	0.000
Korea	15.5	15.5	0.000	0.000	0.000	0.000	34.0	34.0	0.000	0.000	0.000
Mexico	41.4	41.4	-0.001	0.000	0.000	0.000	44.5	44.5	-0.001	-0.001	0.000
Netherlands	24.3	24.3	0.004	0.001	0.002	0.001	41.2	41.2	0.001	0.000	0.000
New Zealand	13.9	13.9	-0.006	-0.001	-0.004	-0.001	28.1	28.1	-0.003	-0.002	-0.001
Norway	45.3	45.3	0.000	0.000	0.000	0.000	42.8	42.8	0.001	0.001	0.000
Peru	51.2	51.2	0.000	0.000	0.000	0.000	43.4	43.4	0.000	0.000	0.000
Romania	34.6	34.6	0.002	0.000	0.002	0.000	38.3	38.3	-0.001	0.000	0.000
Vietnam	5.0	5.0	0.001	0.000	0.001	0.000	32.2	32.2	-0.001	0.000	0.000
Spain	45.9	45.9	0.000	0.000	0.000	0.000	43.8	43.8	-0.001	-0.001	0.000
Sweden	9.1	9.1	-0.001	-0.001	0.000	0.000	37.5	37.5	-0.002	-0.001	-0.001
Egypt	35.5	35.5	0.001	0.000	0.000	0.000	28.8	28.8	0.000	0.000	0.000
USA	43.9	43.9	0.000	0.000	0.000	0.000	38.7	38.7	-0.001	0.000	0.000
ROW	29.5	29.5	-0.002	-0.002	0.000	-0.001	42.1	42.1	-0.004	-0.002	-0.002

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the optimal tariffs of the six highest profit-shifting countries—Brazil, Indonesia, Australia, Russia, Italy, and UK—such that all of these countries experience positive marginal welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.42: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Optimal Tariffs Among Highest Profit-shifting Countries Ensuring Positive Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Point Reduction (79.64%p)					Optimal Tariffs	Percentage Point Reduction (39.75%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Brazil	67.5	0.0	0.118	0.095	0.142	-0.119	35.8	0.0	0.046	0.140	-0.094
Indonesia	67.3	0.0	0.044	0.168	0.067	-0.191	44.6	4.9	0.073	0.196	-0.123
Australia	68.0	0.0	0.037	0.163	0.118	-0.244	42.5	2.8	0.000	0.194	-0.194
Russia	86.2	6.6	0.000	0.123	0.011	-0.134	40.5	0.8	0.055	0.198	-0.143
Italy	94.2	14.6	0.230	0.147	0.097	-0.015	43.1	3.4	0.134	0.225	-0.091
UK	61.0	0.0	0.449	0.248	0.228	-0.027	37.8	0.0	0.214	0.327	-0.113
Austria	36.9	36.9	-0.006	-0.002	-0.003	-0.001	35.6	35.6	-0.004	-0.003	-0.001
Bangladesh	16.1	16.1	0.004	0.001	0.003	0.001	41.5	41.5	0.001	0.001	0.000
Belgium	8.1	8.1	0.004	-0.002	0.006	0.000	38.4	38.4	-0.003	-0.003	-0.001
Canada	0.0	0.0	0.001	-0.002	0.003	0.000	39.8	39.8	-0.003	-0.002	-0.001
China	49.1	49.1	0.002	0.000	0.001	0.000	37.6	37.6	0.000	0.000	0.000
Denmark	39.2	39.2	-0.011	-0.004	-0.004	-0.004	42.1	42.1	-0.009	-0.005	-0.004
France	30.2	30.2	-0.002	-0.002	0.001	-0.001	41.4	41.4	-0.004	-0.003	-0.002
Germany	56.2	56.2	0.000	-0.001	0.002	-0.001	45.7	45.7	-0.003	-0.002	-0.001
Greece	62.5	62.5	-0.001	0.000	-0.001	0.000	34.6	34.6	-0.001	-0.001	0.000
India	22.3	22.3	0.001	0.000	0.001	0.000	30.5	30.5	-0.001	-0.001	0.000
Japan	98.0	98.0	0.001	0.000	0.001	0.000	40.7	40.7	0.000	0.000	0.000
Korea	15.5	15.5	0.001	0.000	0.000	0.000	34.0	34.0	0.000	0.000	0.000
Mexico	41.4	41.4	-0.001	-0.001	0.000	0.000	44.5	44.5	-0.001	0.000	-0.001
Netherlands	24.3	24.3	0.007	0.002	0.004	0.001	41.2	41.2	0.000	0.000	0.000
New Zealand	13.9	13.9	-0.014	-0.002	-0.011	-0.001	28.1	28.1	-0.007	-0.005	-0.002
Norway	45.3	45.3	0.014	0.004	0.007	0.004	42.8	42.8	0.003	0.002	0.001
Peru	51.2	51.2	0.000	0.000	0.000	0.000	43.4	43.4	0.000	0.000	0.000
Romania	34.6	34.6	0.000	-0.001	0.001	0.000	38.3	38.3	-0.001	-0.001	0.000
Vietnam	5.0	5.0	-0.001	0.000	-0.001	0.000	32.2	32.2	-0.001	-0.001	0.000
Spain	45.9	45.9	-0.001	-0.001	0.000	0.000	43.8	43.8	-0.002	-0.001	-0.001
Sweden	9.1	9.1	-0.003	-0.003	0.001	0.000	37.5	37.5	-0.004	-0.002	-0.001
Egypt	35.5	35.5	-0.001	0.000	-0.001	0.000	28.8	28.8	0.000	0.000	0.000
USA	43.9	43.9	-0.001	0.000	0.000	0.000	38.7	38.7	-0.001	-0.001	0.000
ROW	29.5	29.5	-0.006	-0.004	0.001	-0.003	42.1	42.1	-0.008	-0.005	-0.004

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the optimal tariffs of the six highest profit-shifting countries—Brazil, Indonesia, Australia, Russia, Italy, and UK—such that all of these countries experience positive welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

A.6.2 Nash Tariffs

Table A.43: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Nash Tariffs Among Highest Profit-shifting Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Nash Tariffs	Percentage Reduction (71.63%)					Nash Tariffs	Percentage Reduction (64.80%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Brazil	82.1	23.3	0.091	0.053	0.063	-0.025	41.4	14.6	0.042	0.075	-0.033
Indonesia	76.5	21.7	0.139	0.104	0.061	-0.026	50.3	17.7	0.063	0.118	-0.056
Australia	76.3	21.6	0.095	0.092	0.060	-0.057	43.1	15.2	0.044	0.117	-0.073
Russia	93.3	26.5	0.076	0.080	0.016	-0.020	42.9	15.1	0.071	0.114	-0.043
Italy	100.0	28.4	0.155	0.088	0.068	-0.001	47.7	16.8	0.094	0.126	-0.032
UK	75.5	21.4	0.316	0.141	0.131	0.044	41.7	14.7	0.158	0.181	-0.023
Austria	49.9	49.9	-0.003	-0.001	-0.002	-0.001	40.4	40.4	-0.002	-0.001	-0.001
Bangladesh	19.7	19.7	0.002	0.000	0.001	0.000	42.7	42.7	0.001	0.000	0.000
Belgium	11.1	11.1	0.001	-0.002	0.003	0.000	42.5	42.5	-0.003	-0.002	-0.001
Canada	3.9	3.9	0.002	0.000	0.002	0.000	44.4	44.4	-0.001	0.000	-0.001
China	56.9	56.9	0.001	0.000	0.000	0.000	42.3	42.3	0.000	0.000	0.000
Denmark	43.7	43.7	-0.006	-0.002	-0.002	-0.002	46.3	46.3	-0.005	-0.003	-0.002
France	37.0	37.0	-0.001	-0.001	0.000	-0.001	45.6	45.6	-0.002	-0.001	-0.001
Germany	63.5	63.5	0.000	-0.001	0.001	0.000	50.4	50.4	-0.002	-0.001	-0.001
Greece	73.5	73.5	-0.001	0.000	-0.001	0.000	39	39.0	-0.001	-0.001	0.000
India	31.9	31.9	0.000	0.000	0.000	0.000	35.9	35.9	0.000	0.000	0.000
Japan	100.0	100.0	0.000	0.000	0.000	0.000	45.1	45.1	0.000	0.000	0.000
Korea	23.8	23.8	0.001	0.000	0.000	0.000	36.9	36.9	0.000	0.000	0.000
Mexico	43.8	43.8	0.000	0.000	0.000	0.000	49.1	49.1	0.000	0.000	0.000
Netherlands	32.4	32.4	0.002	0.000	0.001	0.000	44.7	44.7	0.000	0.000	0.000
New Zealand	21.6	21.6	-0.006	-0.001	-0.004	-0.001	32.9	32.9	-0.003	-0.002	-0.001
Norway	49.7	49.7	0.008	0.002	0.004	0.003	44.2	44.2	0.002	0.001	0.001
Peru	54.8	54.8	0.000	0.000	0.000	0.000	47.7	47.7	0.000	0.000	0.000
Romania	46.5	46.5	-0.001	0.000	0.000	0.000	43.3	43.3	-0.001	-0.001	0.000
Vietnam	11.3	11.3	0.000	0.000	0.000	0.000	35.2	35.2	-0.001	0.000	0.000
Spain	54.9	54.9	-0.001	-0.001	0.000	0.000	48.8	48.8	-0.001	-0.001	0.000
Sweden	16.3	16.3	-0.002	-0.002	0.000	0.000	42.6	42.6	-0.002	-0.001	-0.001
Egypt	40.4	40.4	-0.001	0.000	-0.001	0.000	31.9	31.9	0.000	0.000	0.000
USA	60.4	60.4	0.000	0.000	0.000	0.000	42.5	42.5	-0.001	0.000	0.000
ROW	34.1	34.1	-0.003	-0.002	0.000	-0.002	45.0	45.0	-0.005	-0.003	-0.002

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the Nash tariffs of the six highest profit-shifting countries—Brazil, Indonesia, Australia, Russia, Italy, and UK—such that all of these countries experience positive marginal welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.44: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Nash Tariffs Among Highest Profit-shifting Countries Ensuring Positive Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Nash Tariffs	Percentage Reduction (100%)					Nash Tariffs	Percentage Reduction (99.66%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Brazil	82.1	0.0	0.198	0.116	0.198	-0.116	41.4	0.1	0.062	0.158	-0.096
Indonesia	76.5	0.0	0.136	0.198	0.106	-0.168	50.3	0.2	0.000	0.214	-0.214
Australia	76.3	0.0	0.124	0.185	0.160	-0.221	43.1	0.1	0.019	0.233	-0.214
Russia	93.3	0.0	0.008	0.164	0.027	-0.182	42.9	0.1	0.091	0.228	-0.138
Italy	100.0	0.0	0.077	0.171	0.084	-0.178	47.7	0.2	0.110	0.246	-0.136
UK	75.5	0.0	0.669	0.320	0.317	0.033	41.7	0.1	0.284	0.377	-0.093
Austria	49.9	49.9	-0.008	-0.001	-0.005	-0.002	40.4	40.4	-0.004	-0.003	-0.001
Bangladesh	19.7	19.7	0.004	0.001	0.002	0.001	42.7	42.7	0.002	0.002	0.001
Belgium	11.1	11.1	0.004	-0.004	0.008	0.000	42.5	42.5	-0.005	-0.004	-0.002
Canada	3.9	3.9	0.006	0.000	0.006	0.000	44.4	44.4	-0.003	-0.001	-0.001
China	56.9	56.9	0.001	0.000	0.000	0.000	42.3	42.3	0.000	0.000	0.000
Denmark	43.7	43.7	-0.012	-0.004	-0.005	-0.004	46.3	46.3	-0.010	-0.006	-0.004
France	37.0	37.0	-0.002	-0.001	0.000	-0.001	45.6	45.6	-0.004	-0.003	-0.002
Germany	63.5	63.5	0.001	-0.001	0.002	-0.001	50.4	50.4	-0.003	-0.002	-0.001
Greece	73.5	73.5	-0.004	-0.001	-0.003	-0.001	39	39.0	-0.003	-0.002	-0.001
India	31.9	31.9	0.001	0.000	0.001	0.000	35.9	35.9	0.000	0.000	0.000
Japan	100.0	100.0	0.001	0.000	0.000	0.000	45.1	45.1	0.001	0.001	0.000
Korea	23.8	23.8	0.001	0.000	0.000	0.000	36.9	36.9	0.000	0.000	0.000
Mexico	43.8	43.8	0.000	0.001	0.000	0.000	49.1	49.1	-0.001	0.000	0.000
Netherlands	32.4	32.4	0.003	0.000	0.002	0.000	44.7	44.7	-0.001	0.000	0.000
New Zealand	21.6	21.6	-0.011	-0.002	-0.009	-0.001	32.9	32.9	-0.006	-0.004	-0.002
Norway	49.7	49.7	0.024	0.007	0.010	0.008	44.2	44.2	0.006	0.004	0.002
Peru	54.8	54.8	0.000	0.000	0.000	0.000	47.7	47.7	0.000	0.000	0.000
Romania	46.5	46.5	-0.005	-0.001	-0.003	-0.001	43.3	43.3	-0.002	-0.002	-0.001
Vietnam	11.3	11.3	-0.002	0.000	-0.002	0.000	35.2	35.2	-0.001	-0.001	0.000
Spain	54.9	54.9	-0.002	-0.001	0.000	-0.001	48.8	48.8	-0.002	-0.001	-0.001
Sweden	16.3	16.3	-0.004	-0.003	0.000	-0.001	42.6	42.6	-0.005	-0.003	-0.002
Egypt	40.4	40.4	-0.004	-0.001	-0.002	0.000	31.9	31.9	-0.002	-0.001	0.000
USA	60.4	60.4	0.000	0.000	0.000	0.000	42.5	42.5	-0.001	-0.001	0.000
ROW	34.1	34.1	-0.007	-0.003	0.000	-0.004	45.0	45.0	-0.010	-0.006	-0.005

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the Nash tariffs of the six highest profit-shifting countries—Brazil, Indonesia, Australia, Russia, Italy, and UK—such that all of these countries experience positive welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.45: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Nash Tariffs Among Highest Profit-shifting Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Nash Tariffs	Percentage Point Reduction (54.81%p)					Nash Tariffs	Percentage Point Reduction (24.76%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Brazil	82.1	27.3	0.068	0.044	0.048	-0.023	41.4	16.6	0.030	0.061	-0.032
Indonesia	76.5	21.7	0.094	0.092	0.045	-0.044	50.3	25.5	0.076	0.096	-0.020
Australia	76.3	21.5	0.069	0.087	0.047	-0.065	43.1	18.3	0.032	0.093	-0.061
Russia	93.3	38.5	0.079	0.060	0.015	0.004	42.9	18.1	0.055	0.092	-0.037
Italy	100.0	45.2	0.196	0.077	0.069	0.050	47.7	22.9	0.095	0.105	-0.010
UK	75.5	20.7	0.191	0.109	0.086	-0.005	41.7	16.9	0.121	0.146	-0.025
Austria	49.9	49.9	-0.001	-0.001	0.000	-0.001	40.4	40.4	-0.002	-0.001	-0.001
Bangladesh	19.7	19.7	0.002	0.001	0.001	0.000	42.7	42.7	0.000	0.000	0.000
Belgium	11.1	11.1	0.000	-0.001	0.001	0.000	42.5	42.5	-0.001	-0.001	0.000
Canada	3.9	3.9	-0.002	-0.002	0.000	0.000	44.4	44.4	-0.001	-0.001	-0.001
China	56.9	56.9	0.001	0.000	0.001	0.000	42.3	42.3	0.000	0.000	0.000
Denmark	43.7	43.7	-0.005	-0.002	-0.001	-0.002	46.3	46.3	-0.005	-0.003	-0.002
France	37.0	37.0	-0.001	-0.001	0.001	-0.001	45.6	45.6	-0.002	-0.001	-0.001
Germany	63.5	63.5	-0.001	-0.001	0.000	0.000	50.4	50.4	-0.001	-0.001	-0.001
Greece	73.5	73.5	0.000	0.000	0.001	0.000	39	39.0	0.000	0.000	0.000
India	31.9	31.9	0.000	0.000	0.000	0.000	35.9	35.9	0.000	0.000	0.000
Japan	100.0	100.0	0.000	0.000	0.000	0.000	45.1	45.1	0.000	0.000	0.000
Korea	23.8	23.8	0.000	0.000	0.000	0.000	36.9	36.9	0.000	0.000	0.000
Mexico	43.8	43.8	-0.001	0.000	0.000	-0.001	49.1	49.1	0.000	0.000	0.000
Netherlands	32.4	32.4	0.004	0.001	0.002	0.001	44.7	44.7	0.001	0.000	0.000
New Zealand	21.6	21.6	-0.007	-0.001	-0.005	-0.001	32.9	32.9	-0.003	-0.002	-0.001
Norway	49.7	49.7	0.001	0.000	0.001	0.000	44.2	44.2	0.001	0.000	0.000
Peru	54.8	54.8	0.000	0.000	0.000	0.000	47.7	47.7	0.000	0.000	0.000
Romania	46.5	46.5	0.002	0.000	0.002	0.000	43.3	43.3	-0.001	0.000	0.000
Vietnam	11.3	11.3	0.001	0.000	0.001	0.000	35.2	35.2	0.000	0.000	0.000
Spain	54.9	54.9	0.000	0.000	0.000	0.000	48.8	48.8	-0.001	0.000	0.000
Sweden	16.3	16.3	-0.001	-0.001	0.000	0.000	42.6	42.6	-0.002	-0.001	-0.001
Egypt	40.4	40.4	0.001	0.000	0.001	0.000	31.9	31.9	0.000	0.000	0.000
USA	60.4	60.4	-0.001	0.000	0.000	0.000	42.5	42.5	-0.001	-0.001	0.000
ROW	34.1	34.1	-0.003	-0.002	0.000	-0.001	45.0	45.0	-0.003	-0.002	-0.001

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the Nash tariffs of the six highest profit-shifting countries—Brazil, Indonesia, Australia, Russia, Italy, and UK—such that all of these countries experience positive marginal welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.46: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Nash Tariffs Among Highest Profit-shifting Countries Ensuring Positive Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Point Reduction (100%p)					Optimal Tariffs	Percentage Point Reduction (24.76%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Brazil	82.1	0.0	0.198	0.116	0.198	-0.116	41.4	16.6	0.030	0.061	-0.032
Indonesia	76.5	0.0	0.136	0.198	0.106	-0.168	50.3	25.5	0.076	0.096	-0.020
Australia	76.3	0.0	0.124	0.185	0.160	-0.221	43.1	18.3	0.032	0.093	-0.061
Russia	93.3	0.0	0.008	0.164	0.027	-0.182	42.9	18.1	0.055	0.092	-0.037
Italy	100.0	0.0	0.077	0.171	0.084	-0.178	47.7	22.9	0.095	0.105	-0.010
UK	75.5	0.0	0.669	0.320	0.317	0.033	41.7	16.9	0.121	0.146	-0.025
Austria	49.9	49.9	-0.008	-0.001	-0.005	-0.002	40.4	40.4	-0.002	-0.001	-0.001
Bangladesh	19.7	19.7	0.004	0.001	0.002	0.001	42.7	42.7	0.000	0.000	0.000
Belgium	11.1	11.1	0.004	-0.004	0.008	0.000	42.5	42.5	-0.001	-0.001	0.000
Canada	3.9	3.9	0.006	0.000	0.006	0.000	44.4	44.4	-0.001	-0.001	-0.001
China	56.9	56.9	0.001	0.000	0.000	0.000	42.3	42.3	0.000	0.000	0.000
Denmark	43.7	43.7	-0.012	-0.004	-0.005	-0.004	46.3	46.3	-0.005	-0.003	-0.002
France	37.0	37.0	-0.002	-0.001	0.000	-0.001	45.6	45.6	-0.002	-0.001	-0.001
Germany	63.5	63.5	0.001	-0.001	0.002	-0.001	50.4	50.4	-0.001	-0.001	-0.001
Greece	73.5	73.5	-0.004	-0.001	-0.003	-0.001	39	39.0	0.000	0.000	0.000
India	31.9	31.9	0.001	0.000	0.001	0.000	35.9	35.9	0.000	0.000	0.000
Japan	100.0	100.0	0.001	0.000	0.000	0.000	45.1	45.1	0.000	0.000	0.000
Korea	23.8	23.8	0.001	0.000	0.000	0.000	36.9	36.9	0.000	0.000	0.000
Mexico	43.8	43.8	0.000	0.001	0.000	0.000	49.1	49.1	0.000	0.000	0.000
Netherlands	32.4	32.4	0.003	0.000	0.002	0.000	44.7	44.7	0.001	0.000	0.000
New Zealand	21.6	21.6	-0.011	-0.002	-0.009	-0.001	32.9	32.9	-0.003	-0.002	-0.001
Norway	49.7	49.7	0.024	0.007	0.010	0.008	44.2	44.2	0.001	0.000	0.000
Peru	54.8	54.8	0.000	0.000	0.000	0.000	47.7	47.7	0.000	0.000	0.000
Romania	46.5	46.5	-0.005	-0.001	-0.003	-0.001	43.3	43.3	-0.001	0.000	0.000
Vietnam	11.3	11.3	-0.002	0.000	-0.002	0.000	35.2	35.2	0.000	0.000	0.000
Spain	54.9	54.9	-0.002	-0.001	0.000	-0.001	48.8	48.8	-0.001	0.000	0.000
Sweden	16.3	16.3	-0.004	-0.003	0.000	-0.001	42.6	42.6	-0.002	-0.001	-0.001
Egypt	40.4	40.4	-0.004	-0.001	-0.002	0.000	31.9	31.9	0.000	0.000	0.000
USA	60.4	60.4	0.000	0.000	0.000	0.000	42.5	42.5	-0.001	-0.001	0.000
ROW	34.1	34.1	-0.007	-0.003	0.000	-0.004	45.0	45.0	-0.003	-0.002	-0.001

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the Nash tariffs of the six highest profit-shifting countries—Brazil, Indonesia, Australia, Russia, Italy, and UK—such that all of these countries experience positive welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

A.7 Homogeneous Model with Lowest Markup Countries

A.7.1 Optimal Tariffs

Table A.47: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Optimal Tariffs Among Lowest Markup Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Reduction (19.00%)					Optimal Tariffs	Percentage Reduction (23.25%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Sweden	44.8	36.3	0.017	0.014	0.009	-0.005	37.5	28.8	0.023	0.032	-0.009
Canada	32.1	26.0	0.022	0.017	0.008	-0.002	39.8	30.5	0.027	0.031	-0.004
India	33.3	27.0	0.008	0.002	0.007	0.000	29.7	22.8	0.003	0.003	0.000
Belgium	44.7	36.2	0.034	0.031	0.008	-0.006	38.5	29.5	0.059	0.070	-0.012
Bangladesh	49.2	39.9	0.003	0.005	0.002	-0.004	41.5	31.9	0.003	0.010	-0.007
Vietnam	56.1	45.4	0.007	0.012	-0.007	0.002	32.2	24.7	0.027	0.028	-0.001
Australia	4.9	4.9	0.000	0.000	0.000	0.000	42.5	42.5	0.000	0.000	0.000
Austria	44.6	44.6	0.000	0.000	0.000	0.000	35.6	35.6	0.000	0.000	0.000
Brazil	40.3	40.3	0.000	0.000	0.000	0.000	35.8	35.8	0.000	0.000	0.000
China	56.2	56.2	0.000	0.000	0.000	0.000	37.6	37.6	0.000	0.000	0.000
Denmark	44.5	44.5	-0.001	0.000	0.000	0.000	42.1	42.1	-0.001	0.000	-0.001
France	47.7	47.7	0.000	0.000	0.000	0.000	41.4	41.4	0.000	0.000	0.000
Germany	62.1	62.1	0.000	0.000	0.000	0.000	45.7	45.7	0.000	0.000	0.000
Greece	23.6	23.6	0.000	0.000	0.000	0.000	34.7	34.7	0.000	0.000	0.000
Indonesia	43.1	43.1	0.000	0.000	0.000	0.000	44.6	44.6	-0.001	-0.001	0.000
Italy	63.1	63.1	0.000	0.000	0.000	0.000	43.1	43.1	0.000	0.000	0.000
Japan	72.8	72.8	0.000	0.000	0.000	0.000	40.2	40.2	0.000	0.000	0.000
Korea	61.5	61.5	0.000	0.000	0.000	0.000	34.1	34.1	0.000	0.000	0.000
Mexico	59.6	59.6	0.001	0.000	0.000	0.000	44.4	44.4	0.000	0.000	0.000
Netherlands	35.5	35.5	-0.001	-0.001	0.000	0.000	41.1	41.1	-0.001	0.000	0.000
New Zealand	21.9	21.9	0.000	0.000	0.000	0.000	28.1	28.1	0.000	0.000	0.000
Norway	9.7	9.7	0.000	0.000	0.000	0.000	42.8	42.8	0.000	0.000	0.000
Peru	19.2	19.2	0.000	0.000	0.000	0.000	43.1	43.1	0.000	0.000	0.000
Romania	53.5	53.5	0.000	0.000	0.000	0.000	38.3	38.3	0.000	0.000	0.000
Russia	0.0	0.0	0.000	0.000	0.000	0.000	40.6	40.6	0.000	0.000	0.000
Spain	58.9	58.9	0.000	0.000	0.000	0.000	44.0	44.0	0.000	0.000	0.000
Egypt	22.1	22.1	0.000	0.000	0.000	0.000	28.8	28.8	0.000	0.000	0.000
UK	43.0	43.0	0.000	0.000	0.000	0.000	37.9	37.9	0.000	0.000	0.000
USA	51.1	51.1	0.000	0.000	0.000	0.000	38.6	38.6	0.000	0.000	0.000
Rest of World	33.3	33.3	-0.001	0.000	0.000	0.000	42.1	42.1	-0.001	-0.001	0.000

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the optimal tariffs of the six lowest-markup countries—Sweden, Canada, India, Belgium, Bangladesh, and Vietnam—such that all of these countries experience positive marginal welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.48: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Optimal Tariffs Among Lowest Markup Countries Ensuring Positive Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Reduction (35.18%)					Optimal Tariffs	Percentage Reduction (43.58%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Sweden	44.8	29.0	0.031	0.027	0.018	-0.014	37.5	21.2	0.043	0.066	-0.023
Canada	32.1	20.8	0.042	0.033	0.015	-0.006	39.8	22.5	0.051	0.065	-0.013
India	33.3	21.6	0.018	0.004	0.014	0.000	29.7	16.8	0.009	0.010	-0.001
Belgium	44.7	29.0	0.059	0.064	0.014	-0.019	38.5	21.7	0.112	0.148	-0.036
Bangladesh	49.2	31.9	0.000	0.009	0.003	-0.012	41.5	23.4	0.000	0.020	-0.020
Vietnam	56.1	36.4	0.006	0.024	-0.018	0.001	32.2	18.2	0.052	0.057	-0.005
Australia	4.9	4.9	0.000	0.000	0.000	0.000	42.5	42.5	0.000	0.000	0.000
Austria	44.6	44.6	0.000	0.000	0.000	0.000	35.6	35.6	0.000	0.000	0.000
Brazil	40.3	40.3	0.000	0.000	0.000	0.000	35.8	35.8	0.000	0.000	0.000
China	56.2	56.2	0.000	0.000	0.000	0.000	37.6	37.6	0.000	0.000	0.000
Denmark	44.5	44.5	-0.001	0.000	-0.001	-0.001	42.1	42.1	-0.001	-0.001	-0.001
France	47.7	47.7	-0.001	0.000	0.000	0.000	41.4	41.4	-0.001	0.000	0.000
Germany	62.1	62.1	0.000	0.000	0.000	0.000	45.7	45.7	0.000	0.000	0.000
Greece	23.6	23.6	0.000	0.000	0.000	0.000	34.7	34.7	0.000	0.000	0.000
Indonesia	43.1	43.1	0.000	0.000	0.000	0.000	44.6	44.6	-0.001	-0.001	-0.001
Italy	63.1	63.1	0.000	0.000	0.000	0.000	43.1	43.1	0.000	0.000	0.000
Japan	72.8	72.8	0.000	0.000	0.000	0.000	40.2	40.2	0.000	0.000	0.000
Korea	61.5	61.5	0.000	0.000	0.000	0.000	34.1	34.1	0.000	0.000	0.000
Mexico	59.6	59.6	0.001	0.000	0.000	0.000	44.4	44.4	0.000	0.000	0.000
Netherlands	35.5	35.5	-0.001	-0.001	0.000	0.000	41.1	41.1	-0.001	-0.001	-0.001
New Zealand	21.9	21.9	0.000	0.000	0.000	0.000	28.1	28.1	0.000	0.000	0.000
Norway	9.7	9.7	0.000	0.000	0.000	0.000	42.8	42.8	0.000	0.000	0.000
Peru	19.2	19.2	0.000	0.000	0.000	0.000	43.1	43.1	0.000	0.000	0.000
Romania	53.5	53.5	0.000	0.000	0.000	0.000	38.3	38.3	0.000	0.000	0.000
Russia	0.0	0.0	0.000	0.000	0.000	0.000	40.6	40.6	0.000	0.000	0.000
Spain	58.9	58.9	0.000	0.000	0.000	0.000	44.0	44.0	0.000	-0.001	0.000
Egypt	22.1	22.1	0.000	0.000	0.000	0.000	28.8	28.8	0.000	0.000	0.000
UK	43.0	43.0	-0.001	0.000	0.000	0.000	37.9	37.9	0.000	0.000	0.000
USA	51.1	51.1	0.000	0.000	0.000	0.000	38.6	38.6	0.000	0.000	0.000
Rest of World	33.3	33.3	-0.002	-0.001	0.000	-0.001	42.1	42.1	-0.002	-0.001	-0.001

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the optimal tariffs of the six lowest-markup countries—Sweden, Canada, India, Belgium, Bangladesh, and Vietnam—such that all of these countries experience positive welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.49: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Optimal Tariffs Among Lowest Markup Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Point Reduction (14.00%p)					Optimal Tariffs	Percentage Point Reduction (12.36%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Sweden	44.8	30.8	0.032	0.025	0.017	-0.010	37.5	25.1	0.033	0.048	-0.015
Canada	32.1	18.1	0.036	0.036	0.014	-0.014	39.8	27.4	0.047	0.050	-0.003
India	33.3	19.3	0.016	0.004	0.014	-0.002	29.7	17.3	0.002	0.005	-0.003
Belgium	44.7	30.7	0.051	0.065	-0.008	-0.005	38.5	26.1	0.103	0.116	-0.012
Bangladesh	49.2	35.2	0.006	0.009	0.004	-0.007	41.5	29.1	0.005	0.014	-0.010
Vietnam	56.1	42.1	0.027	0.023	-0.007	0.011	32.2	19.8	0.038	0.044	-0.006
Australia	4.9	4.9	0.000	0.000	0.000	0.000	42.5	42.5	0.000	0.000	0.000
Austria	44.6	44.6	0.000	0.000	0.000	0.000	35.6	35.6	0.000	0.000	0.000
Brazil	40.3	40.3	0.000	0.000	0.000	0.000	35.8	35.8	0.000	0.000	0.000
China	56.2	56.2	0.000	0.000	0.000	0.000	37.6	37.6	0.000	0.000	0.000
Denmark	44.5	44.5	-0.002	-0.001	-0.001	-0.001	42.1	42.1	-0.002	-0.001	-0.001
France	47.7	47.7	0.000	0.000	0.000	0.000	41.4	41.4	-0.001	0.000	0.000
Germany	62.1	62.1	0.000	0.000	0.000	0.000	45.7	45.7	0.000	0.000	0.000
Greece	23.6	23.6	0.000	0.000	0.000	0.000	34.7	34.7	0.000	0.000	0.000
Indonesia	43.1	43.1	-0.001	0.000	0.000	0.000	44.6	44.6	-0.001	-0.001	0.000
Italy	63.1	63.1	0.000	0.000	0.000	0.000	43.1	43.1	0.000	0.000	0.000
Japan	72.8	72.8	0.000	0.000	0.000	0.000	40.2	40.2	0.000	0.000	0.000
Korea	61.5	61.5	0.000	0.000	0.000	0.000	34.1	34.1	0.000	0.000	0.000
Mexico	59.6	59.6	0.000	0.000	0.000	0.000	44.4	44.4	0.001	0.001	0.000
Netherlands	35.5	35.5	-0.001	-0.001	0.000	0.000	41.1	41.1	-0.001	-0.001	0.000
New Zealand	21.9	21.9	0.000	0.000	0.000	0.000	28.1	28.1	0.000	0.000	0.000
Norway	9.7	9.7	0.000	0.000	0.001	0.000	42.8	42.8	0.000	0.000	0.000
Peru	19.2	19.2	0.000	0.000	0.000	0.000	43.1	43.1	0.000	0.000	0.000
Romania	53.5	53.5	0.000	0.000	0.000	0.000	38.3	38.3	0.000	0.000	0.000
Russia	0.0	0.0	0.000	0.000	0.000	0.000	40.6	40.6	0.000	0.000	0.000
Spain	58.9	58.9	0.000	0.000	0.000	0.000	44.0	44.0	0.000	0.000	0.000
Egypt	22.1	22.1	0.000	0.000	0.000	0.000	28.8	28.8	0.000	0.000	0.000
UK	43.0	43.0	-0.001	0.000	0.000	0.000	37.9	37.9	-0.001	0.000	0.000
USA	51.1	51.1	0.000	0.000	0.000	0.000	38.6	38.6	0.000	0.000	0.000
Rest of World	33.3	33.3	-0.001	-0.001	0.000	-0.001	42.1	42.1	-0.002	-0.001	-0.001

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the optimal tariffs of the six lowest-markup countries—Sweden, Canada, India, Belgium, Bangladesh, and Vietnam—such that all of these countries experience positive marginal welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.50: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Optimal Tariffs Among Lowest Markup Countries Ensuring Positive Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Point Reduction (24.64%p)					Optimal Tariffs	Percentage Point Reduction (22.08%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Sweden	44.8	20.2	0.055	0.051	0.033	-0.028	37.5	15.4	0.059	0.098	-0.039
Canada	32.1	7.5	0.061	0.076	0.028	-0.043	39.8	17.7	0.093	0.105	-0.013
India	33.3	8.7	0.030	0.009	0.031	-0.010	29.7	7.6	0.009	0.018	-0.010
Belgium	44.7	20.1	0.068	0.139	-0.042	-0.029	38.5	16.4	0.204	0.248	-0.044
Bangladesh	49.2	24.6	0.000	0.017	0.004	-0.020	41.5	19.4	0.000	0.028	-0.028
Vietnam	56.1	31.5	0.049	0.048	-0.019	0.020	32.2	10.1	0.066	0.092	-0.026
Australia	4.9	4.9	-0.001	0.000	0.000	0.000	42.5	42.5	-0.001	-0.001	0.000
Austria	44.6	44.6	0.000	0.000	0.000	0.000	35.6	35.6	0.000	0.000	0.000
Brazil	40.3	40.3	0.000	0.000	0.000	0.000	35.8	35.8	0.000	0.000	0.000
China	56.2	56.2	-0.001	0.000	0.000	0.000	37.6	37.6	0.000	0.000	0.000
Denmark	44.5	44.5	-0.004	-0.001	-0.002	-0.002	42.1	42.1	-0.003	-0.001	-0.002
France	47.7	47.7	-0.001	-0.001	0.001	-0.001	41.4	41.4	-0.001	-0.001	-0.001
Germany	62.1	62.1	0.000	0.000	0.000	0.000	45.7	45.7	0.000	0.000	0.000
Greece	23.6	23.6	-0.001	0.000	0.000	0.000	34.7	34.7	-0.001	0.000	0.000
Indonesia	43.1	43.1	-0.003	-0.001	-0.001	-0.001	44.6	44.6	-0.003	-0.002	-0.001
Italy	63.1	63.1	0.000	0.000	0.000	0.000	43.1	43.1	-0.001	0.000	0.000
Japan	72.8	72.8	0.000	0.000	0.000	0.000	40.2	40.2	0.000	0.000	0.000
Korea	61.5	61.5	0.000	0.000	0.000	0.000	34.1	34.1	0.000	0.000	0.000
Mexico	59.6	59.6	0.001	0.000	0.000	0.000	44.4	44.4	0.001	0.001	0.000
Netherlands	35.5	35.5	-0.001	-0.001	0.001	-0.001	41.1	41.1	-0.002	-0.001	-0.001
New Zealand	21.9	21.9	-0.001	0.000	-0.001	0.000	28.1	28.1	0.000	0.000	0.000
Norway	9.7	9.7	0.001	0.000	0.001	0.000	42.8	42.8	0.000	0.000	0.000
Peru	19.2	19.2	0.000	0.000	0.000	0.000	43.1	43.1	0.000	0.000	0.000
Romania	53.5	53.5	-0.001	0.000	0.000	0.000	38.3	38.3	0.000	0.000	0.000
Russia	0.0	0.0	0.001	0.000	0.001	0.000	40.6	40.6	0.000	0.000	0.000
Spain	58.9	58.9	0.000	0.000	0.000	0.000	44.0	44.0	-0.001	-0.001	0.000
Egypt	22.1	22.1	-0.001	0.000	0.000	0.000	28.8	28.8	0.000	0.000	0.000
UK	43.0	43.0	-0.002	-0.001	0.000	-0.001	37.9	37.9	-0.001	-0.001	0.000
USA	51.1	51.1	0.000	0.000	0.000	0.000	38.6	38.6	0.000	0.000	0.000
Rest of World	33.3	33.3	-0.003	-0.001	-0.001	-0.001	42.1	42.1	-0.003	-0.002	-0.001

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the optimal tariffs of the six lowest-markup countries—Sweden, Canada, India, Belgium, Bangladesh, and Vietnam—such that all of these countries experience positive welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

A.7.2 Nash Tariffs

Table A.51: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Nash Tariffs Among Lowest Markup Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Nash Tariffs	Percentage Reduction (27.00%)					Nash Tariffs	Percentage Reduction (0.00%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Sweden	55.1	40.2	0.030	0.021	0.015	-0.006	42.6	42.6	0.000	0.000	0.000
Canada	38.6	28.2	0.036	0.025	0.012	-0.002	44.4	44.4	0.000	0.000	0.000
India	43.8	32.0	0.014	0.002	0.011	0.001	32.6	32.6	0.000	0.000	0.000
Belgium	50.0	36.5	0.055	0.048	0.011	-0.004	42.5	42.5	0.000	0.000	0.000
Bangladesh	48.7	35.6	0.005	0.007	0.004	-0.007	41.4	41.4	0.000	0.000	0.000
Vietnam	58.6	42.8	0.014	0.018	-0.008	0.004	35.2	35.2	0.000	0.000	0.000
Australia	5.7	5.7	0.000	0.000	0.000	0.000	43.1	43.1	0.000	0.000	0.000
Austria	51.8	51.8	-0.001	0.000	-0.001	0.001	40.2	40.2	0.000	0.000	0.000
Brazil	57.4	57.4	0.000	0.000	0.000	0.000	41.2	41.2	0.000	0.000	0.000
China	60.5	60.5	0.000	0.000	0.000	0.000	42.1	42.1	0.000	0.000	0.000
Denmark	49.2	49.2	-0.001	0.000	-0.001	0.000	46.2	46.2	0.000	0.000	0.000
France	54.2	54.2	0.000	0.000	0.000	0.000	45.3	45.3	0.000	0.000	0.000
Germany	68.5	68.5	0.000	0.000	0.000	0.000	50.5	50.5	0.000	0.000	0.000
Greece	32.6	32.6	0.001	0.000	0.001	0.000	39.0	39.0	0.000	0.000	0.000
Indonesia	48.1	48.1	-0.001	0.000	0.000	0.000	50.5	50.5	0.000	0.000	0.000
Italy	71.8	71.8	0.000	0.000	0.000	0.000	47.7	47.7	0.000	0.000	0.000
Japan	85.6	85.6	0.000	0.000	0.000	0.000	45.6	45.6	0.000	0.000	0.000
Korea	68.5	68.5	0.000	0.000	0.000	0.000	36.9	36.9	0.000	0.000	0.000
Mexico	62.5	62.5	-0.001	0.000	-0.001	0.000	49.0	49.0	0.000	0.000	0.000
Netherlands	41.2	41.2	-0.001	-0.001	0.000	0.000	44.7	44.7	0.000	0.000	0.000
New Zealand	30.6	30.6	0.000	0.000	0.000	0.000	32.8	32.8	0.000	0.000	0.000
Norway	12.1	12.1	0.000	0.000	0.000	0.000	46.1	46.1	0.000	0.000	0.000
Peru	21.4	21.4	0.000	0.000	0.000	0.000	47.7	47.7	0.000	0.000	0.000
Romania	58.6	58.6	0.000	0.000	0.000	0.000	45.4	45.4	0.000	0.000	0.000
Russia	0.0	0.0	0.000	0.000	0.000	0.000	43.5	43.5	0.000	0.000	0.000
Spain	68.4	68.4	0.000	0.000	0.000	0.000	48.9	48.9	0.000	0.000	0.000
Egypt	31.3	31.3	0.000	0.000	0.000	0.000	31.7	31.7	0.000	0.000	0.000
UK	49.5	49.5	-0.001	-0.001	0.000	0.000	41.8	41.8	0.000	0.000	0.000
USA	59.1	59.1	0.000	0.000	0.000	0.000	42.6	42.6	0.000	0.000	0.000
Rest of World	37.3	37.3	-0.001	0.000	0.000	0.000	44.8	44.8	0.000	0.000	0.000

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the Nash tariffs of the six lowest-markup countries—Sweden, Canada, India, Belgium, Bangladesh, and Vietnam—such that all of these countries experience positive marginal welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.52: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Nash Tariffs Among Lowest Markup Countries Ensuring Positive Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Nash Tariffs	Percentage Reduction (48.36%)					Nash Tariffs	Percentage Reduction (48.00%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Sweden	55.1	28.5	0.050	0.042	0.029	-0.021	42.6	22.2	0.052	0.078	-0.026
Canada	38.6	19.9	0.072	0.053	0.024	-0.006	44.4	23.1	0.061	0.075	-0.013
India	43.8	22.6	0.028	0.006	0.022	0.000	32.6	17.0	0.011	0.012	-0.001
Belgium	50.0	25.8	0.090	0.100	0.013	-0.023	42.5	22.1	0.135	0.172	-0.037
Bangladesh	48.7	25.1	0.000	0.014	0.005	-0.019	41.4	21.5	0.000	0.023	-0.023
Vietnam	58.6	30.3	0.014	0.037	-0.025	0.001	35.2	18.3	0.062	0.066	-0.004
Australia	5.7	5.7	0.000	0.000	0.000	0.000	43.1	43.1	0.000	0.000	0.000
Austria	51.8	51.8	0.000	0.000	0.000	0.000	40.2	40.2	0.000	0.000	0.000
Brazil	57.4	57.4	0.000	0.000	0.000	0.000	41.2	41.2	0.000	0.000	0.000
China	60.5	60.5	0.000	0.000	0.000	0.000	42.1	42.1	0.000	0.000	0.000
Denmark	49.2	49.2	-0.002	0.000	-0.001	-0.001	46.2	46.2	-0.001	-0.001	-0.001
France	54.2	54.2	-0.001	0.000	0.000	0.000	45.3	45.3	-0.001	0.000	0.000
Germany	68.5	68.5	0.000	0.000	0.000	0.000	50.5	50.5	0.000	0.000	0.000
Greece	32.6	32.6	0.001	0.000	0.001	0.000	39.0	39.0	0.000	0.000	0.000
Indonesia	48.1	48.1	-0.002	-0.001	0.000	-0.001	50.5	50.5	-0.002	-0.001	-0.001
Italy	71.8	71.8	0.000	0.000	0.000	0.000	47.7	47.7	0.000	0.000	0.000
Japan	85.6	85.6	0.000	0.000	0.000	0.000	45.6	45.6	0.000	0.000	0.000
Korea	68.5	68.5	0.000	0.000	0.000	0.000	36.9	36.9	0.000	0.000	0.000
Mexico	62.5	62.5	0.000	0.001	-0.001	0.000	49.0	49.0	0.000	0.001	-0.001
Netherlands	41.2	41.2	-0.001	-0.001	0.000	-0.001	44.7	44.7	-0.002	-0.002	-0.001
New Zealand	30.6	30.6	0.000	0.000	0.000	0.000	32.8	32.8	-0.001	-0.001	0.000
Norway	12.1	12.1	0.000	0.000	0.000	0.000	46.1	46.1	0.000	0.000	0.000
Peru	21.4	21.4	0.000	0.000	0.000	0.000	47.7	47.7	0.000	0.000	0.000
Romania	58.6	58.6	0.000	0.000	0.000	0.000	45.4	45.4	0.000	0.000	0.000
Russia	0.0	0.0	0.001	0.000	0.001	0.000	43.5	43.5	0.000	0.000	0.000
Spain	68.4	68.4	0.000	0.000	0.000	0.000	48.9	48.9	0.000	-0.001	0.000
Egypt	31.3	31.3	0.000	0.000	0.000	0.000	31.7	31.7	0.000	0.000	0.000
UK	49.5	49.5	-0.001	0.000	0.000	0.000	41.8	41.8	0.000	0.000	0.000
USA	59.1	59.1	0.000	0.000	0.000	0.000	42.6	42.6	0.000	0.000	0.000
Rest of World	37.3	37.3	-0.002	-0.001	-0.001	-0.001	44.8	44.8	-0.002	-0.001	-0.001

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the Nash tariffs of the six lowest-markup countries—Sweden, Canada, India, Belgium, Bangladesh, and Vietnam—such that all of these countries experience positive welfare gains. All other countries retain their optimal tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.53: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Nash Tariffs Among Lowest Markup Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Nash Tariffs	Percentage Point Reduction (14.96%p)					Nash Tariffs	Percentage Point Reduction (12.00%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Sweden	55.1	40.1	0.037	0.023	0.017	-0.003	42.6	30.6	0.033	0.042	-0.010
Canada	38.6	23.6	0.038	0.032	0.015	-0.009	44.4	32.4	0.045	0.044	0.001
India	43.8	28.8	0.016	0.003	0.013	0.000	32.6	20.6	0.003	0.004	-0.002
Belgium	50.0	35.0	0.059	0.057	0.004	-0.002	42.5	30.5	0.096	0.101	-0.005
Bangladesh	48.7	33.7	0.007	0.009	0.005	-0.008	41.4	29.4	0.004	0.013	-0.009
Vietnam	58.6	43.6	0.028	0.022	-0.005	0.011	35.2	23.2	0.035	0.039	-0.004
Australia	5.7	5.7	0.000	0.000	0.000	0.000	43.1	43.1	0.000	0.000	0.000
Austria	51.8	51.8	-0.001	0.000	-0.001	0.000	40.2	40.2	0.000	0.000	0.000
Brazil	57.4	57.4	0.000	0.000	0.000	0.000	41.2	41.2	0.000	0.000	0.000
China	60.5	60.5	0.000	0.000	0.000	0.000	42.1	42.1	0.000	0.000	0.000
Denmark	49.2	49.2	-0.002	0.000	-0.001	-0.001	46.2	46.2	-0.001	0.000	-0.001
France	54.2	54.2	0.000	0.000	0.000	0.000	45.3	45.3	0.000	0.000	0.000
Germany	68.5	68.5	0.000	0.000	0.000	0.000	50.5	50.5	0.000	0.000	0.000
Greece	32.6	32.6	0.001	0.000	0.001	0.000	39.0	39.0	0.000	0.000	0.000
Indonesia	48.1	48.1	-0.001	0.000	-0.001	0.000	50.5	50.5	-0.001	-0.001	0.000
Italy	71.8	71.8	0.000	0.000	0.000	0.000	47.7	47.7	0.000	0.000	0.000
Japan	85.6	85.6	0.000	0.000	0.000	0.000	45.6	45.6	0.000	0.000	0.000
Korea	68.5	68.5	0.000	0.000	0.000	0.000	36.9	36.9	0.000	0.000	0.000
Mexico	62.5	62.5	-0.001	0.000	-0.001	0.000	49.0	49.0	0.000	0.001	-0.001
Netherlands	41.2	41.2	-0.001	-0.001	0.000	0.000	44.7	44.7	-0.001	-0.001	0.000
New Zealand	30.6	30.6	0.000	0.000	0.000	0.000	32.8	32.8	0.000	0.000	0.000
Norway	12.1	12.1	0.000	0.000	0.000	0.000	46.1	46.1	0.000	0.000	0.000
Peru	21.4	21.4	0.000	0.000	0.000	0.000	47.7	47.7	0.000	0.000	0.000
Romania	58.6	58.6	0.000	0.000	0.000	0.000	45.4	45.4	0.000	0.000	0.000
Russia	0.0	0.0	0.000	0.000	0.000	0.000	43.5	43.5	0.000	0.000	0.000
Spain	68.4	68.4	0.000	0.000	0.000	0.000	48.9	48.9	0.000	0.000	0.000
Egypt	31.3	31.3	0.000	0.000	0.000	0.000	31.7	31.7	0.000	0.000	0.000
UK	49.5	49.5	-0.001	-0.001	0.000	0.000	41.8	41.8	-0.001	0.000	0.000
USA	59.1	59.1	0.000	0.000	0.000	0.000	42.6	42.6	0.000	0.000	0.000
Rest of World	37.3	37.3	-0.001	0.000	0.000	0.000	44.8	44.8	-0.001	-0.001	-0.001

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the Nash tariffs of the six lowest-markup countries—Sweden, Canada, India, Belgium, Bangladesh, and Vietnam—such that all of these countries experience positive marginal welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.54: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Nash Tariffs Among Lowest Markup Countries Ensuring Positive Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Nash Tariffs	Percentage Point Reduction (25.79%p)					Nash Tariffs	Percentage Point Reduction (21.03%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Sweden	55.1	29.3	0.066	0.045	0.033	-0.012	42.6	21.6	0.058	0.083	-0.025
Canada	38.6	12.8	0.065	0.066	0.027	-0.028	44.4	23.4	0.086	0.089	-0.003
India	43.8	18.0	0.031	0.007	0.028	-0.003	32.6	11.6	0.009	0.016	-0.006
Belgium	50.0	24.2	0.088	0.118	-0.010	-0.020	42.5	21.5	0.186	0.208	-0.022
Bangladesh	48.7	22.9	0.000	0.016	0.006	-0.022	41.4	20.4	0.000	0.025	-0.025
Vietnam	58.6	32.8	0.048	0.044	-0.014	0.018	35.2	14.2	0.062	0.078	-0.016
Australia	5.7	5.7	-0.001	0.000	0.000	0.000	43.1	43.1	-0.001	0.000	0.000
Austria	51.8	51.8	-0.001	0.000	-0.001	0.000	40.2	40.2	0.000	0.000	0.000
Brazil	57.4	57.4	0.000	0.000	0.000	0.000	41.2	41.2	0.000	0.000	0.000
China	60.5	60.5	0.000	0.000	0.000	0.000	42.1	42.1	0.000	0.000	0.000
Denmark	49.2	49.2	-0.003	0.000	-0.002	-0.001	46.2	46.2	-0.002	-0.001	-0.001
France	54.2	54.2	-0.001	0.000	0.000	0.000	45.3	45.3	-0.001	0.000	0.000
Germany	68.5	68.5	0.000	0.000	0.000	0.000	50.5	50.5	0.000	0.000	0.000
Greece	32.6	32.6	0.000	0.000	0.000	0.000	39.0	39.0	0.000	0.000	0.000
Indonesia	48.1	48.1	-0.003	-0.001	-0.001	-0.001	50.5	50.5	-0.003	-0.002	-0.001
Italy	71.8	71.8	0.000	0.000	0.000	0.000	47.7	47.7	0.000	0.000	0.000
Japan	85.6	85.6	0.000	0.000	0.000	0.000	45.6	45.6	0.000	0.000	0.000
Korea	68.5	68.5	0.000	0.000	0.000	0.000	36.9	36.9	0.000	0.000	0.000
Mexico	62.5	62.5	-0.001	0.000	-0.001	0.000	49.0	49.0	0.001	0.001	-0.001
Netherlands	41.2	41.2	-0.001	-0.001	0.000	-0.001	44.7	44.7	-0.002	-0.002	0.000
New Zealand	30.6	30.6	-0.001	0.000	0.000	0.000	32.8	32.8	-0.001	-0.001	0.000
Norway	12.1	12.1	0.000	0.000	0.000	0.000	46.1	46.1	0.000	0.000	0.000
Peru	21.4	21.4	0.000	0.000	0.000	0.000	47.7	47.7	0.000	0.000	0.000
Romania	58.6	58.6	0.000	0.000	0.000	0.000	45.4	45.4	0.000	0.000	0.000
Russia	0.0	0.0	0.001	0.000	0.001	0.000	43.5	43.5	0.000	0.000	0.000
Spain	68.4	68.4	0.000	0.000	0.000	0.000	48.9	48.9	0.000	-0.001	0.000
Egypt	31.3	31.3	0.000	0.000	0.000	0.000	31.7	31.7	0.000	0.000	0.000
UK	49.5	49.5	-0.001	-0.001	0.000	0.000	41.8	41.8	-0.001	-0.001	0.000
USA	59.1	59.1	0.000	0.000	0.000	0.000	42.6	42.6	0.000	0.000	0.000
Rest of World	37.3	37.3	-0.003	-0.001	-0.001	-0.001	44.8	44.8	-0.003	-0.002	-0.001

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the Nash tariffs of the six lowest-markup countries—Sweden, Canada, India, Belgium, Bangladesh, and Vietnam—such that all of these countries experience positive welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

A.8 Homogeneous Model with Highest Markup Countries

A.8.1 Optimal Tariffs

Table A.55: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Optimal Tariffs Among Highest Markup Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Reduction (38.74%)					Optimal Tariffs	Percentage Reduction (71.24%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
USA	51.1	31.3	0.007	0.013	-0.001	-0.006	38.6	11.1	0.035	0.055	-0.021
UK	43.0	26.3	0.209	0.119	0.125	-0.035	37.9	10.9	0.259	0.425	-0.166
Italy	63.1	38.7	0.039	0.052	0.004	-0.017	43.1	12.4	0.142	0.228	-0.086
Greece	23.6	14.5	0.087	0.056	0.054	-0.023	34.7	10.0	0.176	0.235	-0.059
Russia	0.0	0.0	0.129	0.051	0.078	0.000	40.6	11.7	0.076	0.191	-0.115
Austria	44.6	27.3	0.170	0.108	0.081	-0.019	35.6	10.2	0.364	0.476	-0.112
Australia	4.9	4.9	0.005	0.001	0.004	0.000	42.5	42.5	-0.005	-0.004	-0.001
Bangladesh	49.2	49.2	-0.001	0.000	0.000	0.000	41.5	41.5	0.000	0.000	0.000
Belgium	44.7	44.7	-0.008	-0.001	-0.004	-0.003	38.5	38.5	-0.011	-0.007	-0.004
Brazil	40.3	40.3	0.002	0.000	0.001	0.000	35.8	35.8	-0.002	-0.001	-0.001
Canada	32.1	32.1	-0.003	0.000	-0.002	-0.001	39.8	39.8	-0.010	-0.006	-0.004
China	56.2	56.2	0.000	0.000	0.001	0.000	37.6	37.6	-0.001	0.000	0.000
Denmark	44.5	44.5	-0.002	-0.001	0.001	-0.002	42.1	42.1	-0.007	-0.004	-0.003
France	47.7	47.7	0.001	0.000	0.002	-0.001	41.4	41.4	-0.007	-0.004	-0.003
Germany	62.1	62.1	0.000	0.000	0.001	-0.001	45.7	45.7	-0.006	-0.004	-0.003
India	33.3	33.3	0.000	0.000	0.000	0.000	29.7	29.7	-0.001	-0.001	0.000
Indonesia	43.1	43.1	0.001	0.000	0.001	0.000	44.6	44.6	-0.002	-0.001	0.000
Japan	72.8	72.8	0.000	0.000	0.000	0.000	40.2	40.2	-0.001	-0.001	0.000
Korea	61.5	61.5	0.001	0.000	0.001	0.000	34.1	34.1	0.000	0.000	0.000
Mexico	59.6	59.6	-0.004	-0.001	-0.001	-0.002	44.4	44.4	-0.003	-0.002	-0.001
Netherlands	35.5	35.5	-0.002	-0.002	0.002	-0.002	41.1	41.1	-0.006	-0.003	-0.002
New Zealand	21.9	21.9	0.001	0.000	0.001	0.000	28.1	28.1	-0.001	-0.001	0.000
Norway	9.7	9.7	0.004	0.000	0.005	0.000	42.8	42.8	-0.003	-0.001	-0.002
Peru	19.2	19.2	0.000	0.000	0.000	0.000	43.1	43.1	0.000	0.000	0.000
Romania	53.5	53.5	0.000	-0.001	0.002	-0.001	38.3	38.3	-0.003	-0.002	-0.001
Vietnam	56.1	56.1	0.000	0.000	0.001	-0.001	32.2	32.2	0.000	0.000	0.000
Spain	58.9	58.9	0.000	0.000	0.001	0.000	44	44.0	-0.002	-0.001	-0.001
Sweden	44.8	44.8	0.000	-0.001	0.002	-0.001	37.5	37.5	-0.002	-0.001	-0.001
Egypt	22.1	22.1	-0.001	0.000	0.000	0.000	28.8	28.8	-0.001	-0.001	0.000
ROW	33.3	33.3	0.003	0.000	0.004	-0.001	42.1	42.1	-0.008	-0.005	-0.003

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the optimal tariffs of the six highest-markup countries—USA, UK, Italy, Greece, Russia, and Austria—such that all of these countries experience positive marginal welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.56: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Optimal Tariffs Among Highest Markup Countries Ensuring Positive Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Reduction (66.47%)					Optimal Tariffs	Percentage Reduction (100.00%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
USA	51.1	17.1	0.001	0.027	-0.005	-0.021	38.6	0.0	0.045	0.095	-0.050
UK	43.0	14.4	0.401	0.249	0.269	-0.118	37.9	0.0	0.325	0.735	-0.410
Italy	63.1	21.2	0.000	0.104	-0.010	-0.094	43.1	0.0	0.131	0.381	-0.250
Greece	23.6	7.9	0.200	0.122	0.124	-0.045	34.7	0.0	0.277	0.415	-0.139
Russia	0.0	0.0	0.285	0.115	0.171	0.000	40.6	0.0	0.053	0.323	-0.270
Austria	44.6	15.0	0.321	0.232	0.169	-0.080	35.6	0.0	0.555	0.847	-0.292
Australia	4.9	4.9	0.011	0.002	0.008	0.000	42.5	42.5	-0.005	-0.003	-0.002
Bangladesh	49.2	49.2	-0.001	0.000	0.000	0.000	41.5	41.5	0.001	0.000	0.000
Belgium	44.7	44.7	-0.018	-0.002	-0.008	-0.007	38.5	38.5	-0.021	-0.013	-0.008
Brazil	40.3	40.3	0.005	0.001	0.002	0.001	35.8	35.8	-0.003	-0.002	-0.001
Canada	32.1	32.1	-0.009	-0.001	-0.006	-0.002	39.8	39.8	-0.017	-0.011	-0.006
China	56.2	56.2	0.001	0.000	0.002	0.000	37.6	37.6	-0.002	-0.001	0.000
Denmark	44.5	44.5	-0.002	-0.002	0.003	-0.003	42.1	42.1	-0.011	-0.006	-0.005
France	47.7	47.7	0.003	0.000	0.004	-0.001	41.4	41.4	-0.013	-0.008	-0.005
Germany	62.1	62.1	0.000	-0.001	0.003	-0.002	45.7	45.7	-0.011	-0.006	-0.005
India	33.3	33.3	0.000	0.000	0.000	0.000	29.7	29.7	-0.001	0.000	0.000
Indonesia	43.1	43.1	0.002	0.000	0.002	0.000	44.6	44.6	-0.002	-0.001	-0.001
Japan	72.8	72.8	0.000	0.000	0.001	0.000	40.2	40.2	-0.001	-0.001	0.000
Korea	61.5	61.5	0.001	0.000	0.002	0.000	34.1	34.1	-0.001	0.000	0.000
Mexico	59.6	59.6	-0.009	-0.002	-0.003	-0.004	44.4	44.4	-0.005	-0.003	-0.002
Netherlands	35.5	35.5	-0.003	-0.004	0.005	-0.004	41.1	41.1	-0.012	-0.007	-0.005
New Zealand	21.9	21.9	0.003	0.000	0.002	0.000	28.1	28.1	-0.002	-0.002	-0.001
Norway	9.7	9.7	0.012	0.000	0.011	0.000	42.8	42.8	-0.005	-0.002	-0.003
Peru	19.2	19.2	0.001	0.000	0.001	0.000	43.1	43.1	-0.001	0.000	0.000
Romania	53.5	53.5	0.001	-0.001	0.004	-0.003	38.3	38.3	-0.006	-0.003	-0.003
Vietnam	56.1	56.1	-0.001	-0.001	0.001	-0.001	32.2	32.2	-0.001	-0.001	0.000
Spain	58.9	58.9	0.001	0.000	0.002	-0.001	44.0	44.0	-0.004	-0.003	-0.002
Sweden	44.8	44.8	0.002	-0.001	0.004	-0.002	37.5	37.5	-0.004	-0.002	-0.002
Egypt	22.1	22.1	-0.001	-0.001	0.000	-0.001	28.8	28.8	-0.002	-0.001	-0.001
ROW	33.3	33.3	0.006	-0.001	0.008	-0.001	42.1	42.1	-0.013	-0.007	-0.006

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the optimal tariffs of the six highest-markup countries—USA, UK, Italy, Greece, Russia, and Austria—such that all of these countries experience positive welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.57: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Optimal Tariffs Among Highest Markup Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Point Reduction (0.00%p)					Optimal Tariffs	Percentage Point Reduction (30.57%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
USA	51.1	51.1	0.000	0.000	0.000	0.000	38.6	8.0	0.036	0.063	-0.027
UK	43.0	43.0	0.000	0.000	0.000	0.000	37.9	7.3	0.254	0.490	-0.236
Italy	63.1	63.1	0.000	0.000	0.000	0.000	43.1	12.5	0.191	0.259	-0.067
Greece	23.6	23.6	0.000	0.000	0.000	0.000	34.7	4.1	0.155	0.274	-0.119
Russia	0.0	0.0	0.000	0.000	0.000	0.000	40.6	10.0	0.082	0.210	-0.129
Austria	44.6	44.6	0.000	0.000	0.000	0.000	35.6	5.0	0.322	0.546	-0.224
Australia	4.9	4.9	0.000	0.000	0.000	0.000	42.5	42.5	-0.004	-0.002	-0.001
Bangladesh	49.2	49.2	0.000	0.000	0.000	0.000	41.5	41.5	0.000	0.000	0.000
Belgium	44.7	44.7	0.000	0.000	0.000	0.000	38.5	38.5	-0.012	-0.008	-0.004
Brazil	40.3	40.3	0.000	0.000	0.000	0.000	35.8	35.8	-0.002	-0.001	-0.001
Canada	32.1	32.1	0.000	0.000	0.000	0.000	39.8	39.8	-0.012	-0.008	-0.004
China	56.2	56.2	0.000	0.000	0.000	0.000	37.6	37.6	-0.001	-0.001	0.000
Denmark	44.5	44.5	0.000	0.000	0.000	0.000	42.1	42.1	-0.008	-0.005	-0.004
France	47.7	47.7	0.000	0.000	0.000	0.000	41.4	41.4	-0.009	-0.005	-0.003
Germany	62.1	62.1	0.000	0.000	0.000	0.000	45.7	45.7	-0.008	-0.005	-0.003
India	33.3	33.3	0.000	0.000	0.000	0.000	29.7	29.7	-0.002	-0.002	0.000
Indonesia	43.1	43.1	0.000	0.000	0.000	0.000	44.6	44.6	-0.001	-0.001	0.000
Japan	72.8	72.8	0.000	0.000	0.000	0.000	40.2	40.2	-0.001	-0.001	0.000
Korea	61.5	61.5	0.000	0.000	0.000	0.000	34.1	34.1	-0.001	0.000	0.000
Mexico	59.6	59.6	0.000	0.000	0.000	0.000	44.4	44.4	-0.005	-0.003	-0.002
Netherlands	35.5	35.5	0.000	0.000	0.000	0.000	41.1	41.1	-0.006	-0.003	-0.002
New Zealand	21.9	21.9	0.000	0.000	0.000	0.000	28.1	28.1	-0.002	-0.001	0.000
Norway	9.7	9.7	0.000	0.000	0.000	0.000	42.8	42.8	-0.005	-0.003	-0.003
Peru	19.2	19.2	0.000	0.000	0.000	0.000	43.1	43.1	0.000	0.000	0.000
Romania	53.5	53.5	0.000	0.000	0.000	0.000	38.3	38.3	-0.003	-0.001	-0.001
Vietnam	56.1	56.1	0.000	0.000	0.000	0.000	32.2	32.2	0.000	0.000	0.000
Spain	58.9	58.9	0.000	0.000	0.000	0.000	44.0	44.0	-0.002	-0.001	-0.001
Sweden	44.8	44.8	0.000	0.000	0.000	0.000	37.5	37.5	-0.002	-0.001	-0.001
Egypt	22.1	22.1	0.000	0.000	0.000	0.000	28.8	28.8	0.000	0.000	0.000
ROW	33.3	33.3	0.000	0.000	0.000	0.000	42.1	42.1	-0.008	-0.004	-0.003

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the optimal tariffs of the six highest-markup countries—USA, UK, Italy, Greece, Russia, and Austria—such that all of these countries experience positive marginal welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.58: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Optimal Tariffs Among Highest Markup Countries Ensuring Positive Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Point Reduction (37.39%p)					Optimal Tariffs	Percentage Point Reduction (43.10%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
USA	51.1	13.7	0.000	0.033	-0.008	-0.025	38.6	0.0	0.045	0.095	-0.050
UK	43.0	5.6	0.317	0.299	0.330	-0.312	37.9	0.0	0.325	0.735	-0.410
Italy	63.1	25.7	0.123	0.120	0.025	-0.022	43.1	0.0	0.131	0.381	-0.250
Greece	23.6	0.0	0.149	0.147	0.143	-0.141	34.7	0.0	0.277	0.415	-0.139
Russia	0.0	0.0	0.310	0.125	0.185	0.000	40.6	0.0	0.053	0.323	-0.270
Austria	44.6	7.2	0.160	0.266	0.130	-0.235	35.6	0.0	0.555	0.847	-0.292
Australia	4.9	4.9	0.012	0.002	0.009	0.000	42.5	42.5	-0.005	-0.003	-0.002
Bangladesh	49.2	49.2	-0.002	0.000	-0.001	-0.001	41.5	41.5	0.001	0.000	0.000
Belgium	44.7	44.7	-0.014	-0.003	-0.004	-0.007	38.5	38.5	-0.021	-0.013	-0.008
Brazil	40.3	40.3	0.004	0.001	0.002	0.001	35.8	35.8	-0.003	-0.002	-0.001
Canada	32.1	32.1	-0.008	-0.003	-0.002	-0.003	39.8	39.8	-0.017	-0.011	-0.006
China	56.2	56.2	0.001	0.000	0.002	-0.001	37.6	37.6	-0.002	-0.001	0.000
Denmark	44.5	44.5	-0.001	-0.002	0.004	-0.003	42.1	42.1	-0.011	-0.006	-0.005
France	47.7	47.7	0.000	-0.001	0.003	-0.002	41.4	41.4	-0.013	-0.008	-0.005
Germany	62.1	62.1	-0.002	-0.002	0.003	-0.003	45.7	45.7	-0.011	-0.006	-0.005
India	33.3	33.3	0.000	0.000	0.000	0.000	29.7	29.7	-0.001	0.000	0.000
Indonesia	43.1	43.1	0.002	0.000	0.003	0.000	44.6	44.6	-0.002	-0.001	-0.001
Japan	72.8	72.8	0.000	-0.001	0.001	0.000	40.2	40.2	-0.001	-0.001	0.000
Korea	61.5	61.5	0.001	0.000	0.002	0.000	34.1	34.1	-0.001	0.000	0.000
Mexico	59.6	59.6	-0.009	-0.003	-0.002	-0.004	44.4	44.4	-0.005	-0.003	-0.002
Netherlands	35.5	35.5	-0.005	-0.005	0.004	-0.005	41.1	41.1	-0.012	-0.007	-0.005
New Zealand	21.9	21.9	0.002	0.000	0.003	0.000	28.1	28.1	-0.002	-0.002	-0.001
Norway	9.7	9.7	-0.003	-0.004	0.003	-0.001	42.8	42.8	-0.005	-0.002	-0.003
Peru	19.2	19.2	0.001	0.000	0.001	0.000	43.1	43.1	-0.001	0.000	0.000
Romania	53.5	53.5	0.002	-0.001	0.005	-0.002	38.3	38.3	-0.006	-0.003	-0.003
Vietnam	56.1	56.1	-0.001	-0.001	0.001	-0.001	32.2	32.2	-0.001	-0.001	0.000
Spain	58.9	58.9	0.001	0.000	0.002	-0.001	44.0	44.0	-0.004	-0.003	-0.002
Sweden	44.8	44.8	0.001	-0.001	0.003	-0.001	37.5	37.5	-0.004	-0.002	-0.002
Egypt	22.1	22.1	0.001	0.000	0.002	0.000	28.8	28.8	-0.002	-0.001	-0.001
ROW	33.3	33.3	0.011	-0.001	0.013	0.000	42.1	42.1	-0.013	-0.007	-0.006

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the optimal tariffs of the six highest-markup countries—USA, UK, Italy, Greece, Russia, and Austria—such that all of these countries experience positive welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

A.8.2 Nash Tariffs

Table A.59: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Nash Tariffs Among Highest Markup Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Nash Tariffs	Percentage Reduction (42.15%)					Nash Tariffs	Percentage Reduction (76.08%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
USA	59.1	34.2	0.009	0.015	-0.001	-0.005	42.6	10.2	0.041	0.063	-0.023
UK	49.5	28.6	0.247	0.134	0.139	-0.026	41.8	10.0	0.305	0.488	-0.183
Italy	71.8	41.5	0.051	0.059	0.005	-0.013	47.7	11.4	0.161	0.259	-0.098
Greece	32.6	18.9	0.102	0.065	0.060	-0.023	39.0	9.3	0.208	0.272	-0.063
Russia	0.0	0.0	0.153	0.061	0.093	0.000	43.5	10.4	0.091	0.218	-0.127
Austria	51.8	30.0	0.204	0.122	0.093	-0.010	40.2	9.6	0.425	0.548	-0.123
Australia	5.7	5.7	0.006	0.001	0.005	0.000	43.1	43.1	-0.004	-0.003	-0.001
Bangladesh	48.7	48.7	-0.001	0.000	0.000	0.000	41.4	41.4	0.000	0.000	0.000
Belgium	50.0	50.0	-0.009	-0.001	-0.004	-0.004	42.5	42.5	-0.013	-0.008	-0.005
Brazil	57.4	57.4	0.002	-0.001	0.001	0.001	41.2	41.2	-0.002	-0.001	-0.001
Canada	38.6	38.6	-0.005	-0.001	-0.003	-0.002	44.4	44.4	-0.011	-0.007	-0.004
China	60.5	60.5	0.001	0.000	0.001	0.000	42.1	42.1	-0.001	0.000	0.000
Denmark	49.2	49.2	-0.002	-0.001	0.001	-0.002	46.2	46.2	-0.007	-0.004	-0.003
France	54.2	54.2	0.002	0.000	0.002	0.000	45.3	45.3	-0.008	-0.005	-0.003
Germany	68.5	68.5	0.000	0.000	0.002	-0.001	50.5	50.5	-0.007	-0.004	-0.003
India	43.8	43.8	0.000	0.000	0.001	0.000	32.6	32.6	-0.001	-0.001	0.000
Indonesia	48.1	48.1	-0.002	-0.002	0.000	0.000	50.5	50.5	-0.002	-0.001	0.000
Japan	85.6	85.6	0.000	0.000	0.000	0.000	45.6	45.6	-0.001	-0.001	0.000
Korea	68.5	68.5	0.000	0.000	0.001	0.000	36.9	36.9	-0.001	-0.001	0.000
Mexico	62.5	62.5	-0.006	-0.001	-0.002	-0.002	49.0	49.0	-0.005	-0.003	-0.002
Netherlands	41.2	41.2	-0.001	-0.002	0.003	-0.002	44.7	44.7	-0.007	-0.004	-0.003
New Zealand	30.6	30.6	0.002	0.000	0.001	0.000	32.8	32.8	-0.001	-0.001	0.000
Norway	12.1	12.1	0.005	0.000	0.005	0.000	46.1	46.1	-0.002	-0.001	-0.002
Peru	21.4	21.4	0.001	0.000	0.000	0.000	47.7	47.7	0.000	0.000	0.000
Romania	58.6	58.6	0.001	-0.001	0.002	-0.001	45.4	45.4	-0.004	-0.002	-0.002
Vietnam	58.6	58.6	0.000	0.000	0.001	-0.001	35.2	35.2	-0.001	-0.001	0.000
Spain	68.4	68.4	0.001	0.000	0.001	0.000	48.9	48.9	-0.002	-0.001	-0.001
Sweden	55.1	55.1	0.001	-0.001	0.002	-0.001	42.6	42.6	-0.002	-0.001	-0.001
Egypt	31.3	31.3	0.000	0.000	0.001	0.000	31.7	31.7	-0.001	-0.001	0.000
ROW	37.3	37.3	0.004	0.000	0.005	-0.001	44.8	44.8	-0.008	-0.004	-0.004

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the Nash tariffs of the six highest-markup countries—USA, UK, Italy, Greece, Russia, and Austria—such that all of these countries experience positive marginal welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.60: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Nash Tariffs Among Highest Markup Countries Ensuring Positive Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Nash Tariffs	Percentage Reduction (71.10%)					Nash Tariffs	Percentage Reduction (100.00%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
USA	59.1	17.1	0.003	0.031	-0.005	-0.023	42.6	0.0	0.050	0.100	-0.050
UK	49.5	14.3	0.478	0.288	0.308	-0.118	41.8	0.0	0.364	0.778	-0.414
Italy	71.8	20.8	0.000	0.118	-0.013	-0.104	47.7	0.0	0.143	0.400	-0.257
Greece	32.6	9.4	0.234	0.144	0.142	-0.051	39.0	0.0	0.301	0.441	-0.140
Russia	0.0	0.0	0.348	0.141	0.207	0.000	43.5	0.0	0.073	0.341	-0.268
Austria	51.8	15.0	0.384	0.268	0.194	-0.078	40.2	0.0	0.595	0.896	-0.301
Australia	5.7	5.7	0.013	0.002	0.010	0.001	43.1	43.1	-0.006	-0.004	-0.002
Bangladesh	48.7	48.7	-0.001	0.000	0.000	-0.001	41.4	41.4	0.000	0.000	0.000
Belgium	50.0	50.0	-0.019	-0.002	-0.009	-0.008	42.5	42.5	-0.022	-0.014	-0.009
Brazil	57.4	57.4	0.005	0.000	0.003	0.002	41.2	41.2	-0.003	-0.002	-0.001
Canada	38.6	38.6	-0.011	-0.002	-0.007	-0.002	44.4	44.4	-0.017	-0.011	-0.006
China	60.5	60.5	0.002	0.000	0.002	-0.001	42.1	42.1	-0.001	-0.001	-0.001
Denmark	49.2	49.2	-0.002	-0.002	0.003	-0.003	46.2	46.2	-0.011	-0.006	-0.005
France	54.2	54.2	0.005	0.000	0.005	-0.001	45.3	45.3	-0.012	-0.007	-0.005
Germany	68.5	68.5	0.001	0.000	0.004	-0.003	50.5	50.5	-0.011	-0.007	-0.005
India	43.8	43.8	0.000	0.000	0.001	0.000	32.6	32.6	-0.002	-0.002	0.000
Indonesia	48.1	48.1	0.000	-0.002	0.002	0.000	50.5	50.5	-0.002	-0.001	-0.001
Japan	85.6	85.6	0.000	0.000	0.001	0.000	45.6	45.6	-0.001	-0.001	0.000
Korea	68.5	68.5	0.001	0.000	0.002	-0.001	36.9	36.9	-0.001	-0.001	0.000
Mexico	62.5	62.5	-0.013	-0.004	-0.004	-0.005	49.0	49.0	-0.006	-0.004	-0.003
Netherlands	41.2	41.2	-0.003	-0.004	0.007	-0.005	44.7	44.7	-0.012	-0.007	-0.005
New Zealand	30.6	30.6	0.004	0.000	0.003	0.001	32.8	32.8	-0.002	-0.001	-0.001
Norway	12.1	12.1	0.015	0.001	0.014	0.000	46.1	46.1	-0.004	-0.002	-0.002
Peru	21.4	21.4	0.001	0.000	0.001	0.000	47.7	47.7	-0.001	0.000	0.000
Romania	58.6	58.6	0.000	-0.003	0.005	-0.003	45.4	45.4	-0.006	-0.003	-0.003
Vietnam	58.6	58.6	-0.001	-0.001	0.002	-0.001	35.2	35.2	-0.001	-0.001	-0.001
Spain	68.4	68.4	0.004	0.002	0.003	-0.001	48.9	48.9	-0.004	-0.002	-0.002
Sweden	55.1	55.1	0.003	-0.001	0.005	-0.002	42.6	42.6	-0.003	-0.002	-0.002
Egypt	31.3	31.3	-0.001	-0.001	0.000	-0.001	31.7	31.7	-0.002	-0.002	-0.001
ROW	37.3	37.3	0.009	0.000	0.010	-0.001	44.8	44.8	-0.013	-0.007	-0.006

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the Nash tariffs of the six highest-markup countries—USA, UK, Italy, Greece, Russia, and Austria—such that all of these countries experience positive welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.61: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Nash Tariffs Among Highest Markup Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Nash Tariffs	Percentage Point Reduction (23.59%p)					Nash Tariffs	Percentage Point Reduction (31.24%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
USA	59.1	35.5	0.011	0.015	-0.001	-0.003	42.6	11.4	0.038	0.059	-0.021
UK	49.5	25.9	0.206	0.132	0.136	-0.062	41.8	10.6	0.268	0.453	-0.185
Italy	71.8	48.2	0.087	0.055	0.017	0.015	47.7	16.5	0.198	0.240	-0.043
Greece	32.6	9.0	0.041	0.077	0.070	-0.106	39.0	7.8	0.160	0.251	-0.091
Russia	0.0	0.0	0.140	0.055	0.085	0.000	43.5	12.3	0.085	0.197	-0.112
Austria	51.8	28.2	0.151	0.115	0.072	-0.036	40.2	9.0	0.336	0.498	-0.162
Australia	5.7	5.7	0.005	0.001	0.004	0.000	43.1	43.1	-0.004	-0.003	-0.001
Bangladesh	48.7	48.7	-0.001	0.000	0.000	0.000	41.4	41.4	0.000	0.000	0.000
Belgium	50.0	50.0	-0.008	-0.002	-0.002	-0.004	42.5	42.5	-0.010	-0.006	-0.003
Brazil	57.4	57.4	0.001	-0.001	0.001	0.001	41.2	41.2	-0.002	-0.001	-0.001
Canada	38.6	38.6	-0.003	-0.001	0.000	-0.002	44.4	44.4	-0.011	-0.007	-0.004
China	60.5	60.5	0.001	0.000	0.001	0.000	42.1	42.1	-0.001	0.000	0.000
Denmark	49.2	49.2	-0.001	-0.001	0.001	-0.001	46.2	46.2	-0.007	-0.004	-0.003
France	54.2	54.2	0.000	0.000	0.001	-0.001	45.3	45.3	-0.007	-0.004	-0.003
Germany	68.5	68.5	-0.001	-0.001	0.001	-0.001	50.5	50.5	-0.007	-0.004	-0.003
India	43.8	43.8	0.000	0.000	0.000	0.000	32.6	32.6	-0.002	-0.002	0.000
Indonesia	48.1	48.1	0.000	-0.001	0.001	0.000	50.5	50.5	-0.001	-0.001	0.000
Japan	85.6	85.6	0.000	0.000	0.000	0.000	45.6	45.6	-0.001	-0.001	0.000
Korea	68.5	68.5	0.000	0.000	0.001	0.000	36.9	36.9	-0.001	0.000	0.000
Mexico	62.5	62.5	-0.005	-0.001	-0.002	-0.002	49.0	49.0	-0.005	-0.003	-0.002
Netherlands	41.2	41.2	-0.003	-0.002	0.002	-0.002	44.7	44.7	-0.004	-0.002	-0.002
New Zealand	30.6	30.6	0.001	0.000	0.001	0.000	32.8	32.8	-0.002	-0.001	-0.001
Norway	12.1	12.1	-0.001	-0.002	0.002	0.000	46.1	46.1	-0.004	-0.002	-0.002
Peru	21.4	21.4	0.001	0.000	0.000	0.000	47.7	47.7	0.000	0.000	0.000
Romania	58.6	58.6	0.001	0.000	0.002	0.000	45.4	45.4	-0.002	-0.001	-0.001
Vietnam	58.6	58.6	0.000	0.000	0.001	-0.001	35.2	35.2	-0.001	-0.001	0.000
Spain	68.4	68.4	0.001	0.000	0.001	0.000	48.9	48.9	-0.002	-0.001	-0.001
Sweden	55.1	55.1	0.000	0.000	0.001	-0.001	42.6	42.6	-0.001	-0.001	-0.001
Egypt	31.3	31.3	0.000	0.000	0.001	0.000	31.7	31.7	0.000	0.000	0.000
ROW	37.3	37.3	0.005	0.000	0.005	0.000	44.8	44.8	-0.007	-0.004	-0.003

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the Nash tariffs of the six highest-markup countries—USA, UK, Italy, Greece, Russia, and Austria—such that all of these countries experience positive marginal welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.62: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Nash Tariffs Among Highest Markup Countries Ensuring Positive Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Nash Tariffs	Percentage Point Reduction (47.11%p)					Nash Tariffs	Percentage Point Reduction (47.70%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
USA	59.1	12.0	0.000	0.040	-0.011	-0.030	42.6	0.0	0.050	0.100	-0.050
UK	49.5	2.4	0.351	0.361	0.400	-0.411	41.8	0.0	0.364	0.778	-0.414
Italy	71.8	24.7	0.156	0.146	0.030	-0.020	47.7	0.0	0.143	0.400	-0.257
Greece	32.6	0.0	0.186	0.180	0.171	-0.165	39.0	0.0	0.301	0.441	-0.140
Russia	0.0	0.0	0.400	0.163	0.237	0.000	43.5	0.0	0.073	0.341	-0.268
Austria	51.8	4.7	0.169	0.321	0.149	-0.301	40.2	0.0	0.595	0.896	-0.301
Australia	5.7	5.7	0.016	0.003	0.013	0.001	43.1	43.1	-0.006	-0.004	-0.002
Bangladesh	48.7	48.7	-0.002	0.000	-0.001	-0.001	41.4	41.4	0.000	0.000	0.000
Belgium	50.0	50.0	-0.017	-0.003	-0.004	-0.010	42.5	42.5	-0.022	-0.014	-0.009
Brazil	57.4	57.4	0.005	0.001	0.002	0.002	41.2	41.2	-0.003	-0.002	-0.001
Canada	38.6	38.6	-0.010	-0.004	-0.002	-0.004	44.4	44.4	-0.017	-0.011	-0.006
China	60.5	60.5	0.002	0.000	0.002	-0.001	42.1	42.1	-0.001	-0.001	-0.001
Denmark	49.2	49.2	0.001	-0.002	0.006	-0.003	46.2	46.2	-0.011	-0.006	-0.005
France	54.2	54.2	0.001	-0.001	0.004	-0.002	45.3	45.3	-0.012	-0.007	-0.005
Germany	68.5	68.5	-0.001	-0.002	0.004	-0.004	50.5	50.5	-0.011	-0.007	-0.005
India	43.8	43.8	0.001	0.000	0.001	0.000	32.6	32.6	-0.002	-0.002	0.000
Indonesia	48.1	48.1	0.003	0.000	0.003	0.000	50.5	50.5	-0.002	-0.001	-0.001
Japan	85.6	85.6	0.000	0.000	0.001	-0.001	45.6	45.6	-0.001	-0.001	0.000
Korea	68.5	68.5	0.001	0.000	0.002	-0.001	36.9	36.9	-0.001	-0.001	0.000
Mexico	62.5	62.5	-0.013	-0.003	-0.004	-0.005	49.0	49.0	-0.006	-0.004	-0.003
Netherlands	41.2	41.2	-0.007	-0.006	0.005	-0.006	44.7	44.7	-0.012	-0.007	-0.005
New Zealand	30.6	30.6	0.003	0.000	0.004	0.000	32.8	32.8	-0.002	-0.001	-0.001
Norway	12.1	12.1	-0.003	-0.005	0.004	-0.002	46.1	46.1	-0.004	-0.002	-0.002
Peru	21.4	21.4	0.001	0.000	0.001	0.000	47.7	47.7	-0.001	0.000	0.000
Romania	58.6	58.6	0.003	-0.001	0.006	-0.002	45.4	45.4	-0.006	-0.003	-0.003
Vietnam	58.6	58.6	-0.001	-0.001	0.002	-0.001	35.2	35.2	-0.001	-0.001	-0.001
Spain	68.4	68.4	0.003	0.000	0.003	-0.001	48.9	48.9	-0.004	-0.002	-0.002
Sweden	55.1	55.1	0.002	-0.001	0.004	-0.002	42.6	42.6	-0.003	-0.002	-0.002
Egypt	31.3	31.3	0.002	0.000	0.003	-0.001	31.7	31.7	-0.002	-0.002	-0.001
ROW	37.3	37.3	0.017	0.000	0.017	0.000	44.8	44.8	-0.013	-0.007	-0.006

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the Nash tariffs of the six highest-markup countries—USA, UK, Italy, Greece, Russia, and Austria—such that all of these countries experience positive welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

A.9 Homogeneous Model with Lowest Profit-shift Countries

A.9.1 Optimal Tariffs

Table A.63: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Optimal Tariffs Among Lowest Profit-shifting Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Reduction (38.00%)					Optimal Tariffs	Percentage Reduction (87.72%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Canada	32.1	19.9	0.091	0.115	0.035	-0.059	39.8	4.9	0.319	0.606	-0.288
Belgium	44.7	27.7	0.537	0.500	0.250	-0.213	38.5	4.7	1.757	3.041	-1.284
Vietnam	56.1	34.8	0.123	0.214	0.000	-0.092	32.2	4.0	0.735	1.262	-0.527
Netherlands	35.5	22.0	0.453	0.333	0.261	-0.140	41.1	5.0	0.933	1.754	-0.821
ROW	33.3	20.6	0.149	0.105	0.078	-0.035	42.1	5.2	0.235	0.503	-0.268
Austria	44.6	27.7	0.290	0.228	0.163	-0.101	35.6	4.4	0.876	1.435	-0.559
Australia	4.9	4.9	-0.003	-0.001	-0.001	0.000	42.5	42.5	-0.012	-0.007	-0.005
Bangladesh	49.2	49.2	-0.001	-0.001	0.000	-0.001	41.5	41.5	-0.002	-0.001	-0.001
Brazil	40.3	40.3	-0.003	-0.001	-0.001	-0.001	35.8	35.8	-0.010	-0.006	-0.004
China	56.2	56.2	-0.002	-0.001	0.000	-0.001	37.6	37.6	-0.007	-0.004	-0.003
Denmark	44.5	44.5	-0.016	-0.005	-0.005	-0.006	42.1	42.1	-0.064	-0.039	-0.025
France	47.7	47.7	-0.012	-0.004	-0.004	-0.005	41.4	41.4	-0.044	-0.026	-0.017
Germany	62.1	62.1	-0.012	-0.003	-0.004	-0.005	45.7	45.7	-0.039	-0.023	-0.016
Greece	23.6	23.6	-0.003	-0.001	-0.001	-0.001	34.7	34.7	-0.015	-0.010	-0.005
India	33.3	33.3	-0.002	-0.001	-0.001	-0.001	29.7	29.7	-0.007	-0.006	-0.002
Indonesia	43.1	43.1	-0.003	-0.002	0.001	-0.002	44.6	44.6	-0.015	-0.008	-0.006
Italy	63.1	63.1	-0.006	-0.002	-0.002	-0.003	43.1	43.1	-0.022	-0.013	-0.009
Japan	72.8	72.8	-0.001	0.000	0.000	-0.001	40.2	40.2	-0.003	-0.002	-0.001
Korea	61.5	61.5	-0.001	-0.001	0.000	-0.001	34.1	34.1	-0.005	-0.003	-0.002
Mexico	59.6	59.6	-0.002	-0.001	0.000	-0.001	44.4	44.4	-0.007	-0.004	-0.003
New Zealand	21.9	21.9	-0.002	-0.002	0.001	-0.001	28.1	28.1	-0.013	-0.009	-0.004
Norway	9.7	9.7	-0.008	-0.003	-0.004	-0.001	42.8	42.8	-0.015	-0.009	-0.006
Peru	19.2	19.2	-0.001	0.000	0.000	0.000	43.1	43.1	-0.003	-0.002	-0.001
Romania	53.5	53.5	-0.003	-0.001	-0.001	-0.002	38.3	38.3	-0.015	-0.009	-0.006
Russia	0.0	0.0	-0.002	-0.002	0.000	0.000	40.6	40.6	-0.011	-0.007	-0.005
Spain	58.9	58.9	-0.003	-0.001	-0.001	-0.002	44.0	44.0	-0.013	-0.008	-0.005
Sweden	44.8	44.8	-0.007	-0.002	-0.003	-0.003	37.5	37.5	-0.025	-0.016	-0.009
Egypt	22.1	22.1	-0.001	-0.001	0.000	0.000	28.8	28.8	-0.008	-0.006	-0.002
UK	43.0	43.0	-0.010	-0.003	-0.004	-0.004	37.9	37.9	-0.045	-0.029	-0.016
USA	51.1	51.1	-0.002	-0.001	-0.001	-0.001	38.6	38.6	-0.008	-0.005	-0.003

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the optimal tariffs of the six lowest profit-shifting countries—Canada, Belgium, Vietnam, Netherlands, ROW (Rest of World), and Austria—such that all of these countries experience positive marginal welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.64: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Optimal Tariffs Among Lowest Profit-shifting Countries Ensuring Positive Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Reduction (64.73%)					Optimal Tariffs	Percentage Reduction (100.00%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Canada	32.1	11.3	0.142	0.227	0.062	-0.147	39.8	0.0	0.347	0.766	-0.419
Belgium	44.7	15.8	0.750	0.999	0.463	-0.712	38.5	0.0	1.931	3.834	-1.903
Vietnam	56.1	19.8	0.000	0.430	-0.076	-0.354	32.2	0.0	0.838	1.596	-0.758
Netherlands	35.5	12.5	0.771	0.655	0.511	-0.395	41.1	0.0	0.980	2.196	-1.216
ROW	33.3	11.7	0.269	0.211	0.158	-0.099	42.1	0.0	0.221	0.625	-0.404
Austria	44.6	15.7	0.412	0.454	0.291	-0.334	35.6	0.0	0.988	1.812	-0.824
Australia	4.9	4.9	-0.006	-0.003	-0.003	0.000	42.5	42.5	-0.015	-0.009	-0.006
Bangladesh	49.2	49.2	-0.003	-0.001	0.000	-0.002	41.5	41.5	-0.003	-0.002	-0.001
Brazil	40.3	40.3	-0.006	-0.002	-0.001	-0.002	35.8	35.8	-0.013	-0.008	-0.005
China	56.2	56.2	-0.005	-0.001	-0.001	-0.003	37.6	37.6	-0.009	-0.005	-0.004
Denmark	44.5	44.5	-0.032	-0.010	-0.010	-0.012	42.1	42.1	-0.081	-0.049	-0.032
France	47.7	47.7	-0.025	-0.008	-0.008	-0.009	41.4	41.4	-0.056	-0.034	-0.022
Germany	62.1	62.1	-0.024	-0.007	-0.007	-0.010	45.7	45.7	-0.049	-0.029	-0.020
Greece	23.6	23.6	-0.006	-0.002	-0.002	-0.002	34.7	34.7	-0.019	-0.013	-0.007
India	33.3	33.3	-0.003	-0.001	-0.001	-0.001	29.7	29.7	-0.008	-0.006	-0.002
Indonesia	43.1	43.1	-0.007	-0.004	0.002	-0.004	44.6	44.6	-0.018	-0.011	-0.008
Italy	63.1	63.1	-0.012	-0.003	-0.004	-0.005	43.1	43.1	-0.028	-0.016	-0.012
Japan	72.8	72.8	-0.002	-0.001	0.000	-0.001	40.2	40.2	-0.004	-0.003	-0.002
Korea	61.5	61.5	-0.002	-0.001	0.001	-0.002	34.1	34.1	-0.006	-0.004	-0.002
Mexico	59.6	59.6	-0.004	-0.001	-0.001	-0.002	44.4	44.4	-0.008	-0.004	-0.004
New Zealand	21.9	21.9	-0.004	-0.004	0.002	-0.002	28.1	28.1	-0.016	-0.011	-0.005
Norway	9.7	9.7	-0.019	-0.006	-0.010	-0.002	42.8	42.8	-0.019	-0.011	-0.008
Peru	19.2	19.2	-0.001	-0.001	0.000	0.000	43.1	43.1	-0.004	-0.002	-0.001
Romania	53.5	53.5	-0.007	-0.002	-0.001	-0.003	38.3	38.3	-0.019	-0.012	-0.007
Russia	0.0	0.0	-0.004	-0.003	-0.001	0.000	40.6	40.6	-0.015	-0.009	-0.006
Spain	58.9	58.9	-0.006	-0.002	-0.001	-0.003	44.0	44.0	-0.017	-0.011	-0.006
Sweden	44.8	44.8	-0.014	-0.004	-0.005	-0.005	37.5	37.5	-0.032	-0.021	-0.011
Egypt	22.1	22.1	-0.002	-0.001	0.000	-0.001	28.8	28.8	-0.011	-0.008	-0.003
UK	43.0	43.0	-0.021	-0.006	-0.007	-0.007	37.9	37.9	-0.058	-0.038	-0.021
USA	51.1	51.1	-0.004	-0.001	-0.001	-0.002	38.6	38.6	-0.011	-0.007	-0.004

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the optimal tariffs of the six lowest profit-shifting countries—Canada, Belgium, Vietnam, Netherlands, ROW (Rest of World), and Austria—such that all of these countries experience positive welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.65: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Optimal Tariffs Among Lowest Profit-shifting Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Point Reduction (23.00%p)					Optimal Tariffs	Percentage Point Reduction (34.51%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Canada	32.1	9.1	0.110	0.241	0.064	-0.195	39.8	5.3	0.271	0.564	-0.293
Belgium	44.7	21.7	1.131	0.914	0.460	-0.242	38.5	4.0	1.464	2.901	-1.437
Vietnam	56.1	33.1	0.438	0.344	0.064	0.030	32.2	0.0	0.418	1.265	-0.847
Netherlands	35.5	12.5	0.714	0.638	0.478	-0.403	41.1	28.1	-0.013	-0.009	-0.004
ROW	33.3	10.3	0.185	0.188	0.139	-0.143	42.1	7.6	0.301	0.499	-0.198
Austria	44.6	21.6	0.624	0.423	0.314	-0.112	35.6	1.1	0.593	1.411	-0.818
Australia	4.9	4.9	-0.008	-0.003	-0.004	-0.001	42.5	42.5	-0.011	-0.007	-0.004
Bangladesh	49.2	49.2	-0.001	0.000	0.000	-0.001	41.5	41.5	-0.004	-0.002	-0.002
Brazil	40.3	40.3	-0.005	-0.002	-0.001	-0.002	35.8	35.8	-0.010	-0.006	-0.004
China	56.2	56.2	-0.004	-0.001	-0.001	-0.002	37.6	37.6	-0.008	-0.004	-0.003
Denmark	44.5	44.5	-0.041	-0.013	-0.012	-0.015	42.1	42.1	-0.056	-0.034	-0.022
France	47.7	47.7	-0.020	-0.009	-0.001	-0.010	41.4	41.4	-0.040	-0.024	-0.016
Germany	62.1	62.1	-0.021	-0.006	-0.005	-0.010	45.7	45.7	-0.038	-0.023	-0.015
Greece	23.6	23.6	-0.010	-0.003	-0.005	-0.002	34.7	34.7	-0.013	-0.008	-0.004
India	33.3	33.3	-0.005	-0.001	-0.002	-0.001	29.7	29.7	-0.006	-0.004	-0.002
Indonesia	43.1	43.1	-0.007	-0.003	-0.001	-0.003	44.6	44.6	-0.016	-0.010	-0.006
Italy	63.1	63.1	-0.013	-0.004	-0.003	-0.006	43.1	43.1	-0.020	-0.012	-0.008
Japan	72.8	72.8	-0.002	-0.001	0.000	-0.001	40.2	40.2	-0.004	-0.002	-0.001
Korea	61.5	61.5	-0.003	-0.001	-0.001	-0.001	34.1	34.1	-0.006	-0.004	-0.002
Mexico	59.6	59.6	-0.005	-0.001	-0.001	-0.002	44.4	44.4	-0.007	-0.003	-0.004
New Zealand	21.9	21.9	-0.007	-0.004	-0.001	-0.002	28.1	28.1	-0.013	-0.009	-0.004
Norway	9.7	9.7	-0.007	-0.004	-0.002	-0.001	42.8	42.8	-0.017	-0.010	-0.007
Peru	19.2	19.2	-0.001	-0.001	0.000	0.000	43.1	43.1	-0.003	-0.002	-0.001
Romania	53.5	53.5	-0.009	-0.003	-0.002	-0.004	38.3	38.3	-0.014	-0.008	-0.005
Russia	0.0	0.0	-0.007	-0.004	-0.003	0.000	40.6	40.6	-0.010	-0.006	-0.004
Spain	58.9	58.9	-0.008	-0.002	-0.003	-0.003	44.0	44.0	-0.012	-0.008	-0.005
Sweden	44.8	44.8	-0.017	-0.005	-0.007	-0.005	37.5	37.5	-0.022	-0.015	-0.008
Egypt	22.1	22.1	-0.003	-0.002	0.000	-0.001	28.8	28.8	-0.007	-0.005	-0.002
UK	43.0	43.0	-0.024	-0.010	-0.004	-0.010	37.9	37.9	-0.038	-0.024	-0.014
USA	51.1	51.1	-0.005	-0.001	-0.001	-0.002	38.6	38.6	-0.007	-0.004	-0.003

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the optimal tariffs of the six lowest profit-shifting countries—Canada, Belgium, Vietnam, Netherlands, ROW (Rest of World), and Austria—such that all of these countries experience positive marginal welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.66: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Optimal Tariffs Among Lowest Profit-shifting Countries Ensuring Positive Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Point Reduction (45.42%p)					Optimal Tariffs	Percentage Point Reduction (42.10%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Canada	32.1	0.0	0.149	0.441	0.098	-0.391	39.8	0.0	0.347	0.766	-0.419
Belgium	44.7	0.0	0.382	1.990	0.793	-2.400	38.5	0.0	1.931	3.834	-1.903
Vietnam	56.1	10.7	0.001	0.736	-0.153	-0.582	32.2	0.0	0.838	1.596	-0.758
Netherlands	35.5	0.0	1.064	1.260	0.968	-1.164	41.1	0.0	0.980	2.196	-1.216
ROW	33.3	0.0	0.380	0.395	0.301	-0.316	42.1	0.0	0.221	0.625	-0.404
Austria	44.6	0.0	0.225	0.905	0.466	-1.145	35.6	0.0	0.988	1.812	-0.824
Australia	4.9	4.9	-0.012	-0.005	-0.006	-0.001	42.5	42.5	-0.015	-0.009	-0.006
Bangladesh	49.2	49.2	-0.006	-0.002	0.000	-0.003	41.5	41.5	-0.003	-0.002	-0.001
Brazil	40.3	40.3	-0.012	-0.004	-0.003	-0.005	35.8	35.8	-0.013	-0.008	-0.005
China	56.2	56.2	-0.010	-0.002	-0.002	-0.005	37.6	37.6	-0.009	-0.005	-0.004
Denmark	44.5	44.5	-0.064	-0.021	-0.020	-0.023	42.1	42.1	-0.081	-0.049	-0.032
France	47.7	47.7	-0.054	-0.017	-0.018	-0.019	41.4	41.4	-0.056	-0.034	-0.022
Germany	62.1	62.1	-0.051	-0.013	-0.017	-0.021	45.7	45.7	-0.049	-0.029	-0.020
Greece	23.6	23.6	-0.013	-0.005	-0.005	-0.004	34.7	34.7	-0.019	-0.013	-0.007
India	33.3	33.3	-0.006	-0.002	-0.002	-0.002	29.7	29.7	-0.008	-0.006	-0.002
Indonesia	43.1	43.1	-0.015	-0.008	0.001	-0.009	44.6	44.6	-0.018	-0.011	-0.008
Italy	63.1	63.1	-0.025	-0.006	-0.009	-0.010	43.1	43.1	-0.028	-0.016	-0.012
Japan	72.8	72.8	-0.004	-0.001	0.000	-0.002	40.2	40.2	-0.004	-0.003	-0.002
Korea	61.5	61.5	-0.005	-0.002	0.001	-0.003	34.1	34.1	-0.006	-0.004	-0.002
Mexico	59.6	59.6	-0.012	-0.003	-0.004	-0.005	44.4	44.4	-0.008	-0.004	-0.004
New Zealand	21.9	21.9	-0.009	-0.007	0.002	-0.004	28.1	28.1	-0.016	-0.011	-0.005
Norway	9.7	9.7	-0.043	-0.014	-0.024	-0.005	42.8	42.8	-0.019	-0.011	-0.008
Peru	19.2	19.2	-0.003	-0.002	0.000	-0.001	43.1	43.1	-0.004	-0.002	-0.001
Romania	53.5	53.5	-0.014	-0.005	-0.002	-0.007	38.3	38.3	-0.019	-0.012	-0.007
Russia	0.0	0.0	-0.011	-0.008	-0.003	0.000	40.6	40.6	-0.015	-0.009	-0.006
Spain	58.9	58.9	-0.014	-0.004	-0.004	-0.006	44.0	44.0	-0.017	-0.011	-0.006
Sweden	44.8	44.8	-0.029	-0.008	-0.011	-0.010	37.5	37.5	-0.032	-0.021	-0.011
Egypt	22.1	22.1	-0.004	-0.003	0.000	-0.002	28.8	28.8	-0.011	-0.008	-0.003
UK	43.0	43.0	-0.046	-0.014	-0.016	-0.016	37.9	37.9	-0.058	-0.038	-0.021
USA	51.1	51.1	-0.011	-0.003	-0.003	-0.004	38.6	38.6	-0.011	-0.007	-0.004

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the optimal tariffs of the six lowest profit-shifting countries—Canada, Belgium, Vietnam, Netherlands, ROW (Rest of World), and Austria—such that all of these countries experience positive welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

A.9.2 Nash Tariffs

Table A.67: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Nash Tariffs Among Lowest Profit-shifting Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Nash Tariffs	Percentage Reduction (43.57%)					Nash Tariffs	Percentage Reduction (89.09%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Canada	38.6	21.8	0.124	0.141	0.046	-0.063	44.4	4.8	0.336	0.642	-0.307
Belgium	50.0	28.2	0.711	0.609	0.311	-0.209	42.5	4.6	1.902	3.243	-1.341
Vietnam	58.6	33.1	0.163	0.258	0.006	-0.101	35.2	3.8	0.790	1.344	-0.554
Netherlands	41.2	23.2	0.578	0.406	0.319	-0.147	44.7	4.9	1.016	1.870	-0.854
ROW	37.3	21.0	0.190	0.129	0.095	-0.034	44.8	4.9	0.272	0.541	-0.269
Austria	51.8	29.2	0.379	0.276	0.201	-0.099	40.2	4.4	0.929	1.527	-0.598
Australia	5.7	5.7	-0.003	-0.001	-0.001	0.000	43.1	43.1	-0.012	-0.007	-0.005
Bangladesh	48.7	48.7	-0.002	-0.001	0.000	-0.001	41.4	41.4	-0.003	-0.002	-0.001
Brazil	57.4	57.4	-0.003	-0.001	0.000	-0.001	41.2	41.2	-0.010	-0.006	-0.004
China	60.5	60.5	-0.003	-0.001	0.000	-0.002	42.1	42.1	-0.008	-0.004	-0.003
Denmark	49.2	49.2	-0.018	-0.006	-0.006	-0.007	46.2	46.2	-0.064	-0.038	-0.026
France	54.2	54.2	-0.014	-0.004	-0.005	-0.005	45.3	45.3	-0.045	-0.026	-0.018
Germany	68.5	68.5	-0.014	-0.004	-0.004	-0.006	50.5	50.5	-0.040	-0.023	-0.017
Greece	32.6	32.6	-0.002	-0.001	0.000	-0.001	39.0	39.0	-0.015	-0.010	-0.005
India	43.8	43.8	-0.002	-0.001	0.000	-0.001	32.6	32.6	-0.007	-0.005	-0.002
Indonesia	48.1	48.1	-0.005	-0.002	0.001	-0.003	50.5	50.5	-0.016	-0.009	-0.007
Italy	71.8	71.8	-0.007	-0.002	-0.002	-0.003	47.7	47.7	-0.022	-0.013	-0.010
Japan	85.6	85.6	-0.001	0.000	0.000	-0.001	45.6	45.6	-0.004	-0.002	-0.001
Korea	68.5	68.5	-0.001	-0.001	0.000	-0.001	36.9	36.9	-0.005	-0.003	-0.002
Mexico	62.5	62.5	-0.005	-0.001	-0.002	-0.002	49.0	49.0	-0.009	-0.005	-0.004
New Zealand	30.6	30.6	-0.002	-0.002	0.001	-0.001	32.8	32.8	-0.014	-0.009	-0.004
Norway	12.1	12.1	-0.011	-0.003	-0.006	-0.001	46.1	46.1	-0.016	-0.009	-0.007
Peru	21.4	21.4	-0.001	0.000	0.000	0.000	47.7	47.7	-0.003	-0.002	-0.001
Romania	58.6	58.6	-0.004	-0.001	0.000	-0.002	45.4	45.4	-0.015	-0.009	-0.006
Russia	0.0	0.0	-0.002	-0.002	0.000	0.000	43.5	43.5	-0.012	-0.007	-0.005
Spain	68.4	68.4	-0.003	-0.001	0.000	-0.002	48.9	48.9	-0.014	-0.008	-0.005
Sweden	55.1	55.1	-0.008	-0.002	-0.003	-0.003	42.6	42.6	-0.025	-0.016	-0.009
Egypt	31.3	31.3	0.000	-0.001	0.001	0.000	31.7	31.7	-0.008	-0.006	-0.002
UK	49.5	49.5	-0.012	-0.003	-0.004	-0.004	41.8	41.8	-0.045	-0.029	-0.017
USA	59.1	59.1	-0.002	-0.001	-0.001	-0.001	42.6	42.6	-0.009	-0.005	-0.003

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the Nash tariffs of the six lowest profit-shifting countries—Canada, Belgium, Vietnam, Netherlands, ROW (Rest of World), and Austria—such that all of these countries experience positive marginal welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.68: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Nash Tariffs Among Lowest Profit-shifting Countries Ensuring Positive Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Nash Tariffs	Percentage Reduction (71.82%)					Optimal Tariffs	Percentage Reduction (100.00%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Canada	38.6	10.9	0.181	0.278	0.080	-0.177	44.4	0.0	0.353	0.796	-0.443
Belgium	50.0	14.1	0.951	1.216	0.568	-0.834	42.5	0.0	2.049	4.010	-1.961
Vietnam	58.6	16.5	0.000	0.518	-0.091	-0.427	35.2	0.0	0.882	1.666	-0.783
Netherlands	41.2	11.6	0.948	0.797	0.623	-0.472	44.7	0.0	1.053	2.296	-1.243
ROW	37.3	10.5	0.337	0.258	0.193	-0.113	44.8	0.0	0.263	0.660	-0.397
Austria	51.8	14.6	0.507	0.551	0.355	-0.399	40.2	0.0	1.019	1.892	-0.873
Australia	5.7	5.7	-0.006	-0.003	-0.002	-0.001	43.1	43.1	-0.015	-0.009	-0.006
Bangladesh	48.7	48.7	-0.004	-0.002	0.000	-0.002	41.4	41.4	-0.004	-0.003	-0.002
Brazil	57.4	57.4	-0.007	-0.003	-0.001	-0.003	41.2	41.2	-0.013	-0.008	-0.005
China	60.5	60.5	-0.005	-0.001	-0.001	-0.003	42.1	42.1	-0.010	-0.005	-0.004
Denmark	49.2	49.2	-0.036	-0.011	-0.011	-0.013	46.2	46.2	-0.080	-0.048	-0.032
France	54.2	54.2	-0.029	-0.009	-0.009	-0.011	45.3	45.3	-0.056	-0.033	-0.023
Germany	68.5	68.5	-0.028	-0.007	-0.009	-0.012	50.5	50.5	-0.050	-0.029	-0.021
Greece	32.6	32.6	-0.005	-0.002	-0.001	-0.002	39.0	39.0	-0.019	-0.012	-0.007
India	43.8	43.8	-0.003	-0.001	-0.001	-0.001	32.6	32.6	-0.008	-0.005	-0.002
Indonesia	48.1	48.1	-0.010	-0.006	0.001	-0.006	50.5	50.5	-0.020	-0.011	-0.009
Italy	71.8	71.8	-0.013	-0.004	-0.004	-0.006	47.7	47.7	-0.028	-0.016	-0.012
Japan	85.6	85.6	-0.002	-0.001	0.000	-0.001	45.6	45.6	-0.005	-0.003	-0.002
Korea	68.5	68.5	-0.003	-0.001	0.001	-0.002	36.9	36.9	-0.007	-0.004	-0.002
Mexico	62.5	62.5	-0.008	-0.002	-0.003	-0.003	49.0	49.0	-0.011	-0.005	-0.006
New Zealand	30.6	30.6	-0.005	-0.004	0.002	-0.003	32.8	32.8	-0.017	-0.012	-0.006
Norway	12.1	12.1	-0.024	-0.008	-0.013	-0.003	46.1	46.1	-0.021	-0.012	-0.009
Peru	21.4	21.4	-0.001	-0.001	0.000	0.000	47.7	47.7	-0.004	-0.002	-0.001
Romania	58.6	58.6	-0.007	-0.003	-0.001	-0.004	45.4	45.4	-0.019	-0.011	-0.008
Russia	0.0	0.0	-0.005	-0.004	-0.001	0.000	43.5	43.5	-0.015	-0.009	-0.006
Spain	68.4	68.4	-0.007	-0.002	-0.001	-0.004	48.9	48.9	-0.017	-0.010	-0.007
Sweden	55.1	55.1	-0.015	-0.004	-0.005	-0.006	42.6	42.6	-0.031	-0.020	-0.012
Egypt	31.3	31.3	-0.001	-0.001	0.001	-0.001	31.7	31.7	-0.011	-0.008	-0.003
UK	49.5	49.5	-0.024	-0.007	-0.008	-0.008	41.8	41.8	-0.057	-0.036	-0.021
USA	59.1	59.1	-0.005	-0.001	-0.002	-0.002	42.6	42.6	-0.011	-0.007	-0.004

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the Nash tariffs of the six lowest profit-shifting countries—Canada, Belgium, Vietnam, Netherlands, ROW (Rest of World), and Austria—such that all of these countries experience positive welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.69: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Nash Tariffs Among Lowest Profit-shifting Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Nash Tariffs	Percentage Point Reduction (30.47%p)					Nash Tariffs	Percentage Point Reduction (36.83%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Canada	38.6	8.1	0.173	0.316	0.084	-0.226	44.4	7.6	0.322	0.570	-0.247
Belgium	50.0	19.5	1.526	1.207	0.606	-0.287	42.5	5.7	1.650	2.927	-1.278
Vietnam	58.6	28.1	0.559	0.472	0.075	0.013	35.2	0.0	0.429	1.310	-0.881
Netherlands	41.2	10.7	0.964	0.838	0.626	-0.500	44.7	7.9	1.010	1.672	-0.663
ROW	37.3	6.8	0.228	0.247	0.184	-0.204	44.8	8.0	0.316	0.508	-0.192
Austria	51.8	21.3	0.883	0.551	0.420	-0.088	40.2	3.4	0.710	1.416	-0.706
Australia	5.7	5.7	-0.011	-0.004	-0.006	-0.001	43.1	43.1	-0.012	-0.008	-0.004
Bangladesh	48.7	48.7	-0.001	0.000	0.000	-0.001	41.4	41.4	-0.004	-0.002	-0.002
Brazil	57.4	57.4	-0.007	-0.002	-0.001	-0.003	41.2	41.2	-0.010	-0.006	-0.004
China	60.5	60.5	-0.005	-0.001	-0.001	-0.003	42.1	42.1	-0.008	-0.004	-0.003
Denmark	49.2	49.2	-0.053	-0.017	-0.016	-0.020	46.2	46.2	-0.055	-0.033	-0.022
France	54.2	54.2	-0.026	-0.011	-0.002	-0.013	45.3	45.3	-0.039	-0.023	-0.016
Germany	68.5	68.5	-0.026	-0.008	-0.006	-0.013	50.5	50.5	-0.037	-0.022	-0.015
Greece	32.6	32.6	-0.013	-0.004	-0.005	-0.004	39.0	39.0	-0.012	-0.008	-0.005
India	43.8	43.8	-0.006	-0.002	-0.003	-0.001	32.6	32.6	-0.005	-0.004	-0.002
Indonesia	48.1	48.1	-0.010	-0.004	-0.002	-0.004	50.5	50.5	-0.016	-0.009	-0.007
Italy	71.8	71.8	-0.015	-0.004	-0.004	-0.008	47.7	47.7	-0.020	-0.011	-0.008
Japan	85.6	85.6	-0.002	-0.001	-0.001	-0.001	45.6	45.6	-0.004	-0.002	-0.001
Korea	68.5	68.5	-0.004	-0.001	-0.001	-0.002	36.9	36.9	-0.007	-0.004	-0.002
Mexico	62.5	62.5	-0.007	-0.002	-0.002	-0.003	49.0	49.0	-0.010	-0.007	-0.004
New Zealand	30.6	30.6	-0.008	-0.004	-0.001	-0.003	32.8	32.8	-0.010	-0.006	-0.004
Norway	12.1	12.1	-0.008	-0.004	-0.002	-0.002	46.1	46.1	-0.015	-0.009	-0.006
Peru	21.4	21.4	-0.001	-0.001	0.000	-0.001	47.7	47.7	-0.002	-0.001	-0.001
Romania	58.6	58.6	-0.011	-0.003	-0.003	-0.004	45.4	45.4	-0.013	-0.008	-0.005
Russia	0.0	0.0	-0.008	-0.005	-0.004	0.000	43.5	43.5	-0.010	-0.006	-0.004
Spain	68.4	68.4	-0.010	-0.003	-0.003	-0.004	48.9	48.9	-0.012	-0.007	-0.005
Sweden	55.1	55.1	-0.021	-0.006	-0.008	-0.007	42.6	42.6	-0.022	-0.014	-0.008
Egypt	31.3	31.3	-0.004	-0.002	0.001	-0.002	31.7	31.7	-0.007	-0.005	-0.002
UK	49.5	49.5	-0.031	-0.013	-0.005	-0.013	41.8	41.8	-0.037	-0.023	-0.014
USA	59.1	59.1	-0.006	-0.002	-0.002	-0.003	42.6	42.6	-0.006	-0.004	-0.003

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the Nash tariffs of the six lowest profit-shifting countries—Canada, Belgium, Vietnam, Netherlands, ROW (Rest of World), and Austria—such that all of these countries experience positive marginal welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.70: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Nash Tariffs Among Lowest Profit-shifting Countries Ensuring Positive Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Nash Tariffs	Percentage Point Reduction (49.54%p)					Nash Tariffs	Percentage Point Reduction (44.80%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Canada	38.6	0.0	0.157	0.473	0.113	-0.429	44.4	0.0	0.353	0.796	-0.443
Belgium	50.0	0.5	0.654	2.117	0.876	-2.339	42.5	0.0	2.049	4.010	-1.961
Vietnam	58.6	9.1	0.001	0.802	-0.165	-0.636	35.2	0.0	0.882	1.666	-0.783
Netherlands	41.2	0.0	1.162	1.351	1.039	-1.228	44.7	0.0	1.053	2.296	-1.243
ROW	37.3	0.0	0.428	0.424	0.322	-0.318	44.8	0.0	0.263	0.660	-0.397
Austria	51.8	2.3	0.462	0.935	0.524	-0.997	40.2	0.0	1.019	1.892	-0.873
Australia	5.7	5.7	-0.012	-0.005	-0.005	-0.001	43.1	43.1	-0.015	-0.009	-0.006
Bangladesh	48.7	48.7	-0.007	-0.003	0.000	-0.003	41.4	41.4	-0.004	-0.003	-0.002
Brazil	57.4	57.4	-0.013	-0.005	-0.003	-0.005	41.2	41.2	-0.013	-0.008	-0.005
China	60.5	60.5	-0.010	-0.002	-0.002	-0.005	42.1	42.1	-0.010	-0.005	-0.004
Denmark	49.2	49.2	-0.063	-0.020	-0.020	-0.024	46.2	46.2	-0.080	-0.048	-0.032
France	54.2	54.2	-0.054	-0.016	-0.018	-0.020	45.3	45.3	-0.056	-0.033	-0.023
Germany	68.5	68.5	-0.051	-0.013	-0.017	-0.021	50.5	50.5	-0.050	-0.029	-0.021
Greece	32.6	32.6	-0.012	-0.005	-0.003	-0.004	39.0	39.0	-0.019	-0.012	-0.007
India	43.8	43.8	-0.006	-0.002	-0.002	-0.003	32.6	32.6	-0.008	-0.005	-0.002
Indonesia	48.1	48.1	-0.019	-0.009	0.000	-0.009	50.5	50.5	-0.020	-0.011	-0.009
Italy	71.8	71.8	-0.024	-0.006	-0.008	-0.010	47.7	47.7	-0.028	-0.016	-0.012
Japan	85.6	85.6	-0.004	-0.001	0.000	-0.002	45.6	45.6	-0.005	-0.003	-0.002
Korea	68.5	68.5	-0.005	-0.002	0.001	-0.003	36.9	36.9	-0.007	-0.004	-0.002
Mexico	62.5	62.5	-0.015	-0.003	-0.006	-0.006	49.0	49.0	-0.011	-0.005	-0.006
New Zealand	30.6	30.6	-0.010	-0.007	0.002	-0.005	32.8	32.8	-0.017	-0.012	-0.006
Norway	12.1	12.1	-0.047	-0.015	-0.026	-0.006	46.1	46.1	-0.021	-0.012	-0.009
Peru	21.4	21.4	-0.003	-0.002	0.000	-0.001	47.7	47.7	-0.004	-0.002	-0.001
Romania	58.6	58.6	-0.014	-0.005	-0.002	-0.007	45.4	45.4	-0.019	-0.011	-0.008
Russia	0.0	0.0	-0.012	-0.008	-0.004	0.000	43.5	43.5	-0.015	-0.009	-0.006
Spain	68.4	68.4	-0.014	-0.004	-0.003	-0.007	48.9	48.9	-0.017	-0.010	-0.007
Sweden	55.1	55.1	-0.028	-0.007	-0.010	-0.011	42.6	42.6	-0.031	-0.020	-0.012
Egypt	31.3	31.3	-0.004	-0.003	0.001	-0.002	31.7	31.7	-0.011	-0.008	-0.003
UK	49.5	49.5	-0.045	-0.014	-0.015	-0.016	41.8	41.8	-0.057	-0.036	-0.021
USA	59.1	59.1	-0.011	-0.003	-0.004	-0.004	42.6	42.6	-0.011	-0.007	-0.004

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the Nash tariffs of the six lowest profit-shifting countries—Canada, Belgium, Vietnam, Netherlands, ROW (Rest of World), and Austria—such that all of these countries experience positive welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

A.10 Homogeneous Model with Highest Profit-shift Countries

A.10.1 Optimal Tariffs

Table A.71: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Optimal Tariffs Among Highest Profit-shifting Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Reduction (12.00%)					Optimal Tariffs	Percentage Reduction (58.00%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Brazil	40.3	35.5	0.000	0.005	-0.001	-0.004	35.8	15.0	0.036	0.063	-0.027
Indonesia	43.1	37.9	0.004	0.008	0.002	-0.007	44.6	18.7	0.058	0.100	-0.043
Australia	4.9	4.3	0.011	0.007	0.007	-0.003	42.5	17.9	0.034	0.098	-0.064
Russia	0.0	0.0	0.023	0.009	0.015	0.000	40.6	17.1	0.057	0.095	-0.038
Italy	63.1	55.5	0.003	0.008	-0.002	-0.003	43.1	18.1	0.079	0.105	-0.027
UK	43.0	37.8	0.015	0.012	0.006	-0.003	37.9	15.9	0.127	0.149	-0.022
Austria	44.6	44.6	0.000	0.000	0.000	0.000	35.6	35.6	-0.002	-0.001	-0.001
Bangladesh	49.2	49.2	0.000	0.000	0.000	0.000	41.5	41.5	0.000	0.000	0.000
Belgium	44.7	44.7	-0.002	0.000	-0.001	-0.001	38.5	38.5	-0.002	-0.002	0.000
Canada	32.1	32.1	0.000	0.000	0.000	0.000	39.8	39.8	-0.001	0.000	-0.001
China	56.2	56.2	0.000	0.000	0.000	0.000	37.6	37.6	0.000	0.000	0.000
Denmark	44.5	44.5	0.000	0.000	0.000	0.000	42.1	42.1	-0.004	-0.002	-0.002
France	47.7	47.7	0.000	0.000	0.000	0.000	41.4	41.4	-0.002	-0.001	-0.001
Germany	62.1	62.1	0.000	0.000	0.000	0.000	45.7	45.7	-0.001	-0.001	-0.001
Greece	23.6	23.6	0.000	0.000	0.000	0.000	34.7	34.7	-0.001	-0.001	0.000
India	33.3	33.3	0.000	0.000	0.000	0.000	29.7	29.7	-0.003	-0.003	0.000
Japan	72.8	72.8	0.000	0.000	0.000	0.000	40.2	40.2	0.000	0.000	0.000
Korea	61.5	61.5	0.000	0.000	0.000	0.000	34.1	34.1	0.000	0.000	0.000
Mexico	59.6	59.6	0.000	0.000	0.000	0.000	44.4	44.4	0.000	0.000	0.000
Netherlands	35.5	35.5	-0.001	0.000	0.000	0.000	41.1	41.1	0.000	0.000	0.000
New Zealand	21.9	21.9	0.001	0.000	0.001	0.000	28.1	28.1	-0.003	-0.002	-0.001
Norway	9.7	9.7	0.000	0.000	0.001	0.000	42.8	42.8	0.001	0.001	0.001
Peru	19.2	19.2	0.000	0.000	0.000	0.000	43.1	43.1	0.000	0.000	0.000
Romania	53.5	53.5	0.000	0.000	0.000	0.000	38.3	38.3	-0.001	-0.001	0.000
Vietnam	56.1	56.1	0.000	0.000	0.000	0.000	32.2	32.2	0.000	0.000	0.000
Spain	58.9	58.9	0.000	0.000	0.000	0.000	44.0	44.0	-0.001	0.000	0.000
Sweden	44.8	44.8	0.000	0.000	0.000	0.000	37.5	37.5	-0.002	-0.001	-0.001
Egypt	22.1	22.1	0.000	0.000	0.000	0.000	28.8	28.8	0.000	0.000	0.000
USA	51.1	51.1	0.000	0.000	0.000	0.000	38.6	38.6	0.000	0.000	0.000
ROW	33.3	33.3	0.000	0.000	0.000	0.000	42.1	42.1	-0.004	-0.002	-0.002

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the optimal tariffs of the six highest profit-shifting countries—Brazil, Indonesia, Australia, Russia, Italy, and UK—such that all of these countries experience positive marginal welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.72: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Optimal Tariffs Among Highest Profit-shifting Countries Ensuring Positive Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Reduction (18.15%)					Optimal Tariffs	Percentage Reduction (94.05%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Brazil	40.3	33.0	0.000	0.007	-0.001	-0.006	35.8	2.1	0.061	0.136	-0.075
Indonesia	43.1	35.3	0.004	0.013	0.003	-0.012	44.6	2.7	0.035	0.193	-0.158
Australia	4.9	4.0	0.018	0.012	0.010	-0.004	42.5	2.5	0.000	0.197	-0.197
Russia	0.0	0.0	0.037	0.014	0.023	0.000	40.6	2.4	0.072	0.194	-0.122
Italy	63.1	51.6	0.004	0.012	-0.003	-0.005	43.1	2.6	0.106	0.213	-0.107
UK	43.0	35.2	0.022	0.019	0.009	-0.006	37.9	2.3	0.240	0.320	-0.081
Austria	44.6	44.6	0.000	0.000	0.000	0.000	35.6	35.6	-0.004	-0.003	-0.001
Bangladesh	49.2	49.2	0.000	0.000	0.000	0.000	41.5	41.5	0.001	0.001	0.001
Belgium	44.7	44.7	-0.003	-0.001	-0.001	-0.001	38.5	38.5	-0.004	-0.003	-0.001
Canada	32.1	32.1	0.000	0.000	0.000	0.000	39.8	39.8	-0.001	0.000	-0.001
China	56.2	56.2	0.000	0.000	0.000	0.000	37.6	37.6	0.000	0.000	0.000
Denmark	44.5	44.5	0.001	0.000	0.001	0.000	42.1	42.1	-0.009	-0.005	-0.004
France	47.7	47.7	0.000	0.000	0.000	0.000	41.4	41.4	-0.004	-0.003	-0.002
Germany	62.1	62.1	0.000	0.000	0.000	0.000	45.7	45.7	-0.003	-0.002	-0.001
Greece	23.6	23.6	0.000	0.000	0.000	0.000	34.7	34.7	-0.002	-0.001	-0.001
India	33.3	33.3	0.000	0.000	0.000	0.000	29.7	29.7	-0.003	-0.003	0.000
Japan	72.8	72.8	0.000	0.000	0.000	0.000	40.2	40.2	0.001	0.000	0.000
Korea	61.5	61.5	0.000	0.000	0.000	0.000	34.1	34.1	0.000	0.000	0.000
Mexico	59.6	59.6	0.000	0.000	0.000	0.000	44.4	44.4	0.000	0.000	0.000
Netherlands	35.5	35.5	-0.001	-0.001	0.000	-0.001	41.1	41.1	-0.001	-0.001	0.000
New Zealand	21.9	21.9	0.001	0.000	0.001	0.000	28.1	28.1	-0.006	-0.004	-0.002
Norway	9.7	9.7	0.001	0.000	0.001	0.000	42.8	42.8	0.004	0.003	0.002
Peru	19.2	19.2	0.000	0.000	0.000	0.000	43.1	43.1	0.000	0.000	0.000
Romania	53.5	53.5	0.000	0.000	0.000	0.000	38.3	38.3	-0.002	-0.001	-0.001
Vietnam	56.1	56.1	0.000	0.000	0.000	0.000	32.2	32.2	0.000	0.000	0.000
Spain	58.9	58.9	0.000	0.000	0.000	0.000	44.0	44.0	-0.002	-0.001	-0.001
Sweden	44.8	44.8	0.000	0.000	0.000	0.000	37.5	37.5	-0.004	-0.002	-0.001
Egypt	22.1	22.1	-0.001	0.000	0.000	0.000	28.8	28.8	-0.001	-0.001	0.000
USA	51.1	51.1	0.000	0.000	0.000	0.000	38.6	38.6	0.000	0.000	0.000
ROW	33.3	33.3	0.000	0.000	0.001	0.000	42.1	42.1	-0.009	-0.005	-0.004

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the optimal tariffs of the six highest profit-shifting countries—Brazil, Indonesia, Australia, Russia, Italy, and UK—such that all of these countries experience positive welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.73: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Optimal Tariffs Among Highest Profit-shifting Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Point Reduction (0.00%p)					Optimal Tariffs	Percentage Point Reduction (25.84%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Brazil	40.3	40.3	0.000	0.000	0.000	0.000	35.8	10.0	0.026	0.074	-0.048
Indonesia	43.1	43.1	0.000	0.000	0.000	0.000	44.6	18.8	0.073	0.109	-0.036
Australia	4.9	4.9	0.000	0.000	0.000	0.000	42.5	16.7	0.036	0.106	-0.070
Russia	0.0	0.0	0.000	0.000	0.000	0.000	40.6	14.8	0.059	0.106	-0.047
Italy	63.1	63.1	0.000	0.000	0.000	0.000	43.1	17.3	0.100	0.122	-0.022
UK	43.0	43.0	0.000	0.000	0.000	0.000	37.9	12.1	0.127	0.170	-0.042
Austria	44.6	44.6	0.000	0.000	0.000	0.000	35.6	35.6	-0.002	-0.001	-0.001
Bangladesh	49.2	49.2	0.000	0.000	0.000	0.000	41.5	41.5	0.000	0.000	0.000
Belgium	44.7	44.7	0.000	0.000	0.000	0.000	38.5	38.5	-0.002	-0.001	0.000
Canada	32.1	32.1	0.000	0.000	0.000	0.000	39.8	39.8	-0.001	0.000	-0.001
China	56.2	56.2	0.000	0.000	0.000	0.000	37.6	37.6	0.000	0.000	0.000
Denmark	44.5	44.5	0.000	0.000	0.000	0.000	42.1	42.1	-0.005	-0.003	-0.002
France	47.7	47.7	0.000	0.000	0.000	0.000	41.4	41.4	-0.003	-0.002	-0.001
Germany	62.1	62.1	0.000	0.000	0.000	0.000	45.7	45.7	-0.002	-0.001	-0.001
Greece	23.6	23.6	0.000	0.000	0.000	0.000	34.7	34.7	-0.001	0.000	0.000
India	33.3	33.3	0.000	0.000	0.000	0.000	29.7	29.7	-0.003	-0.003	0.000
Japan	72.8	72.8	0.000	0.000	0.000	0.000	40.2	40.2	0.000	0.000	0.000
Korea	61.5	61.5	0.000	0.000	0.000	0.000	34.1	34.1	0.000	0.000	0.000
Mexico	59.6	59.6	0.000	0.000	0.000	0.000	44.4	44.4	-0.001	0.000	0.000
Netherlands	35.5	35.5	0.000	0.000	0.000	0.000	41.1	41.1	0.000	0.000	0.000
New Zealand	21.9	21.9	0.000	0.000	0.000	0.000	28.1	28.1	-0.003	-0.002	-0.001
Norway	9.7	9.7	0.000	0.000	0.000	0.000	42.8	42.8	0.001	0.000	0.000
Peru	19.2	19.2	0.000	0.000	0.000	0.000	43.1	43.1	0.000	0.000	0.000
Romania	53.5	53.5	0.000	0.000	0.000	0.000	38.3	38.3	-0.001	0.000	0.000
Vietnam	56.1	56.1	0.000	0.000	0.000	0.000	32.2	32.2	0.000	0.000	0.000
Spain	58.9	58.9	0.000	0.000	0.000	0.000	44.0	44.0	-0.001	-0.001	0.000
Sweden	44.8	44.8	0.000	0.000	0.000	0.000	37.5	37.5	-0.002	-0.001	-0.001
Egypt	22.1	22.1	0.000	0.000	0.000	0.000	28.8	28.8	0.000	0.000	0.000
USA	51.1	51.1	0.000	0.000	0.000	0.000	38.6	38.6	-0.001	0.000	0.000
ROW	33.3	33.3	0.000	0.000	0.000	0.000	42.1	42.1	-0.004	-0.002	-0.002

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the optimal tariffs of the six highest profit-shifting countries—Brazil, Indonesia, Australia, Russia, Italy, and UK—such that all of these countries experience positive marginal welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.74: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Optimal Tariffs Among Highest Profit-shifting Countries Ensuring Positive Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Point Reduction (2.47%p)					Optimal Tariffs	Percentage Point Reduction (39.77%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Brazil	40.3	37.8	0.000	0.002	0.000	-0.002	35.8	0.0	0.046	0.140	-0.094
Indonesia	43.1	40.6	0.007	0.006	0.002	-0.001	44.6	4.8	0.073	0.196	-0.123
Australia	4.9	2.4	0.004	0.007	0.012	-0.016	42.5	2.7	0.000	0.195	-0.195
Russia	0.0	0.0	0.009	0.003	0.006	0.000	40.6	0.8	0.056	0.198	-0.142
Italy	63.1	60.6	0.005	0.003	0.000	0.001	43.1	3.3	0.134	0.225	-0.091
UK	43.0	40.5	0.009	0.006	0.003	0.000	37.9	0.0	0.214	0.327	-0.113
Austria	44.6	44.6	0.000	0.000	0.000	0.000	35.6	35.6	-0.004	-0.003	-0.001
Bangladesh	49.2	49.2	0.000	0.000	0.000	0.000	41.5	41.5	0.001	0.000	0.000
Belgium	44.7	44.7	-0.001	0.000	0.000	0.000	38.5	38.5	-0.004	-0.003	-0.001
Canada	32.1	32.1	0.000	0.000	0.000	0.000	39.8	39.8	-0.002	-0.001	-0.001
China	56.2	56.2	0.000	0.000	0.000	0.000	37.6	37.6	0.000	0.000	0.000
Denmark	44.5	44.5	0.000	0.000	0.000	0.000	42.1	42.1	-0.009	-0.005	-0.004
France	47.7	47.7	0.000	0.000	0.000	0.000	41.4	41.4	-0.005	-0.003	-0.002
Germany	62.1	62.1	0.000	0.000	0.000	0.000	45.7	45.7	-0.003	-0.002	-0.001
Greece	23.6	23.6	0.000	0.000	0.000	0.000	34.7	34.7	-0.001	-0.001	0.000
India	33.3	33.3	-0.001	-0.001	0.000	0.000	29.7	29.7	-0.003	-0.004	0.000
Japan	72.8	72.8	0.000	0.000	0.000	0.000	40.2	40.2	0.000	0.000	0.000
Korea	61.5	61.5	0.000	0.000	0.000	0.000	34.1	34.1	0.000	0.000	0.000
Mexico	59.6	59.6	0.000	0.000	0.000	0.000	44.4	44.4	-0.001	0.000	-0.001
Netherlands	35.5	35.5	0.000	0.000	0.000	0.000	41.1	41.1	0.000	0.000	0.000
New Zealand	21.9	21.9	-0.001	0.000	0.000	0.000	28.1	28.1	-0.006	-0.004	-0.002
Norway	9.7	9.7	0.000	0.000	0.001	0.000	42.8	42.8	0.002	0.002	0.001
Peru	19.2	19.2	0.000	0.000	0.000	0.000	43.1	43.1	0.000	0.000	0.000
Romania	53.5	53.5	0.000	0.000	0.000	0.000	38.3	38.3	-0.001	-0.001	0.000
Vietnam	56.1	56.1	0.000	0.000	0.000	0.000	32.2	32.2	-0.001	-0.001	0.000
Spain	58.9	58.9	0.000	0.000	0.000	0.000	44.0	44.0	-0.002	-0.001	-0.001
Sweden	44.8	44.8	0.000	0.000	0.000	0.000	37.5	37.5	-0.004	-0.002	-0.001
Egypt	22.1	22.1	0.000	0.000	0.000	0.000	28.8	28.8	0.000	0.000	0.000
USA	51.1	51.1	0.000	0.000	0.000	0.000	38.6	38.6	-0.001	-0.001	0.000
ROW	33.3	33.3	0.000	0.000	0.000	0.000	42.1	42.1	-0.009	-0.005	-0.004

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the optimal tariffs of the six highest profit-shifting countries—Brazil, Indonesia, Australia, Russia, Italy, and UK—such that all of these countries experience positive welfare gains. All other countries retain their optimal tariffs. Optimal tariffs refer to the tariff each country would unilaterally set to maximize its own welfare, assuming all other countries' tariffs remain fixed. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

A.10.2 Nash Tariffs

Table A.75: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Nash Tariffs Among Highest Profit-shifting Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Nash Tariffs	Percentage Reduction (16.49%)					Nash Tariffs	Percentage Reduction (65.00%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Brazil	57.4	47.9	0.002	0.007	-0.001	-0.004	41.2	14.4	0.042	0.076	-0.033
Indonesia	48.1	40.2	0.006	0.012	0.003	-0.009	50.5	17.7	0.062	0.118	-0.056
Australia	5.7	4.8	0.017	0.011	0.010	-0.004	43.1	15.1	0.044	0.118	-0.074
Russia	0.0	0.0	0.035	0.013	0.022	0.000	43.5	15.2	0.071	0.115	-0.044
Italy	71.8	60.0	0.006	0.011	-0.002	-0.002	47.7	16.7	0.095	0.127	-0.032
UK	49.5	41.3	0.023	0.017	0.009	-0.003	41.8	14.6	0.158	0.181	-0.023
Austria	51.8	51.8	0.000	0.000	0.000	0.000	40.2	40.2	-0.002	-0.001	-0.001
Bangladesh	48.7	48.7	0.000	0.000	0.000	0.000	41.4	41.4	0.000	0.000	0.000
Belgium	50.0	50.0	-0.004	-0.001	-0.002	-0.001	42.5	42.5	-0.002	-0.002	0.000
Canada	38.6	38.6	0.000	0.000	0.000	0.000	44.4	44.4	-0.001	0.000	-0.001
China	60.5	60.5	0.000	0.000	0.000	0.000	42.1	42.1	0.000	0.000	0.000
Denmark	49.2	49.2	0.001	0.000	0.001	0.000	46.2	46.2	-0.005	-0.003	-0.002
France	54.2	54.2	0.000	0.000	0.000	0.000	45.3	45.3	-0.002	-0.001	-0.001
Germany	68.5	68.5	0.000	0.000	0.000	0.000	50.5	50.5	-0.002	-0.001	-0.001
Greece	32.6	32.6	0.001	0.000	0.001	0.000	39.0	39.0	-0.001	-0.001	0.000
India	43.8	43.8	-0.001	-0.001	0.000	0.000	32.6	32.6	-0.003	-0.003	0.000
Japan	85.6	85.6	0.000	0.000	0.000	0.000	45.6	45.6	0.000	0.000	0.000
Korea	68.5	68.5	0.000	0.000	0.000	0.000	36.9	36.9	0.000	0.000	0.000
Mexico	62.5	62.5	-0.001	0.000	-0.001	0.000	49.0	49.0	0.000	0.000	-0.001
Netherlands	41.2	41.2	-0.001	-0.001	0.000	-0.001	44.7	44.7	0.000	0.000	0.000
New Zealand	30.6	30.6	0.001	0.000	0.001	0.000	32.8	32.8	-0.003	-0.002	-0.001
Norway	12.1	12.1	0.001	0.000	0.001	0.000	46.1	46.1	0.003	0.002	0.001
Peru	21.4	21.4	0.000	0.000	0.000	0.000	47.7	47.7	0.000	0.000	0.000
Romania	58.6	58.6	0.000	0.000	0.001	0.000	45.4	45.4	-0.001	-0.001	0.000
Vietnam	58.6	58.6	0.000	0.000	0.000	0.000	35.2	35.2	-0.001	0.000	0.000
Spain	68.4	68.4	0.000	0.000	0.000	0.000	48.9	48.9	-0.001	-0.001	0.000
Sweden	55.1	55.1	0.000	0.000	0.000	0.000	42.6	42.6	-0.002	-0.001	-0.001
Egypt	31.3	31.3	0.000	0.000	0.000	0.000	31.7	31.7	-0.001	-0.001	0.000
USA	59.1	59.1	0.000	0.000	0.000	0.000	42.6	42.6	0.000	0.000	0.000
ROW	37.3	37.3	0.001	0.000	0.001	0.000	44.8	44.8	-0.005	-0.003	-0.002

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the Nash tariffs of the six highest profit-shifting countries—Brazil, Indonesia, Australia, Russia, Italy, and UK—such that all of these countries experience positive marginal welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.76: Cooperative Tariffs: Largest Uniform Tariff Percentage Reduction from Nash Tariffs Among Highest Profit-shifting Countries Ensuring Positive Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Nash Tariffs	Percentage Reduction (32.08%)					Nash Tariffs	Percentage Reduction (99.26%)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Brazil	57.4	39.0	0.000	0.014	-0.003	-0.011	41.2	0.3	0.063	0.157	-0.094
Indonesia	48.1	32.7	0.006	0.024	0.005	-0.024	50.5	0.4	0.000	0.213	-0.213
Australia	5.7	3.9	0.038	0.024	0.021	-0.007	43.1	0.3	0.021	0.232	-0.211
Russia	0.0	0.0	0.078	0.030	0.048	0.000	43.5	0.3	0.088	0.226	-0.138
Italy	71.8	48.8	0.005	0.023	-0.007	-0.011	47.7	0.4	0.111	0.244	-0.133
UK	49.5	33.6	0.046	0.037	0.018	-0.009	41.8	0.3	0.282	0.374	-0.092
Austria	51.8	51.8	0.001	0.001	0.000	0.001	40.2	40.2	-0.004	-0.003	-0.001
Bangladesh	48.7	48.7	0.001	0.000	0.000	0.000	41.4	41.4	0.002	0.001	0.001
Belgium	50.0	50.0	-0.006	-0.001	-0.002	-0.002	42.5	42.5	-0.005	-0.003	-0.001
Canada	38.6	38.6	0.000	0.001	-0.001	0.000	44.4	44.4	-0.002	-0.001	-0.001
China	60.5	60.5	0.001	0.000	0.001	0.000	42.1	42.1	0.000	0.000	0.000
Denmark	49.2	49.2	0.002	0.000	0.001	0.000	46.2	46.2	-0.009	-0.005	-0.004
France	54.2	54.2	0.001	0.000	0.001	0.000	45.3	45.3	-0.004	-0.003	-0.002
Germany	68.5	68.5	0.001	0.000	0.001	0.000	50.5	50.5	-0.003	-0.002	-0.001
Greece	32.6	32.6	0.000	-0.001	0.002	-0.001	39.0	39.0	-0.002	-0.002	-0.001
India	43.8	43.8	-0.001	-0.001	0.000	0.000	32.6	32.6	-0.002	-0.002	0.000
Japan	85.6	85.6	0.000	0.000	0.000	0.000	45.6	45.6	0.001	0.001	0.000
Korea	68.5	68.5	0.000	0.000	0.000	0.000	36.9	36.9	0.000	0.000	0.000
Mexico	62.5	62.5	-0.001	0.000	-0.001	0.000	49.0	49.0	-0.001	0.000	-0.001
Netherlands	41.2	41.2	-0.001	-0.001	0.001	-0.001	44.7	44.7	-0.001	0.000	0.000
New Zealand	30.6	30.6	0.003	0.001	0.002	0.000	32.8	32.8	-0.006	-0.004	-0.002
Norway	12.1	12.1	0.001	0.000	0.001	0.000	46.1	46.1	0.006	0.004	0.002
Peru	21.4	21.4	0.000	0.000	0.000	0.000	47.7	47.7	0.000	0.000	0.000
Romania	58.6	58.6	0.001	0.000	0.001	0.000	45.4	45.4	-0.002	-0.001	-0.001
Vietnam	58.6	58.6	0.001	0.000	0.000	0.000	35.2	35.2	-0.001	-0.001	-0.001
Spain	68.4	68.4	0.000	-0.001	0.001	0.000	48.9	48.9	-0.002	-0.001	-0.001
Sweden	55.1	55.1	0.001	0.000	0.001	0.000	42.6	42.6	-0.004	-0.003	-0.002
Egypt	31.3	31.3	0.000	0.000	0.000	0.000	31.7	31.7	-0.002	-0.001	0.000
USA	59.1	59.1	0.000	0.000	0.000	0.000	42.6	42.6	-0.001	-0.001	0.000
ROW	37.3	37.3	0.001	0.000	0.001	0.000	44.8	44.8	-0.010	-0.005	-0.005

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from the Nash tariffs of the six highest profit-shifting countries—Brazil, Indonesia, Australia, Russia, Italy, and UK—such that all of these countries experience positive welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.77: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Nash Tariffs Among Highest Profit-shifting Countries Ensuring Positive Marginal Welfare Gains Within the Group

Countries	Homogeneous Model						Perfect Competition Model				
	Nash Tariffs	Percentage Point Reduction (5.70%p)					Nash Tariffs	Percentage Point Reduction (22.05%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Brazil	57.4	51.7	0.002	0.004	0.000	-0.002	41.2	19.2	0.027	0.053	-0.025
Indonesia	48.1	42.4	0.014	0.012	0.004	-0.002	50.5	28.5	0.067	0.081	-0.014
Australia	5.7	0.0	0.006	0.016	0.028	-0.038	43.1	21.1	0.031	0.080	-0.049
Russia	0.0	0.0	0.019	0.007	0.012	0.000	43.5	21.5	0.051	0.078	-0.027
Italy	71.8	66.1	0.011	0.007	0.001	0.003	47.7	25.7	0.083	0.089	-0.006
UK	49.5	43.8	0.020	0.013	0.006	0.001	41.8	19.8	0.105	0.124	-0.018
Austria	51.8	51.8	-0.001	0.000	-0.001	0.000	40.2	40.2	-0.001	-0.001	0.000
Bangladesh	48.7	48.7	0.000	0.000	0.000	0.000	41.4	41.4	0.000	0.000	0.000
Belgium	50.0	50.0	-0.001	0.000	-0.001	0.000	42.5	42.5	-0.001	-0.001	0.000
Canada	38.6	38.6	0.000	0.000	0.000	-0.001	44.4	44.4	-0.001	0.000	-0.001
China	60.5	60.5	0.000	0.000	0.000	0.000	42.1	42.1	0.000	0.000	0.000
Denmark	49.2	49.2	-0.001	0.000	0.000	0.000	46.2	46.2	-0.003	-0.002	-0.001
France	54.2	54.2	0.000	0.000	0.000	0.000	45.3	45.3	-0.002	-0.001	-0.001
Germany	68.5	68.5	0.000	0.000	0.000	0.000	50.5	50.5	-0.001	-0.001	0.000
Greece	32.6	32.6	0.001	0.000	0.001	0.000	39.0	39.0	0.000	0.000	0.000
India	43.8	43.8	-0.001	-0.001	0.000	0.000	32.6	32.6	-0.003	-0.003	0.000
Japan	85.6	85.6	0.000	0.000	0.000	0.000	45.6	45.6	0.000	0.000	0.000
Korea	68.5	68.5	0.000	0.000	0.000	0.000	36.9	36.9	0.000	0.000	0.000
Mexico	62.5	62.5	-0.001	0.000	-0.001	-0.001	49.0	49.0	-0.001	0.000	-0.001
Netherlands	41.2	41.2	0.000	0.000	0.000	0.000	44.7	44.7	0.000	0.000	0.000
New Zealand	30.6	30.6	-0.002	-0.001	-0.001	0.000	32.8	32.8	-0.003	-0.002	-0.001
Norway	12.1	12.1	0.001	0.000	0.000	0.000	46.1	46.1	0.001	0.001	0.000
Peru	21.4	21.4	0.000	0.000	0.000	0.000	47.7	47.7	0.000	0.000	0.000
Romania	58.6	58.6	0.000	0.000	0.000	0.000	45.4	45.4	0.000	0.000	0.000
Vietnam	58.6	58.6	0.000	0.000	0.000	0.000	35.2	35.2	-0.001	0.000	0.000
Spain	68.4	68.4	0.000	0.000	0.000	0.000	48.9	48.9	-0.001	0.000	0.000
Sweden	55.1	55.1	0.000	0.000	0.000	0.000	42.6	42.6	-0.001	-0.001	0.000
Egypt	31.3	31.3	0.001	0.000	0.001	0.000	31.7	31.7	0.000	0.000	0.000
USA	59.1	59.1	0.000	0.000	0.000	0.000	42.6	42.6	0.000	0.000	0.000
ROW	37.3	37.3	0.000	0.000	0.000	0.000	44.8	44.8	-0.003	-0.002	-0.001

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the Nash tariffs of the six highest profit-shifting countries—Brazil, Indonesia, Australia, Russia, Italy, and UK—such that all of these countries experience positive marginal welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

Table A.78: Cooperative Tariffs: Largest Uniform Tariff Percentage Point Reduction from Nash Tariffs Among Highest Profit-shifting Countries Ensuring Positive Welfare Gains Within the Group

Countries	Baseline Model						Perfect Competition Model				
	Optimal Tariffs	Percentage Point Reduction (18.89%p)					Optimal Tariffs	Percentage Point Reduction (50.32%p)			
		Coop. Tariffs	Welfare	Decomposition				Coop. Tariffs	Welfare	Decomposition	
				Wage	Profit	Tariff				Wage	Tariff
Brazil	57.4	38.5	0.000	0.014	-0.003	-0.011	41.2	0.0	0.063	0.160	-0.096
Indonesia	48.1	29.2	0.002	0.030	0.005	-0.034	50.5	0.2	0.000	0.215	-0.215
Australia	5.7	0.0	0.041	0.036	0.040	-0.035	43.1	0.0	0.019	0.234	-0.216
Russia	0.0	0.0	0.072	0.027	0.045	0.000	43.5	0.0	0.088	0.229	-0.142
Italy	71.8	52.9	0.024	0.024	-0.001	0.001	47.7	0.0	0.111	0.247	-0.137
UK	49.5	30.6	0.038	0.040	0.017	-0.019	41.8	0.0	0.285	0.379	-0.094
Austria	51.8	51.8	0.001	0.001	0.000	0.000	40.2	40.2	-0.004	-0.003	-0.001
Bangladesh	48.7	48.7	0.001	0.000	0.000	0.000	41.4	41.4	0.002	0.001	0.001
Belgium	50.0	50.0	-0.004	-0.001	-0.002	-0.002	42.5	42.5	-0.005	-0.003	-0.002
Canada	38.6	38.6	-0.001	0.000	-0.001	-0.001	44.4	44.4	-0.002	-0.001	-0.001
China	60.5	60.5	0.000	0.000	0.001	0.000	42.1	42.1	0.000	0.000	0.000
Denmark	49.2	49.2	0.001	0.000	0.001	0.000	46.2	46.2	-0.009	-0.005	-0.004
France	54.2	54.2	0.000	0.000	0.000	0.000	45.3	45.3	-0.004	-0.003	-0.002
Germany	68.5	68.5	0.001	0.000	0.001	0.000	50.5	50.5	-0.003	-0.002	-0.001
Greece	32.6	32.6	0.000	-0.001	0.001	-0.001	39.0	39.0	-0.002	-0.002	-0.001
India	43.8	43.8	-0.001	-0.001	0.000	0.000	32.6	32.6	-0.002	-0.003	0.000
Japan	85.6	85.6	0.000	0.000	0.000	0.000	45.6	45.6	0.001	0.001	0.000
Korea	68.5	68.5	0.000	0.000	0.000	0.000	36.9	36.9	0.000	0.000	0.000
Mexico	62.5	62.5	-0.001	0.000	-0.001	-0.001	49.0	49.0	-0.001	0.000	-0.001
Netherlands	41.2	41.2	-0.001	-0.001	0.001	-0.001	44.7	44.7	-0.001	0.000	0.000
New Zealand	30.6	30.6	0.001	0.000	0.001	0.000	32.8	32.8	-0.006	-0.004	-0.002
Norway	12.1	12.1	0.000	-0.001	0.000	0.000	46.1	46.1	0.006	0.004	0.003
Peru	21.4	21.4	0.000	0.000	0.000	0.000	47.7	47.7	0.000	0.000	0.000
Romania	58.6	58.6	0.001	0.000	0.001	0.000	45.4	45.4	-0.002	-0.002	-0.001
Vietnam	58.6	58.6	0.000	0.000	0.000	0.000	35.2	35.2	-0.001	-0.001	-0.001
Spain	68.4	68.4	0.000	0.000	0.001	0.000	48.9	48.9	-0.002	-0.001	-0.001
Sweden	55.1	55.1	0.000	0.000	0.001	0.000	42.6	42.6	-0.004	-0.003	-0.002
Egypt	31.3	31.3	0.000	0.000	0.000	0.000	31.7	31.7	-0.002	-0.001	0.000
USA	59.1	59.1	0.000	0.000	0.000	0.000	42.6	42.6	-0.001	-0.001	0.000
ROW	37.3	37.3	0.001	0.000	0.001	0.000	44.8	44.8	-0.010	-0.005	-0.005

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from the Nash tariffs of the six highest profit-shifting countries—Brazil, Indonesia, Australia, Russia, Italy, and UK—such that all of these countries experience positive welfare gains. All other countries retain their Nash tariffs. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. The columns "Welfare" report the percentage change in welfare. We decompose the welfare changes into the percentage changes in real wages, real profits, and real tariff revenues, reported in columns "Wage", "Profit", and "Tariff", respectively.

B Additional Figures

B.1 Optimal Tariffs

Figure B.1: Optimal Tariffs (Baseline Model)

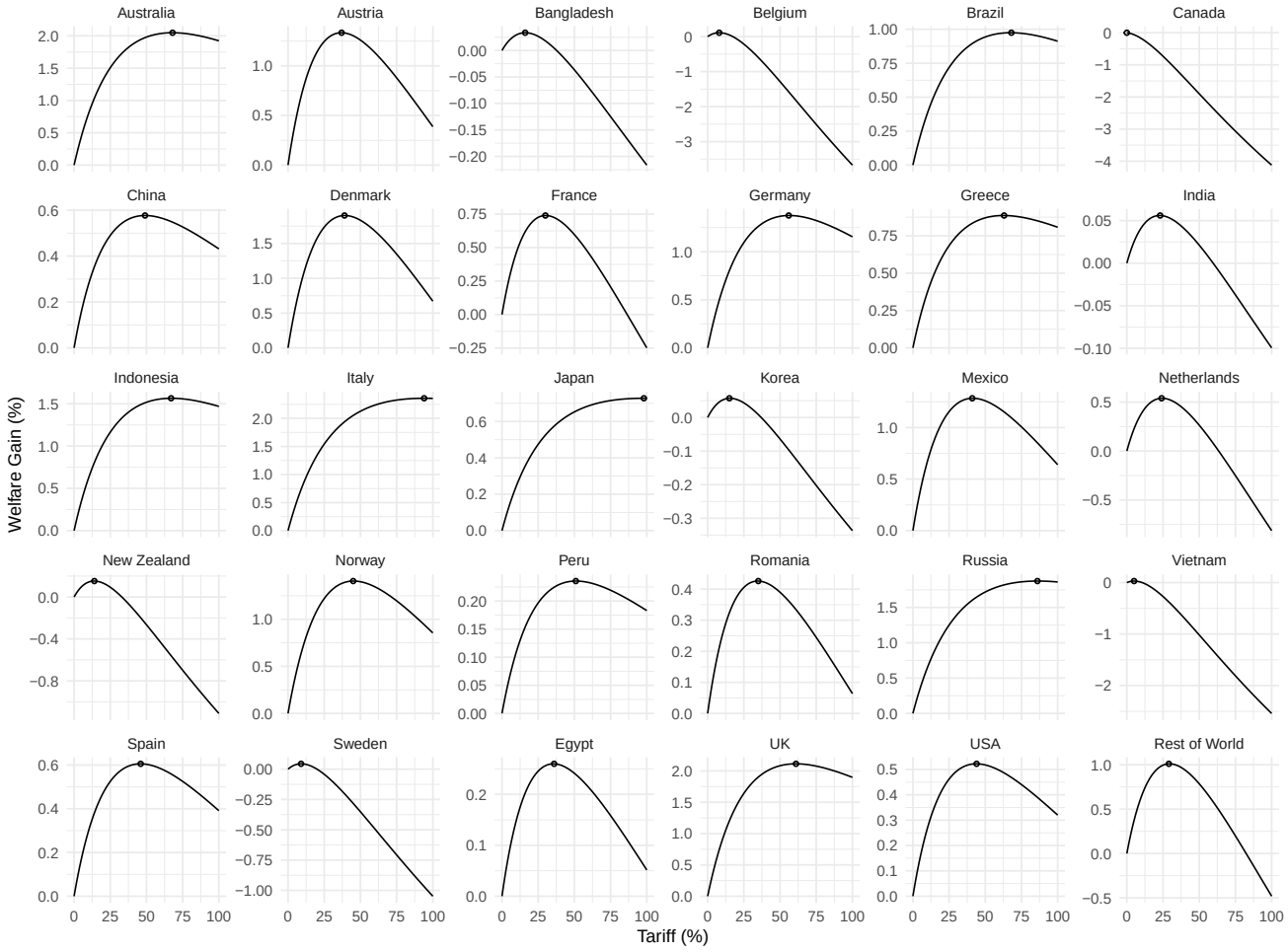


Figure B.2: Optimal Tariffs (Homogeneous Model)

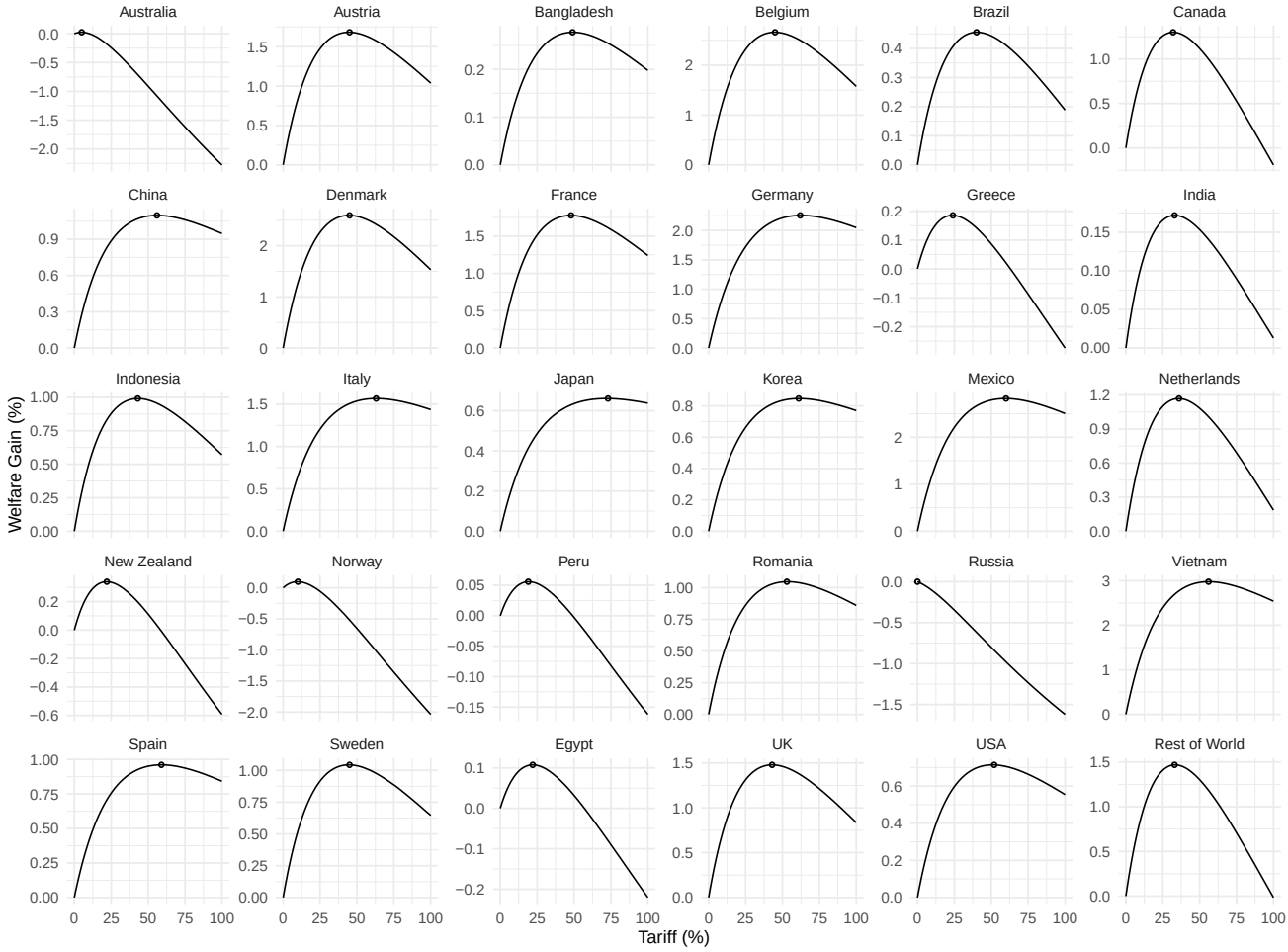


Figure B.3: Optimal Tariffs (Perfect Competition Model)

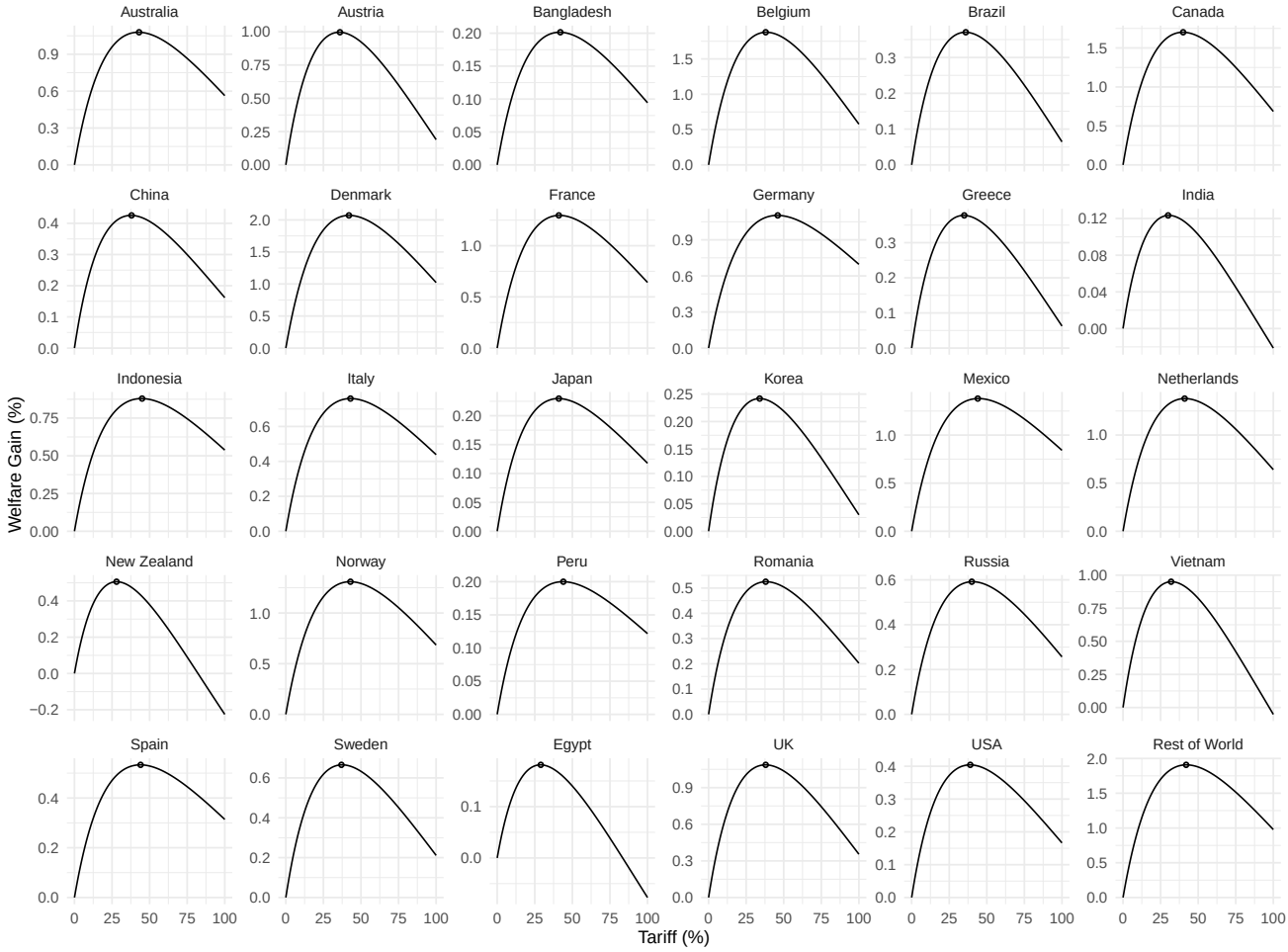
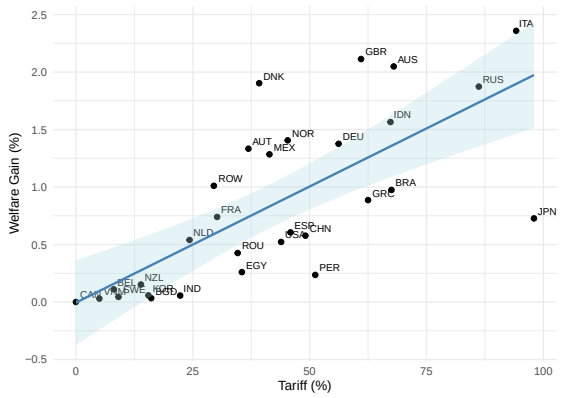
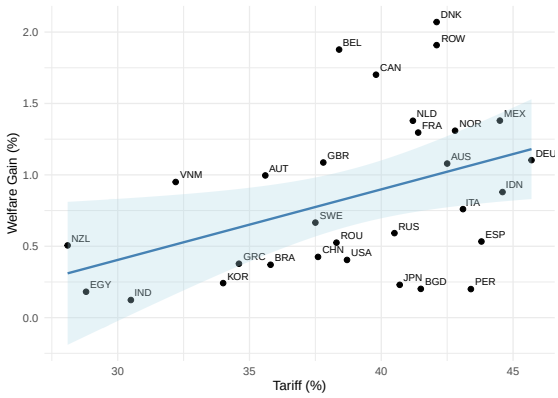


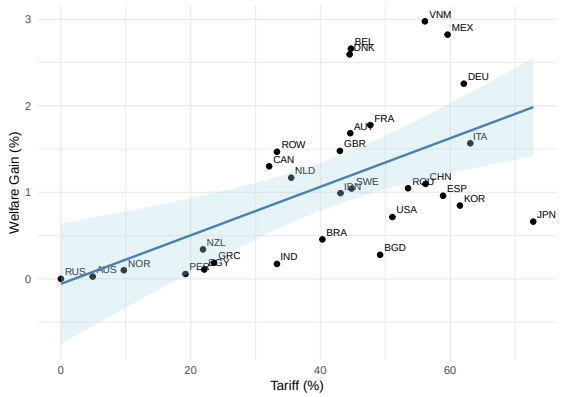
Figure B.4: Optimal Tariffs and Welfare Gains under Different Market Structures



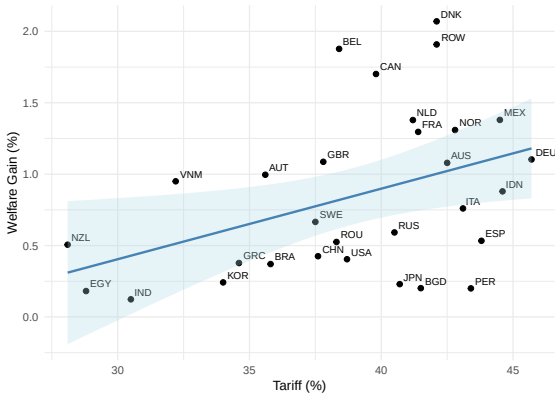
(a) Baseline Model



(b) Perfect Competition



(c) Homogeneous Model



(d) Perfect Competition

Notes: All panels plot welfare gains (vertical axis, in %) against optimal tariffs (horizontal axis, in %) that maximize a country's own welfare, assuming other countries' tariffs are fixed. Panel (a) shows the baseline heterogeneous model; (b) shows the perfect competition case without profit-shifting and fixed costs; (c) uses the same model as (a) but with a homogeneous elasticity (fixed at the USA value); (d) repeats the perfect competition case with a homogeneous elasticity. Shaded areas are 95% confidence intervals of linear fits.

Figure B.5: Optimal Tariffs (Baseline Model)

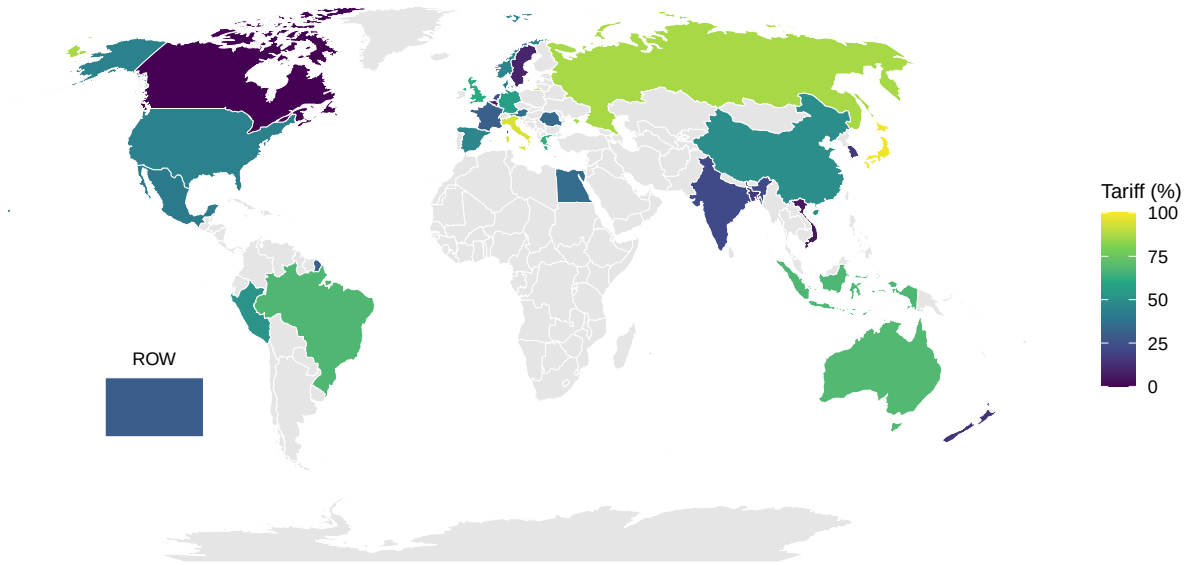


Figure B.6: Optimal Tariffs (Homogeneous Model)

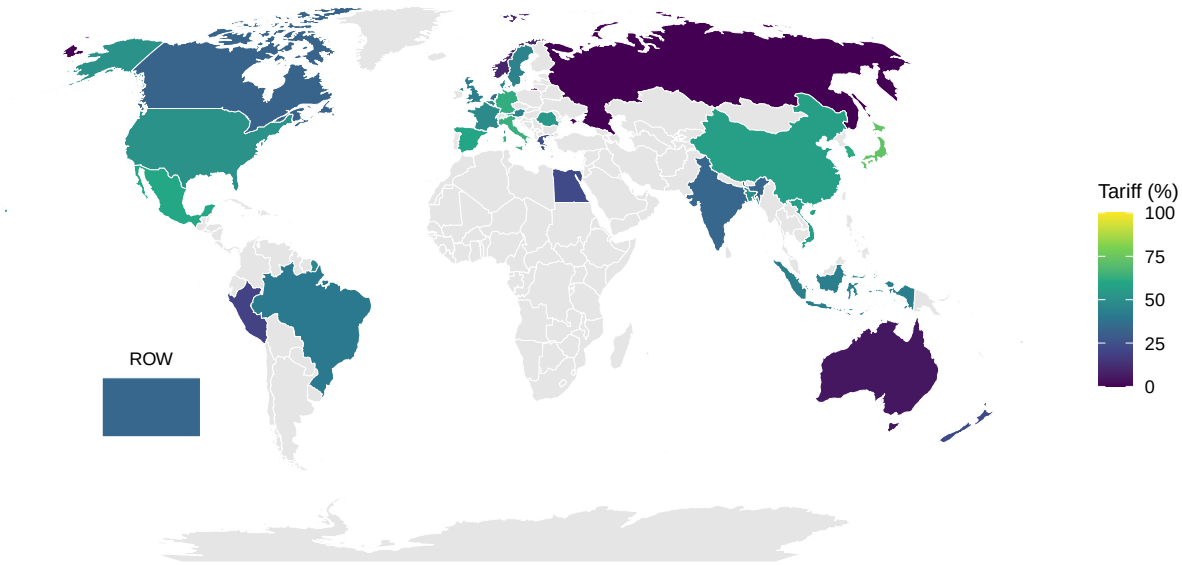
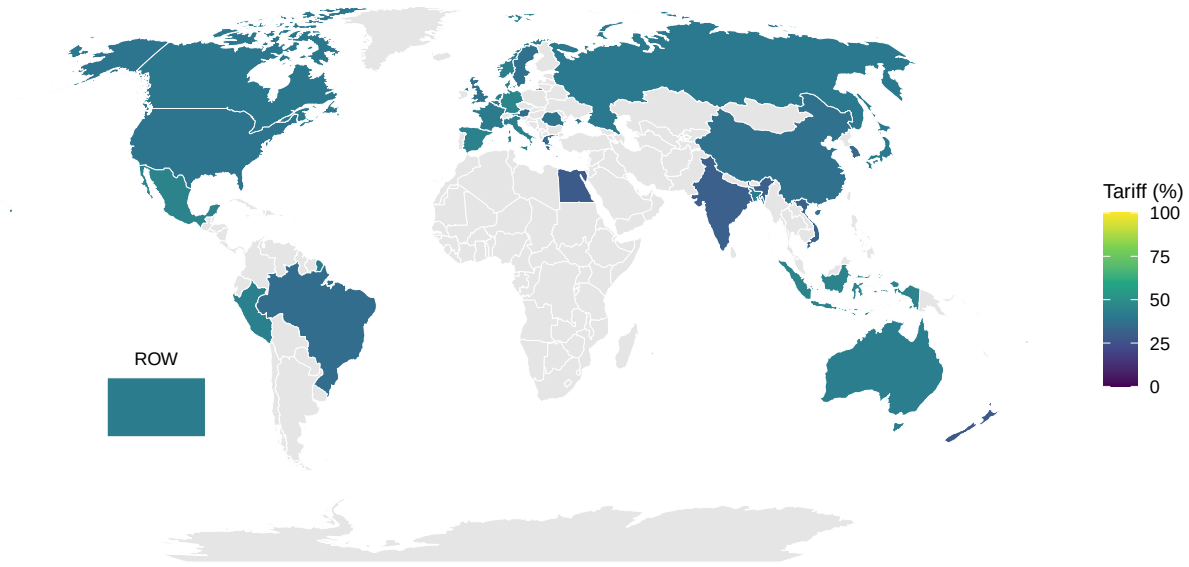
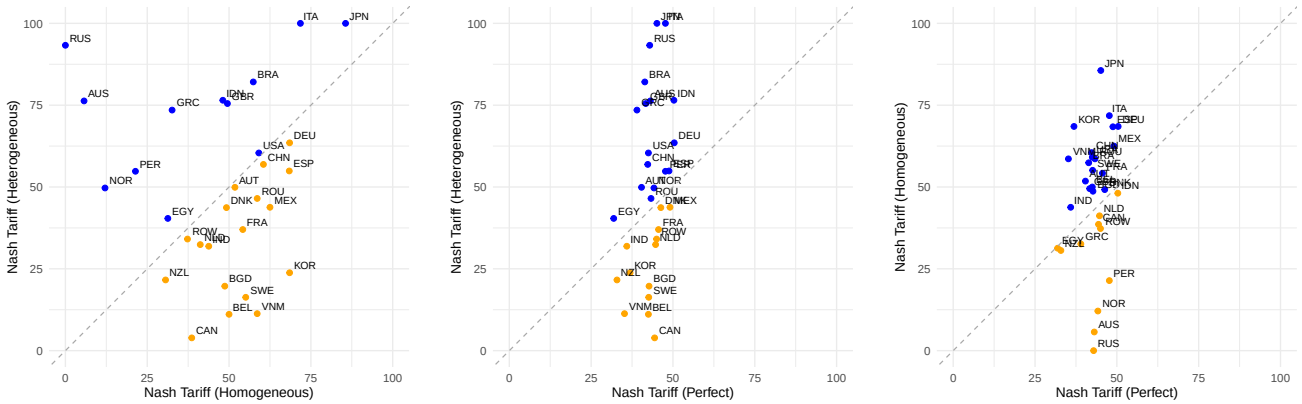


Figure B.7: Optimal Tariffs (Perfect Competition Model)



B.2 Nash Tariffs

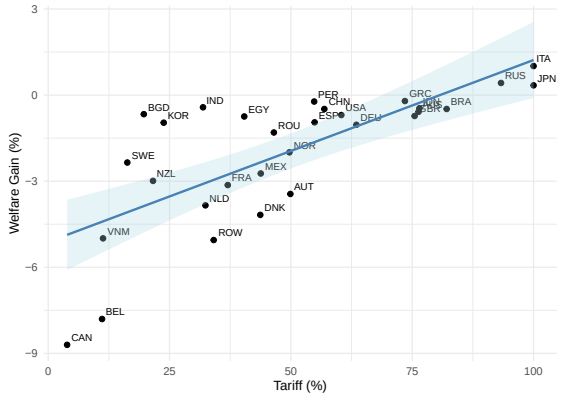
Figure B.8: Comparison of Nash Tariffs Across Market Structures



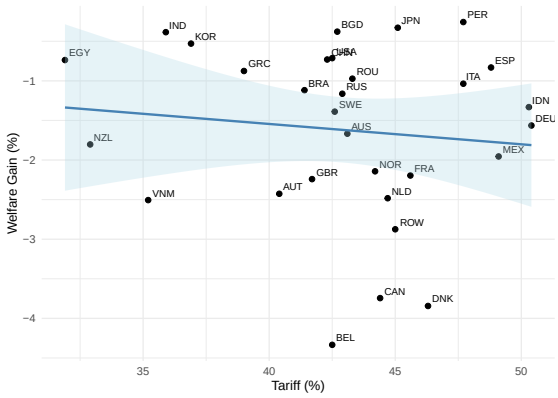
(a) Baseline vs. Homogeneous (b) Baseline vs. Perfect (c) Homogeneous vs. Perfect

Notes: Each panel plots the Nash tariffs (%) under two different market structures for each country. The dashed line indicates the 45-degree line where the two Nash tariffs are equal. Countries above the line set higher tariffs under the y-axis scenario and vice versa.

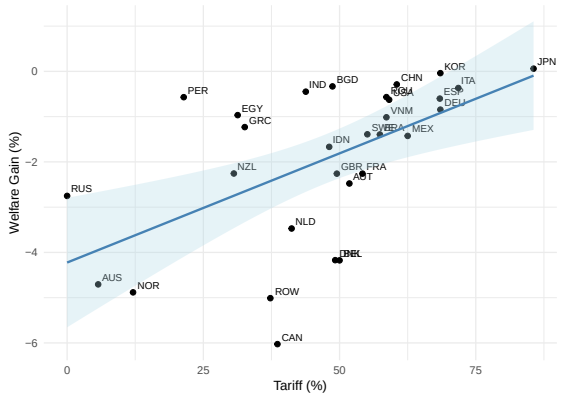
Figure B.9: Nash Tariffs and Welfare Gains under Different Market Structures



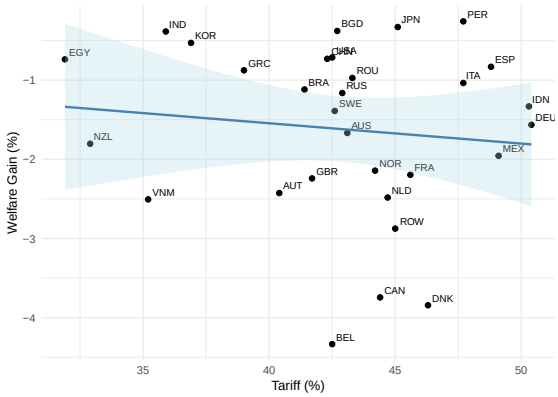
(a) Baseline Model



(b) Perfect Competition



(c) Homogeneous Model



(d) Perfect Competition

Notes: All panels plot welfare gains (vertical axis, in %) against Nash tariffs (horizontal axis, in %) that are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate. Panel (a) shows the baseline heterogeneous model; (b) shows the perfect competition case without profit-shifting and fixed costs; (c) uses the same model as (a) but with a homogeneous elasticity (fixed at the USA value); (d) repeats the perfect competition case with a homogeneous elasticity. Shaded areas are 95% confidence intervals of linear fits.

Figure B.10: Nash Tariffs (Baseline Model)

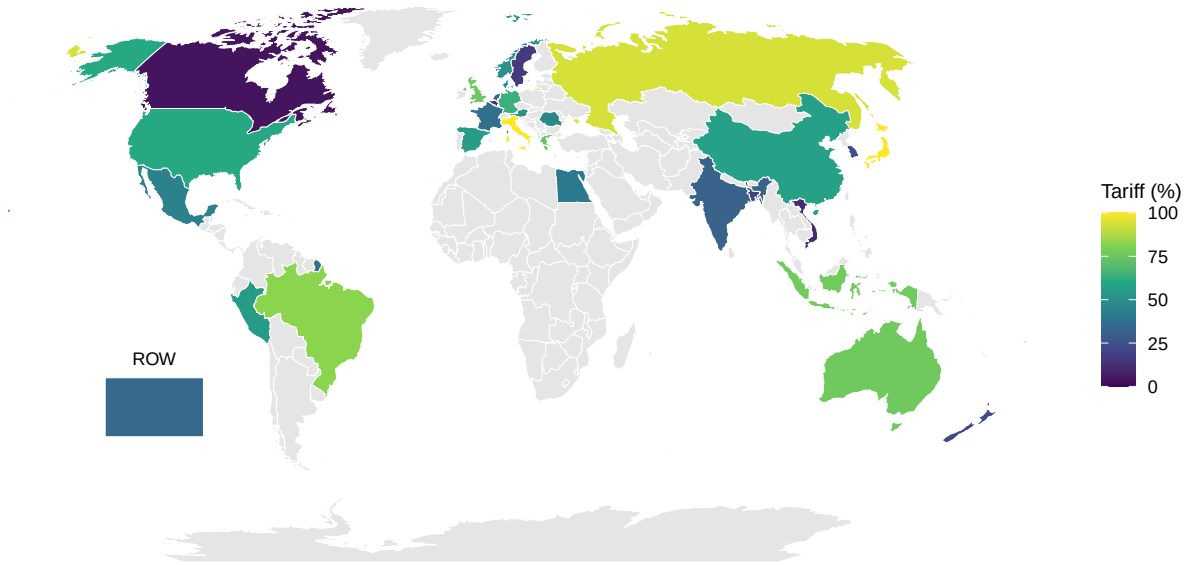


Figure B.11: Nash Tariffs (Homogeneous Model)

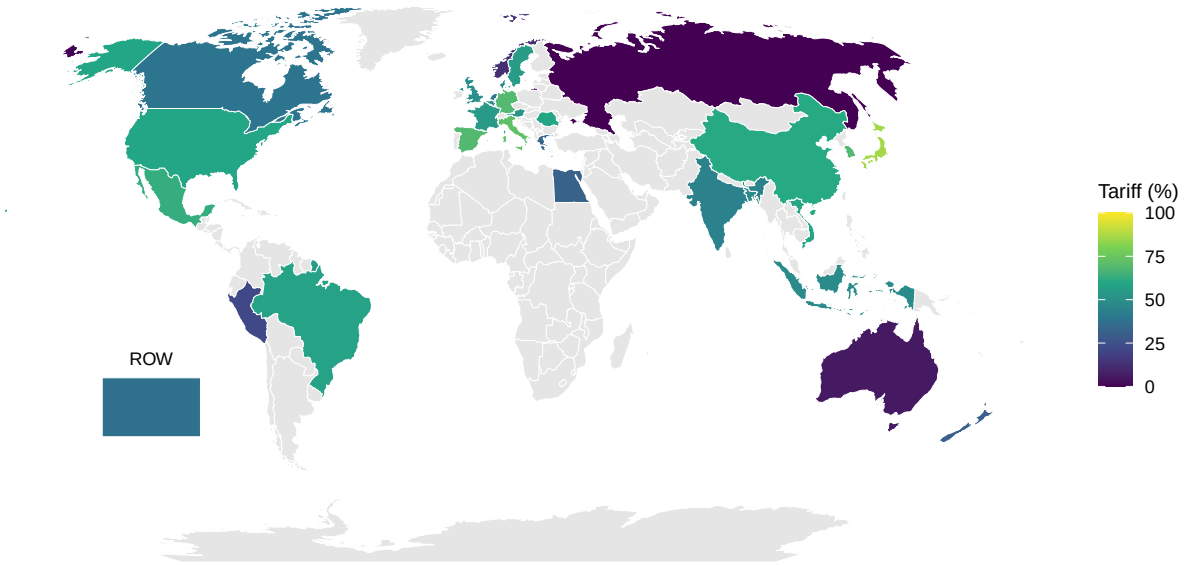
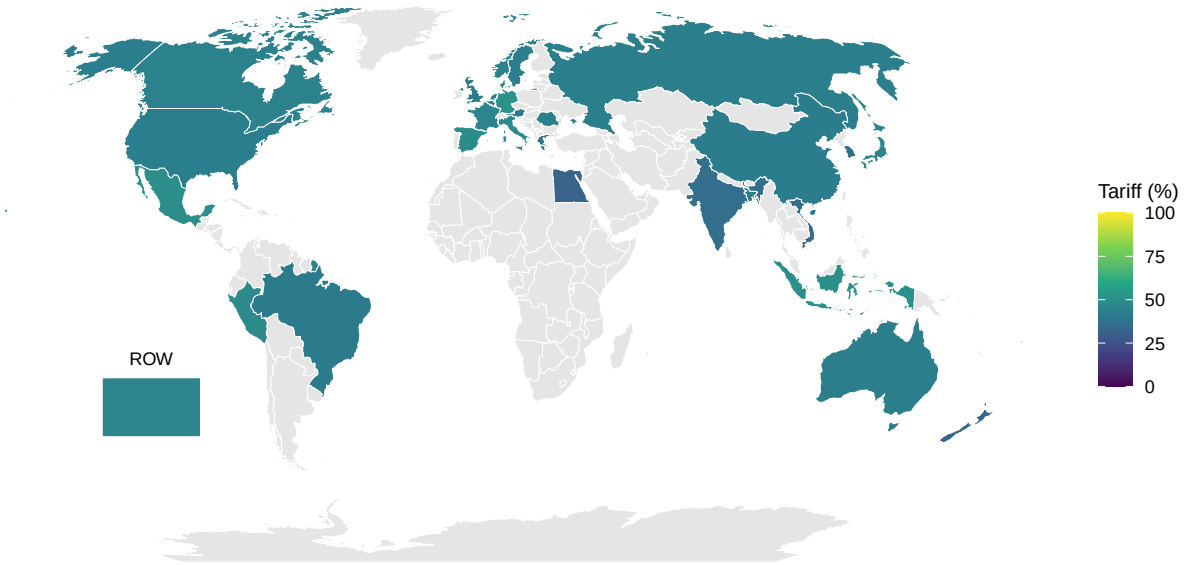
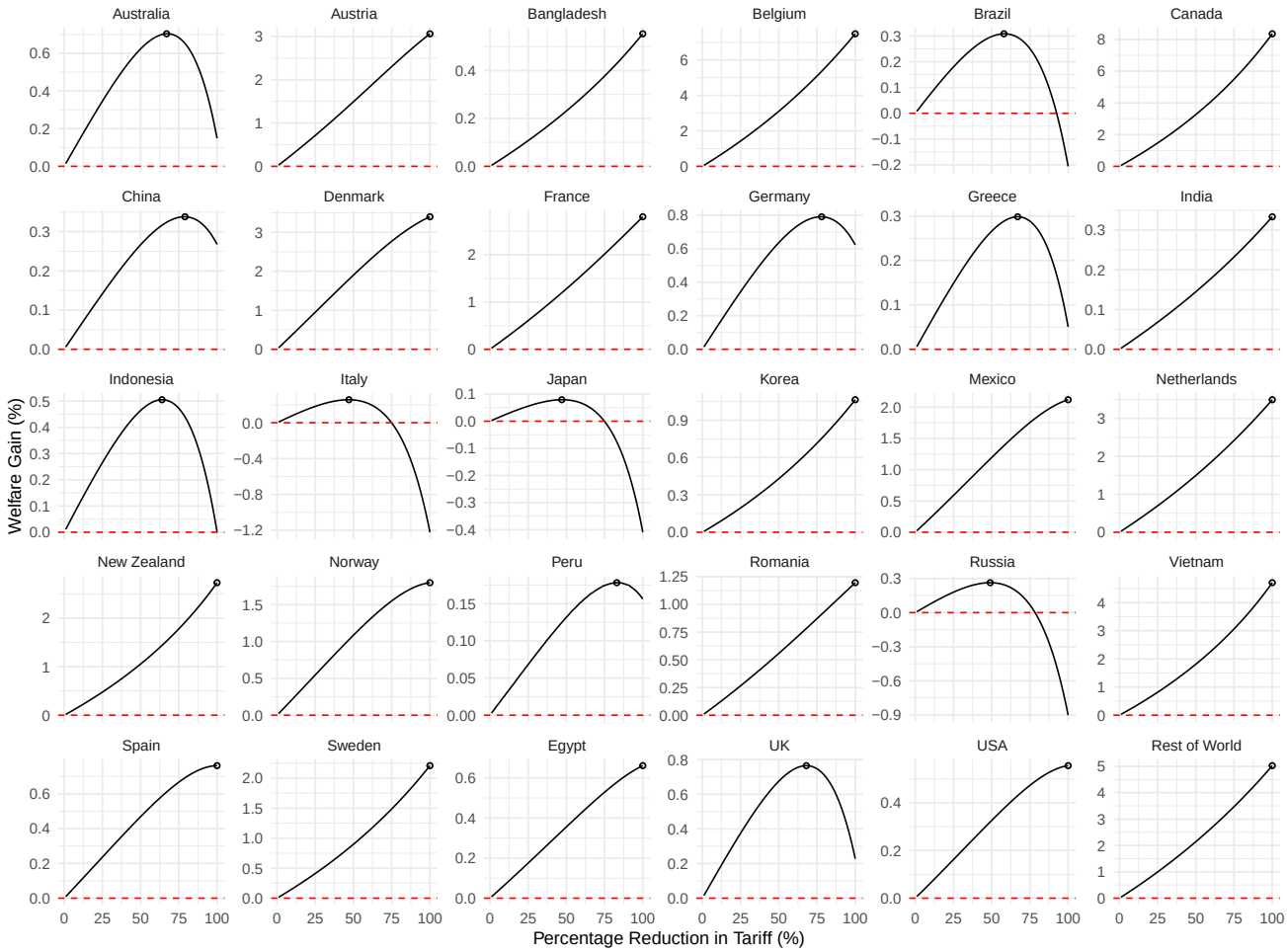


Figure B.12: Nash Tariffs (Perfect Competition Model)



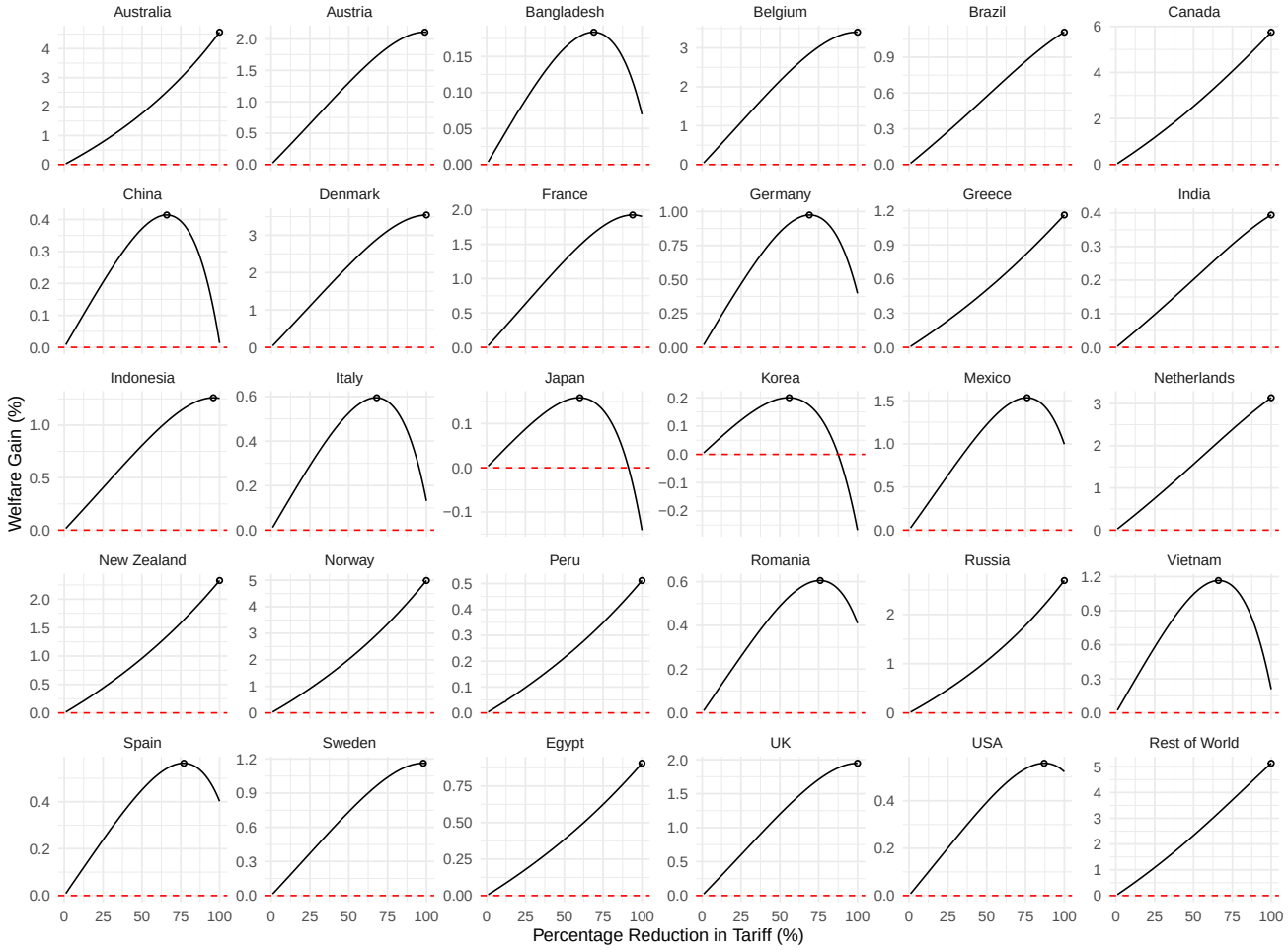
B.3 Cooperative Tariffs Staring from Optimal Tariffs

Figure B.13: Percentage Reduction in Tariffs (Baseline Model)



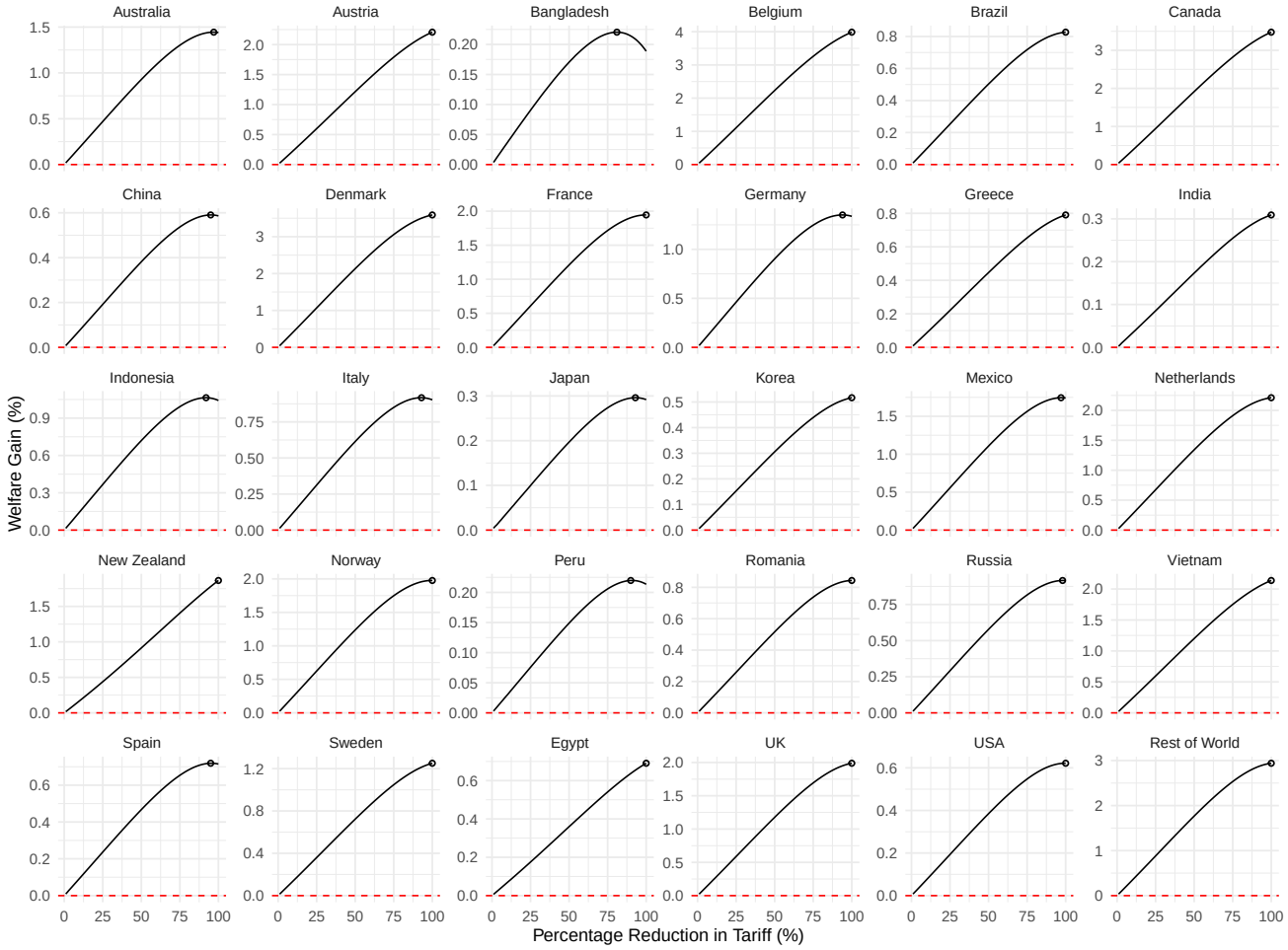
Notes: The dots indicate the points where marginal welfare gains become zero, and the horizontal dashed lines represent zero welfare gains. Depending on how cooperative tariffs are defined, the reduction point can be set in two ways: either (1) when a negotiating country is the first to reach zero marginal welfare gains, or (2) when a negotiating country is the first to experience negative welfare gains, in which case the reduction point is set just before that occurs.

Figure B.14: Percentage Reduction in Tariffs (Homogeneous Model)



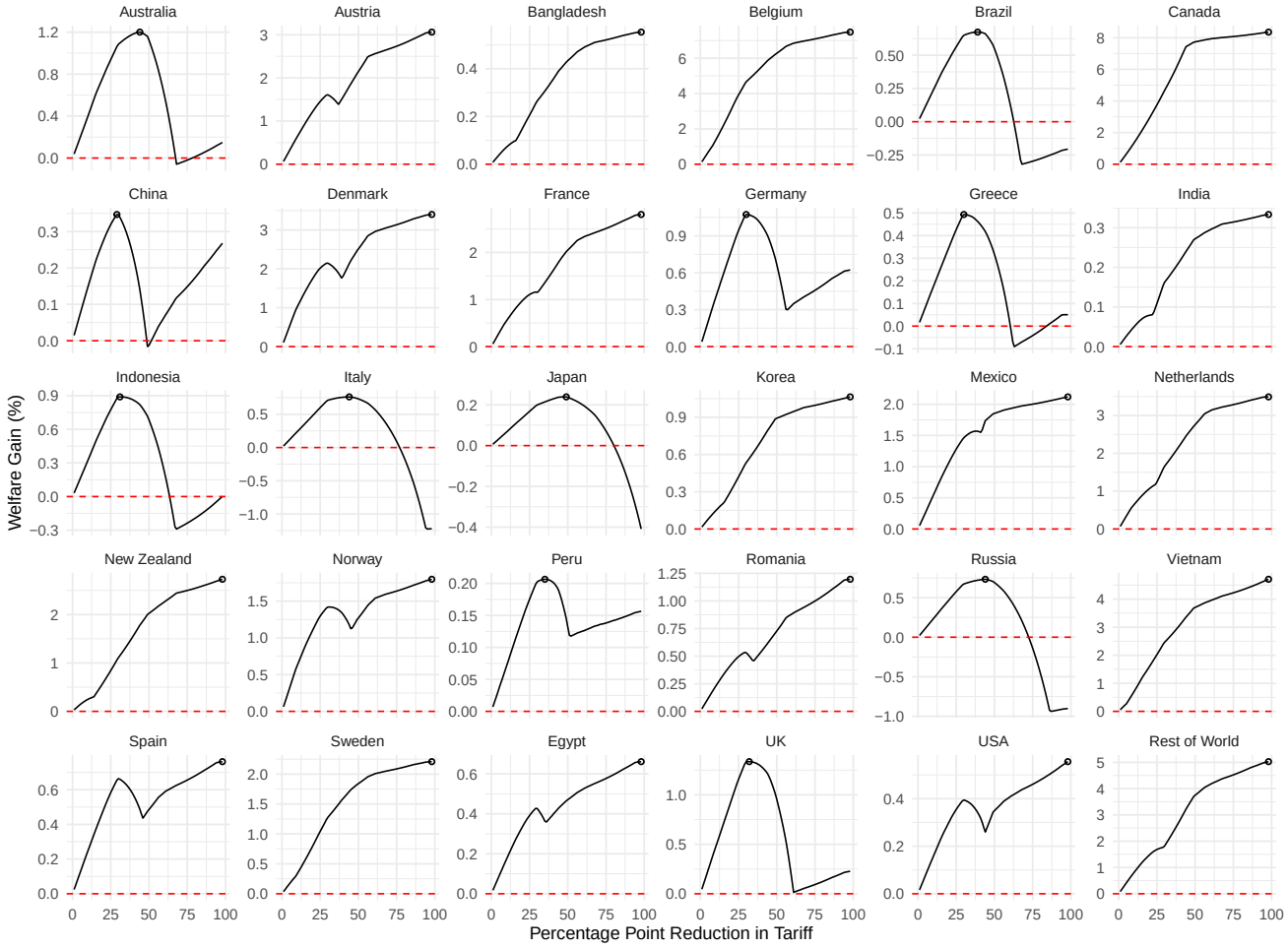
Notes: The dots indicate the points where marginal welfare gains become zero, and the horizontal dashed lines represent zero welfare gains. Depending on how cooperative tariffs are defined, the reduction point can be set in two ways: either (1) when a negotiating country is the first to reach zero marginal welfare gains, or (2) when a negotiating country is the first to experience negative welfare gains, in which case the reduction point is set just before that occurs.

Figure B.15: Percentage Reduction in Tariffs (Perfect Competition Model)



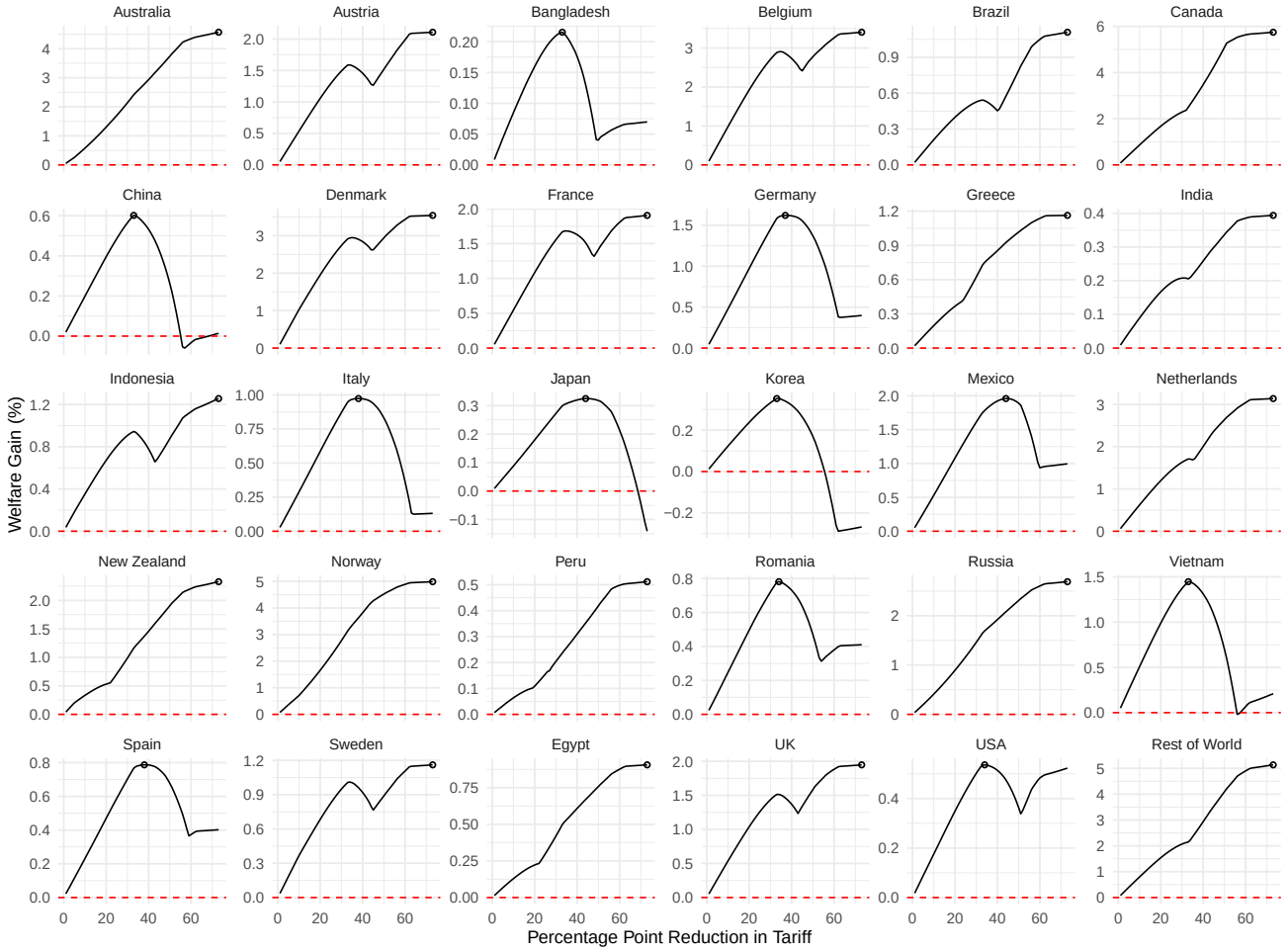
Notes: The dots indicate the points where marginal welfare gains become zero, and the horizontal dashed lines represent zero welfare gains. Depending on how cooperative tariffs are defined, the reduction point can be set in two ways: either (1) when a negotiating country is the first to reach zero marginal welfare gains, or (2) when a negotiating country is the first to experience negative welfare gains, in which case the reduction point is set just before that occurs.

Figure B.16: Percentage Point Reduction in Tariffs (Baseline Model)



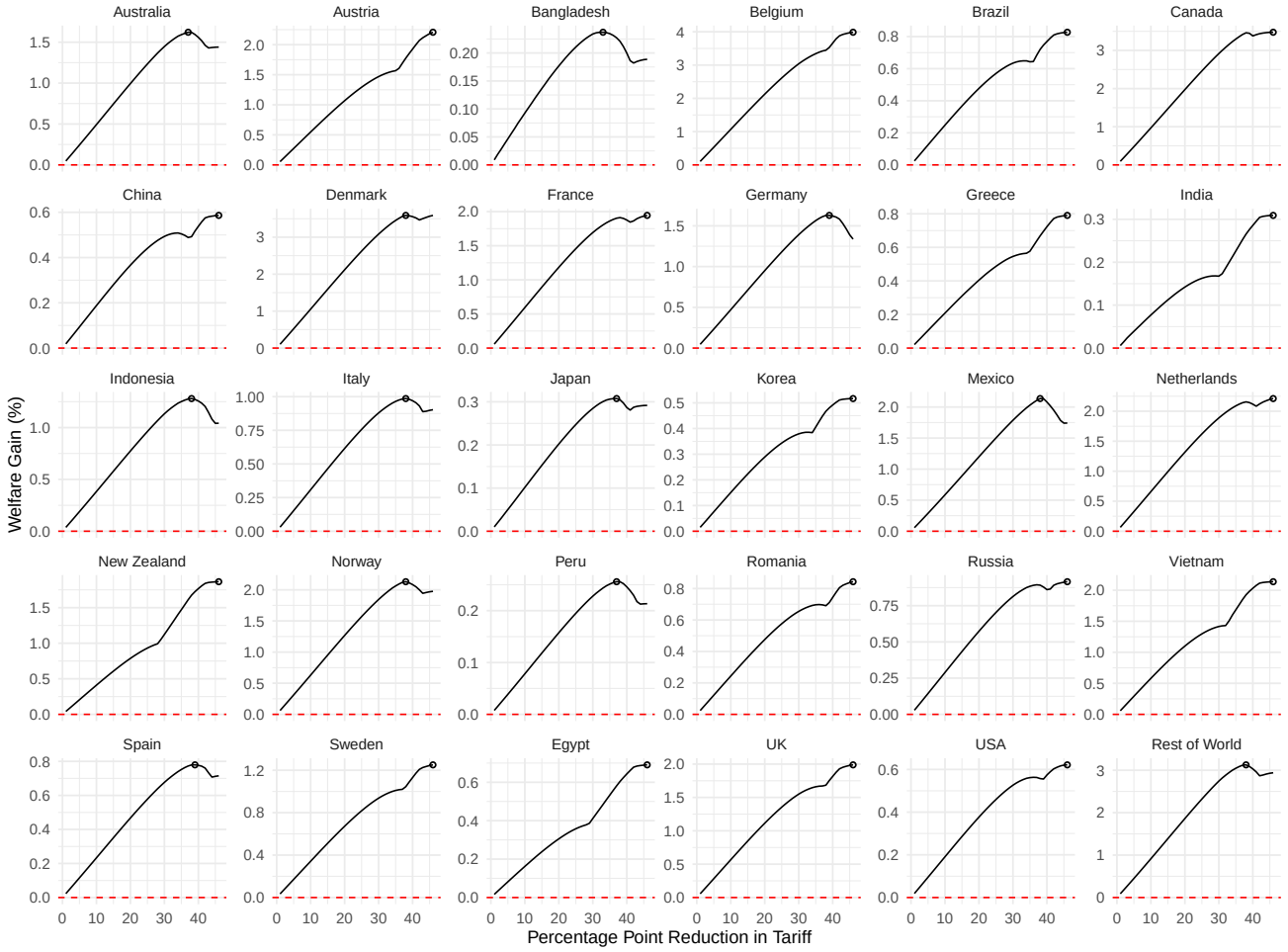
Notes: The dots indicate the points where marginal welfare gains become zero, and the horizontal dashed lines represent zero welfare gains. Depending on how cooperative tariffs are defined, the reduction point can be set in two ways: either (1) when a negotiating country is the first to reach zero marginal welfare gains, or (2) when a negotiating country is the first to experience negative welfare gains, in which case the reduction point is set just before that occurs.

Figure B.17: Percentage Point Reduction in Tariffs (Homogeneous Model)



Notes: The dots indicate the points where marginal welfare gains become zero, and the horizontal dashed lines represent zero welfare gains. Depending on how cooperative tariffs are defined, the reduction point can be set in two ways: either (1) when a negotiating country is the first to reach zero marginal welfare gains, or (2) when a negotiating country is the first to experience negative welfare gains, in which case the reduction point is set just before that occurs.

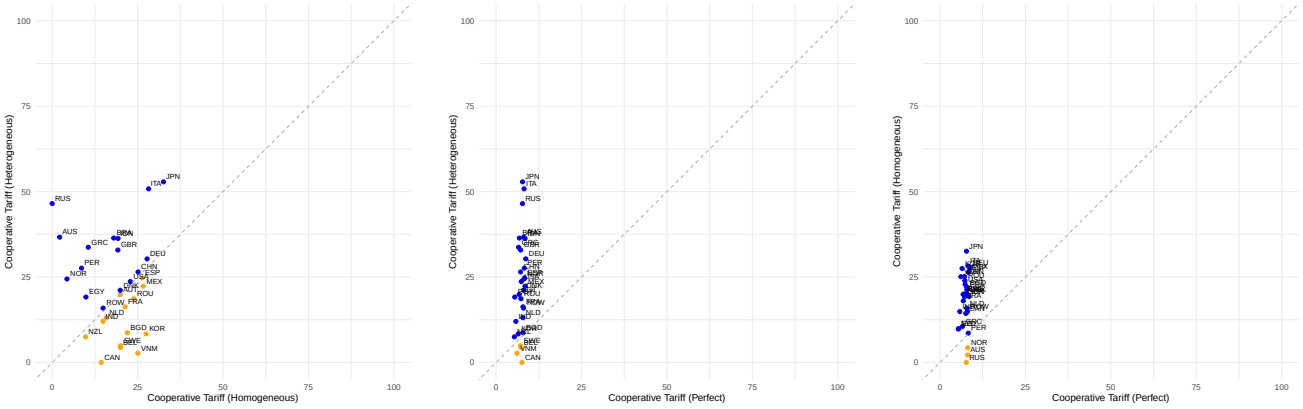
Figure B.18: Percentage Point Reduction in Tariffs (Perfect Competition Model)



Notes: The dots indicate the points where marginal welfare gains become zero, and the horizontal dashed lines represent zero welfare gains. Depending on how cooperative tariffs are defined, the reduction point can be set in two ways: either (1) when a negotiating country is the first to reach zero marginal welfare gains, or (2) when a negotiating country is the first to experience negative welfare gains, in which case the reduction point is set just before that occurs.

B.3.1 Marginal Welfare Gains with Percentage Reduction

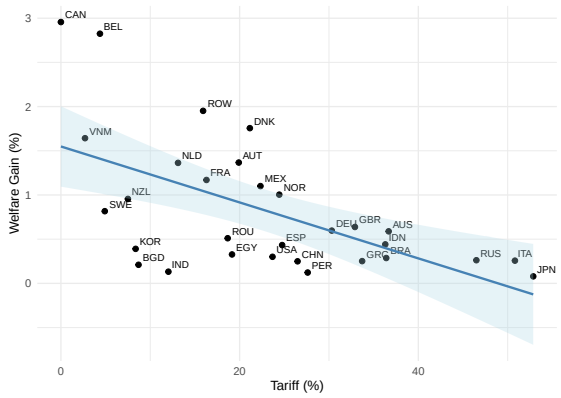
Figure B.19: Comparison of Cooperative Tariffs Across Market Structures



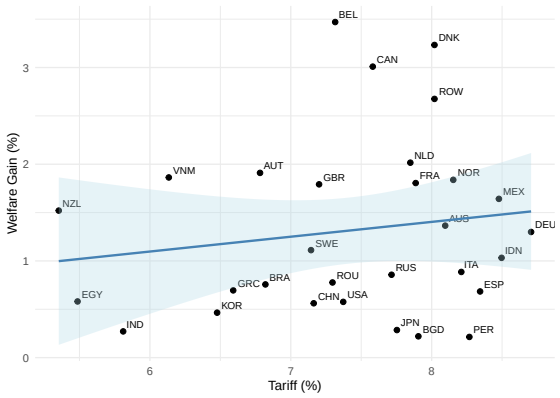
(a) Baseline vs. Homogeneous (b) Baseline vs. Perfect (c) Homogeneous vs. Perfect

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from each country's optimal tariff that result in positive marginal welfare gains for all. Each panel plots the cooperative tariffs (%) under two different market structures for each country. The dashed line indicates the 45-degree line where the two cooperative tariffs are equal. Countries above the line set higher tariffs under the y-axis scenario and vice versa.

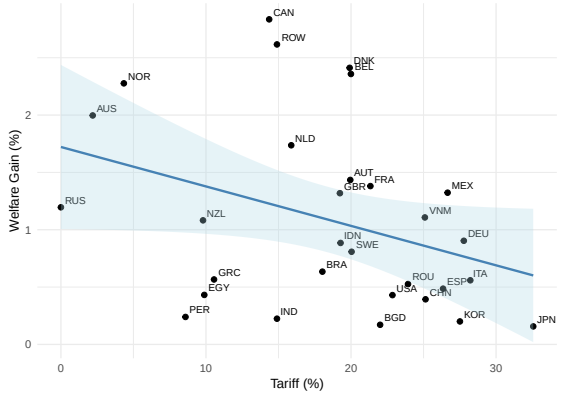
Figure B.20: Cooperative Tariffs and Welfare Gains under Different Market Structures



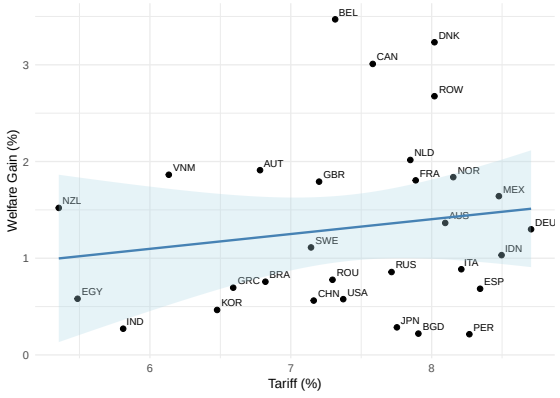
(a) Baseline Model



(b) Perfect Competition



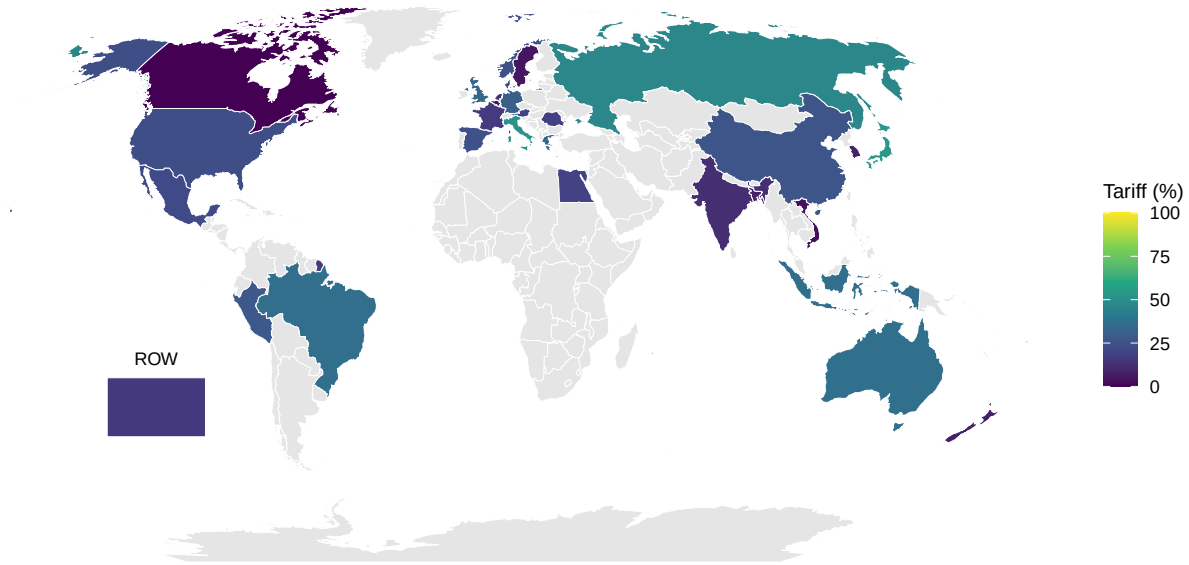
(c) Homogeneous Model



(d) Perfect Competition

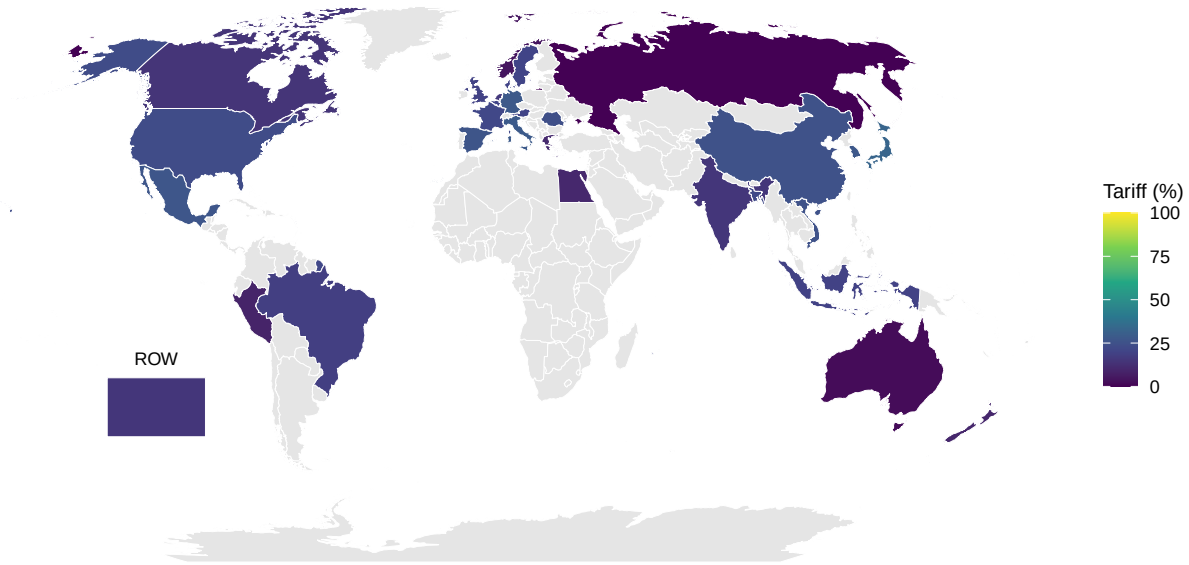
Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from each country's optimal tariff that result in positive marginal welfare gains for all. All panels plot welfare gains (vertical axis, in %) against cooperative tariffs (horizontal axis, in %) that maximize a country's own welfare, assuming other countries' tariffs are fixed. Panel (a) shows the baseline heterogeneous model; (b) shows the perfect competition case without profit-shifting and fixed costs; (c) uses the same model as (a) but with a homogeneous elasticity (fixed at the USA value); (d) repeats the perfect competition case with a homogeneous elasticity. Shaded areas are 95% confidence intervals of linear fits.

Figure B.21: Cooperative Tariffs (Baseline Model)



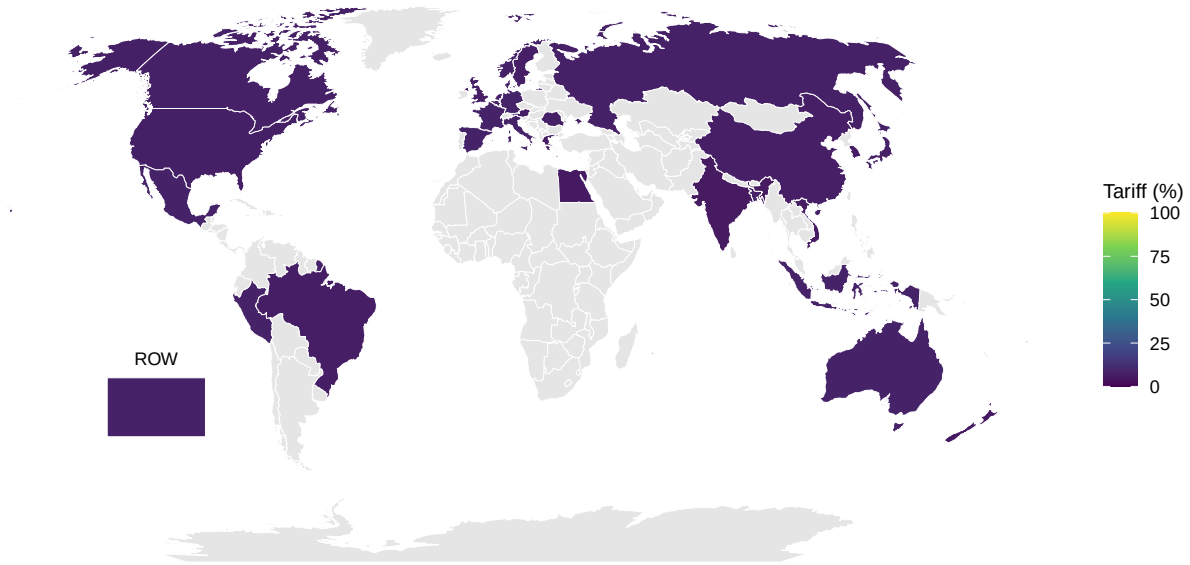
Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from each country's optimal tariff that result in positive marginal welfare gains for all.

Figure B.22: Cooperative Tariffs (Homogeneous Model)



Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from each country's optimal tariff that result in positive marginal welfare gains for all.

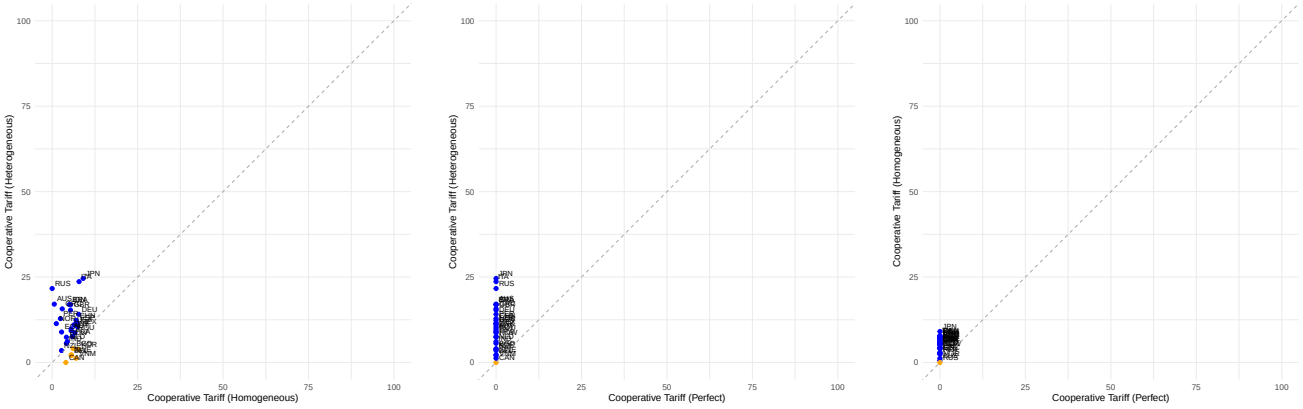
Figure B.23: Cooperative Tariffs (Perfect Competition Model)



Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from each country's optimal tariff that result in positive marginal welfare gains for all.

B.3.2 Positive Welfare Gains with Percentage Reduction

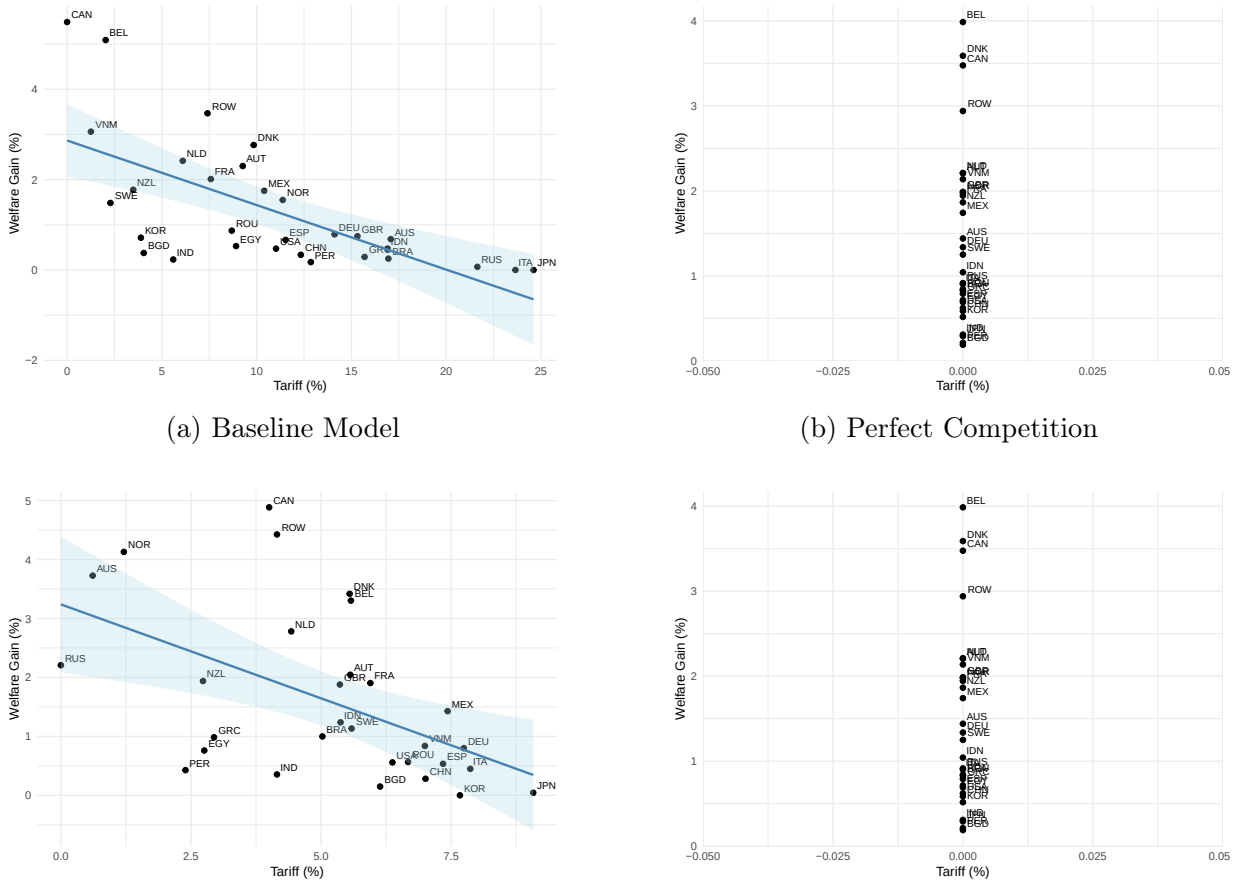
Figure B.24: Comparison of Cooperative Tariffs Across Market Structures



(a) Baseline vs. Homogeneous (b) Baseline vs. Perfect (c) Homogeneous vs. Perfect

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from each country's optimal tariff that result in positive welfare gains for all. Each panel plots the cooperative tariffs (%) under two different market structures for each country. The dashed line indicates the 45-degree line where the two cooperative tariffs are equal. Countries above the line set higher tariffs under the y-axis scenario and vice versa.

Figure B.25: Cooperative Tariffs and Welfare Gains under Different Market Structures



(a) Baseline Model

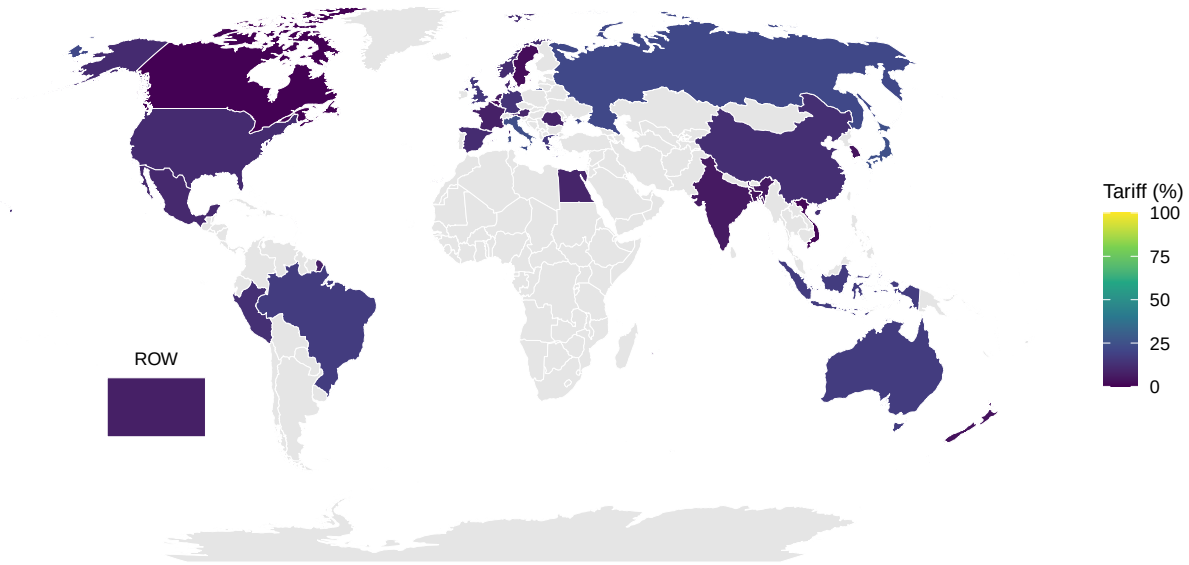
(b) Perfect Competition

(c) Homogeneous Model

(d) Perfect Competition

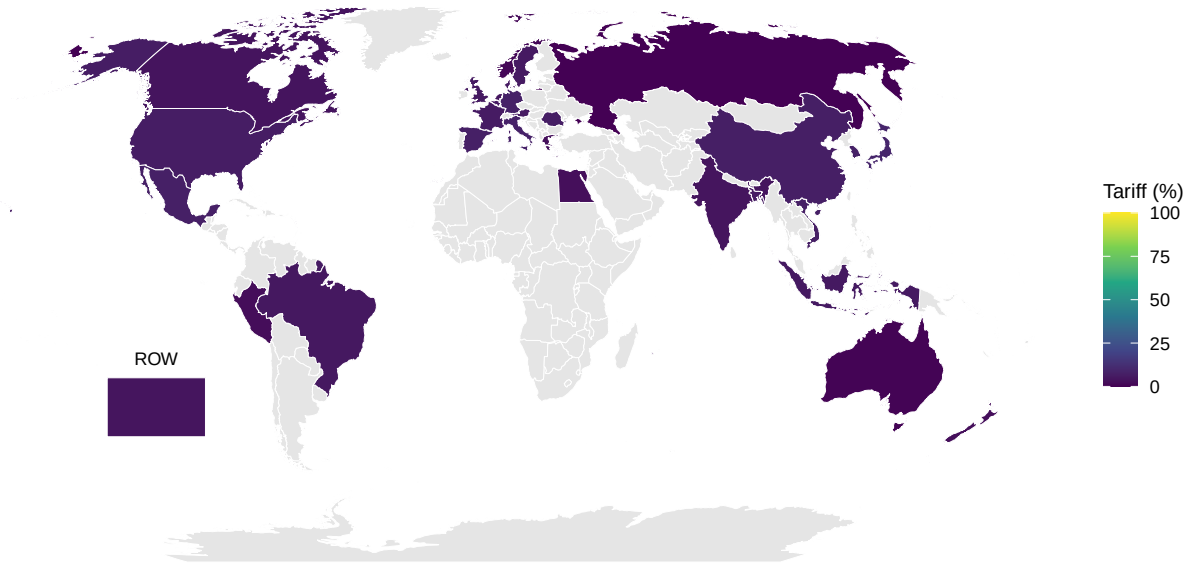
Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from each country's optimal tariff that result in positive welfare gains for all. All panels plot welfare gains (vertical axis, in %) against cooperative tariffs (horizontal axis, in %) that maximize a country's own welfare, assuming other countries' tariffs are fixed. Panel (a) shows the baseline heterogeneous model; (b) shows the perfect competition case without profit-shifting and fixed costs; (c) uses the same model as (a) but with a homogeneous elasticity (fixed at the USA value); (d) repeats the perfect competition case with a homogeneous elasticity. Shaded areas are 95% confidence intervals of linear fits.

Figure B.26: Cooperative Tariffs (Baseline Model)



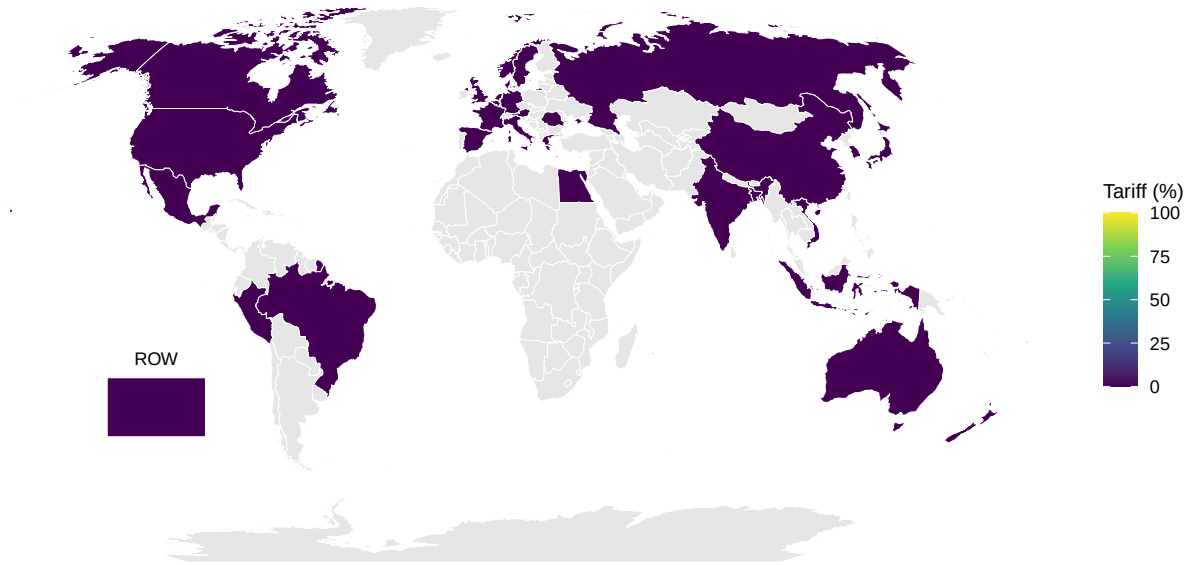
Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from each country's optimal tariff that result in positive welfare gains for all.

Figure B.27: Cooperative Tariffs (Homogeneous Model)



Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from each country's optimal tariff that result in positive welfare gains for all.

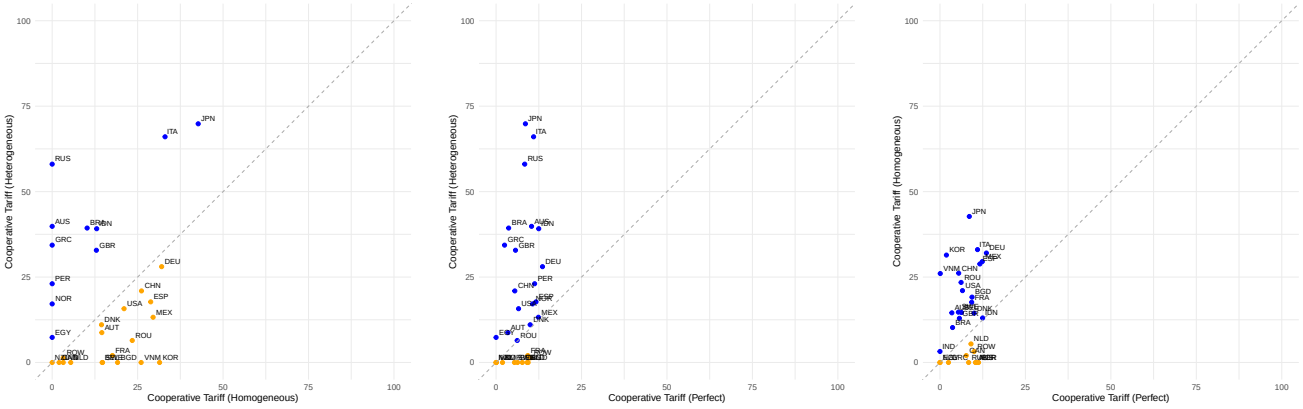
Figure B.28: Cooperative Tariffs (Perfect Competition Model)



Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from each country's optimal tariff that result in positive welfare gains for all.

B.3.3 Marginal Welfare Gains with Percentage Point Reduction

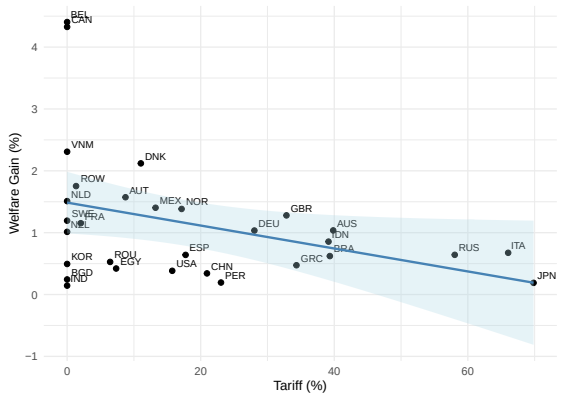
Figure B.29: Comparison of Cooperative Tariffs Across Market Structures



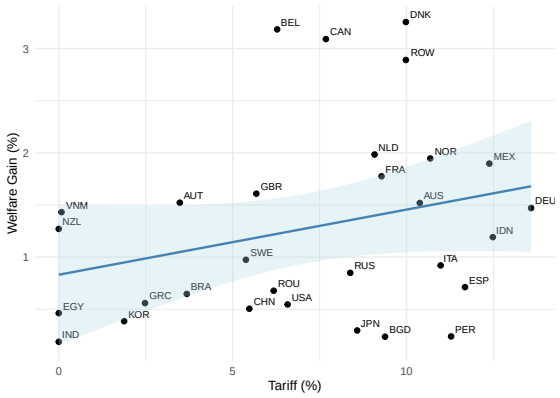
(a) Baseline vs. Homogeneous (b) Baseline vs. Perfect (c) Homogeneous vs. Perfect

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's optimal tariff that result in positive marginal welfare gains for all. Each panel plots the cooperative tariffs (%) under two different market structures for each country. The dashed line indicates the 45-degree line where the two cooperative tariffs are equal. Countries above the line set higher tariffs under the y-axis scenario and vice versa.

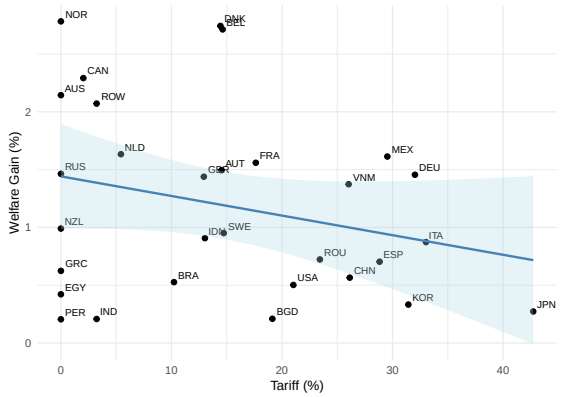
Figure B.30: Cooperative Tariffs and Welfare Gains under Different Market Structures



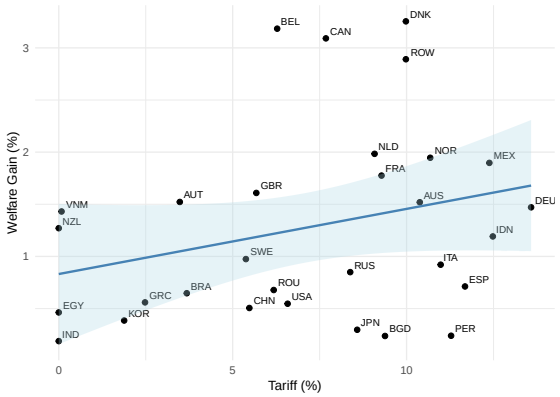
(a) Baseline Model



(b) Perfect Competition



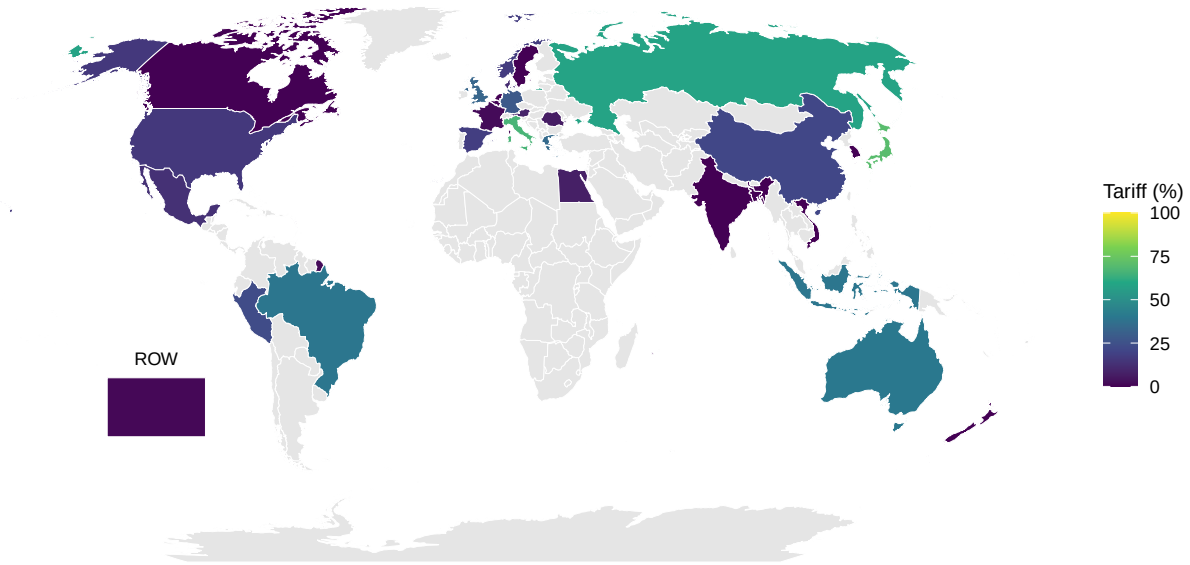
(c) Homogeneous Model



(d) Perfect Competition

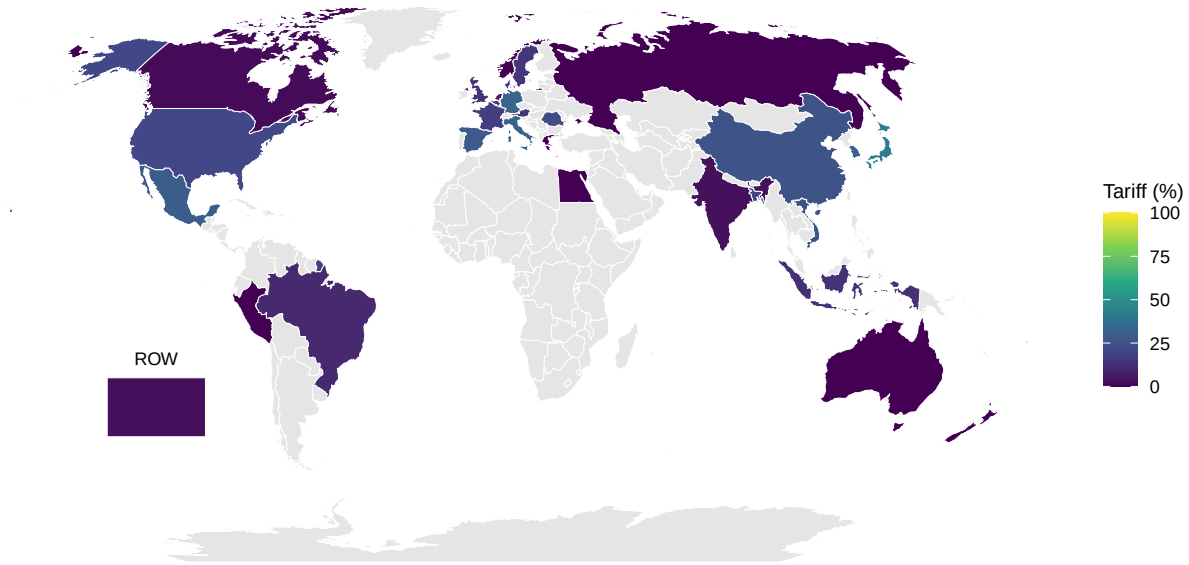
Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's optimal tariff that result in positive marginal welfare gains for all. All panels plot welfare gains (vertical axis, in %) against cooperative tariffs (horizontal axis, in %) that maximize a country's own welfare, assuming other countries' tariffs are fixed. Panel (a) shows the baseline heterogeneous model; (b) shows the perfect competition case without profit-shifting and fixed costs; (c) uses the same model as (a) but with a homogeneous elasticity (fixed at the USA value); (d) repeats the perfect competition case with a homogeneous elasticity. Shaded areas are 95% confidence intervals of linear fits.

Figure B.31: Cooperative Tariffs (Baseline Model)



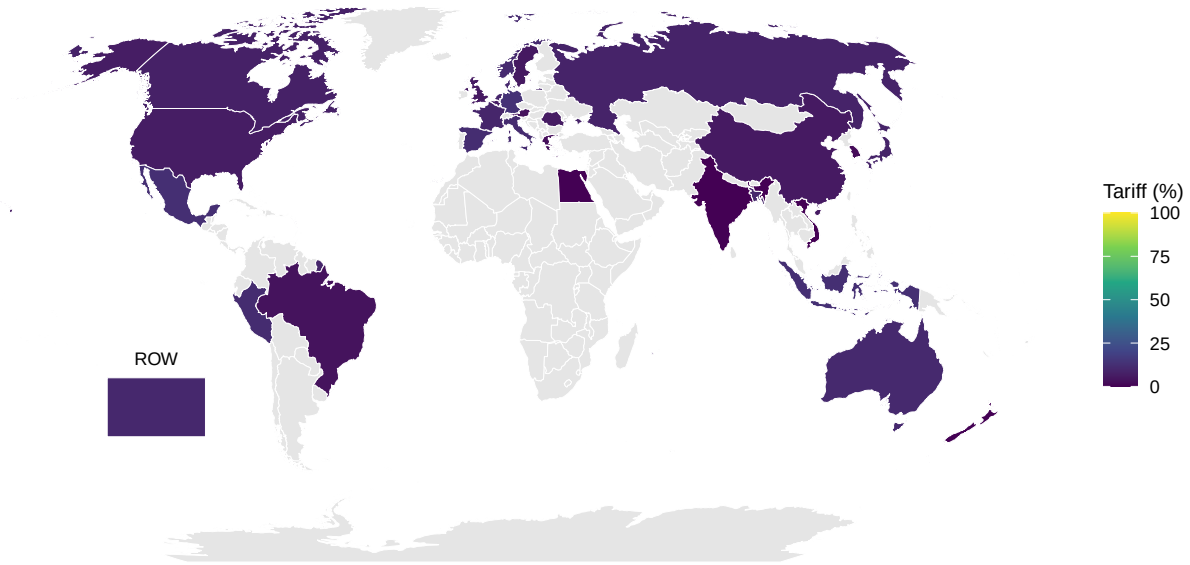
Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's optimal tariff that result in positive marginal welfare gains for all.

Figure B.32: Cooperative Tariffs (Homogeneous Model)



Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's optimal tariff that result in positive marginal welfare gains for all.

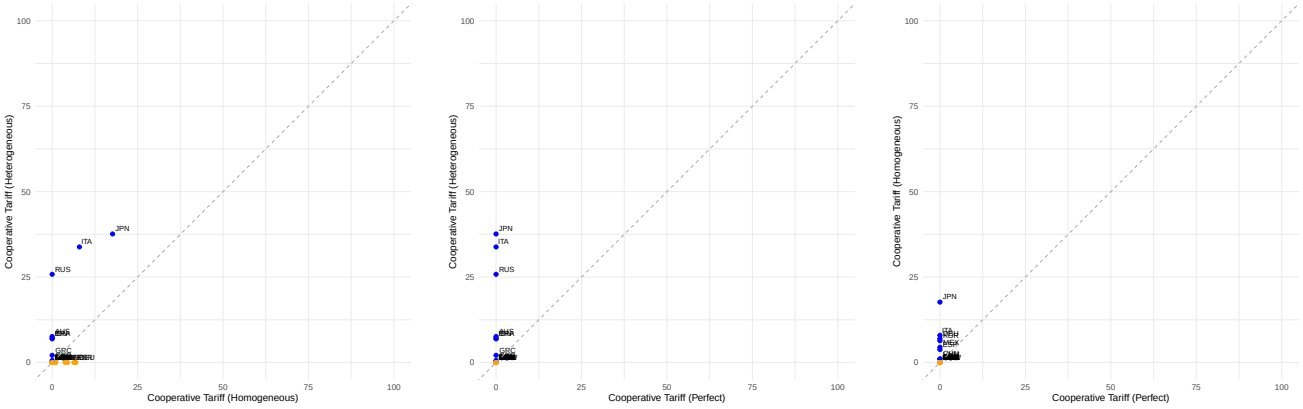
Figure B.33: Cooperative Tariffs (Perfect Competition Model)



Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's optimal tariff that result in positive marginal welfare gains for all.

B.3.4 Positive Welfare Gains with Percentage Point Reduction

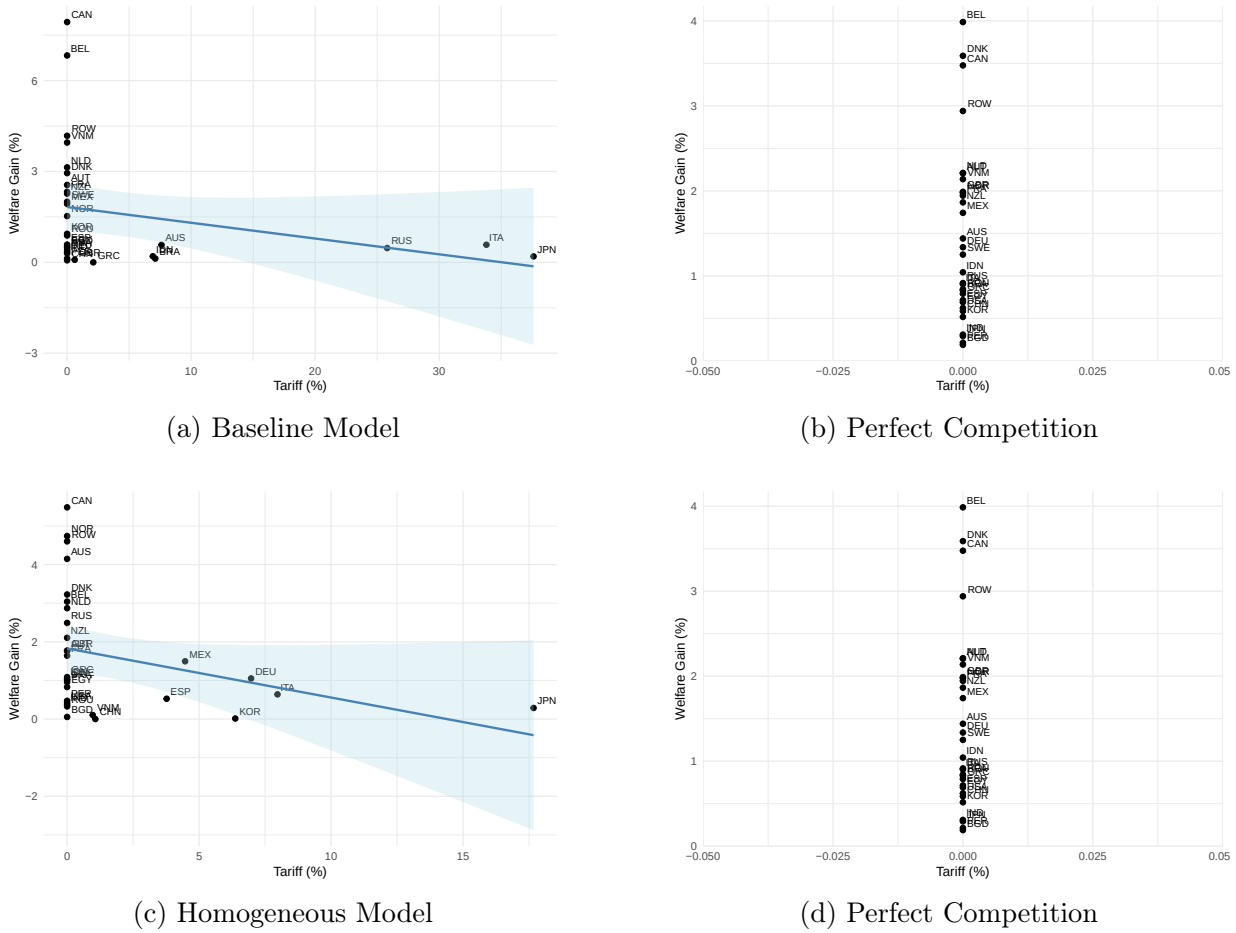
Figure B.34: Comparison of Cooperative Tariffs Across Market Structures



(a) Baseline vs. Homogeneous (b) Baseline vs. Perfect (c) Homogeneous vs. Perfect

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's optimal tariff that result in positive welfare gains for all. Each panel plots the cooperative tariffs (%) under two different market structures for each country. The dashed line indicates the 45-degree line where the two cooperative tariffs are equal. Countries above the line set higher tariffs under the y-axis scenario and vice versa.

Figure B.35: Cooperative Tariffs and Welfare Gains under Different Market Structures



(a) Baseline Model

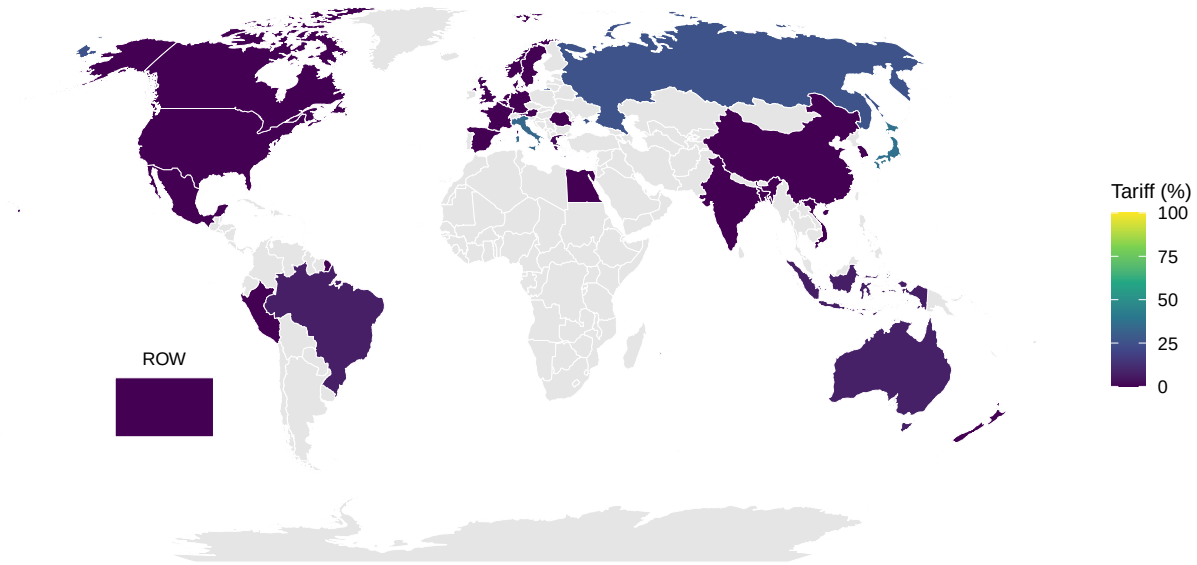
(b) Perfect Competition

(c) Homogeneous Model

(d) Perfect Competition

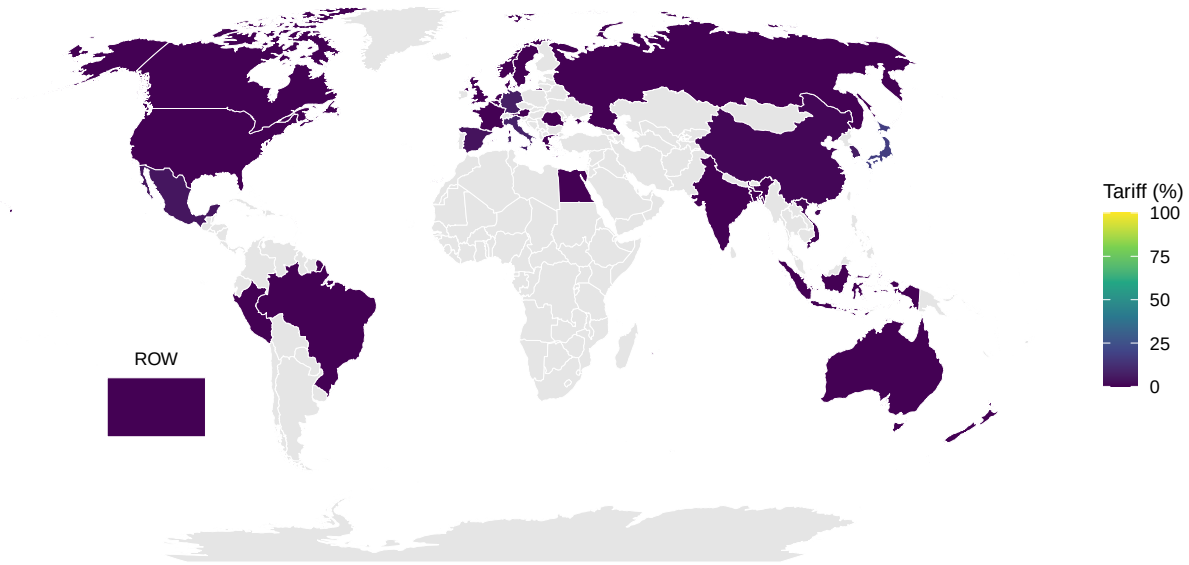
Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's optimal tariff that result in positive welfare gains for all. All panels plot welfare gains (vertical axis, in %) against cooperative tariffs (horizontal axis, in %) that maximize a country's own welfare, assuming other countries' tariffs are fixed. Panel (a) shows the baseline heterogeneous model; (b) shows the perfect competition case without profit-shifting and fixed costs; (c) uses the same model as (a) but with a homogeneous elasticity (fixed at the USA value); (d) repeats the perfect competition case with a homogeneous elasticity. Shaded areas are 95% confidence intervals of linear fits.

Figure B.36: Cooperative Tariffs (Baseline Model)



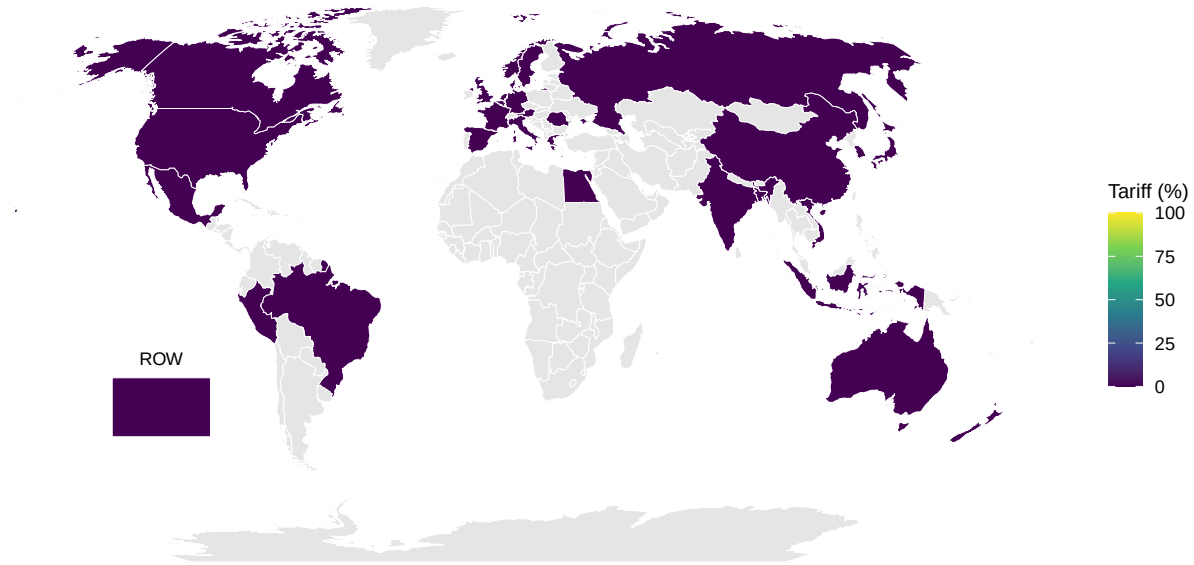
Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's optimal tariff that result in positive welfare gains for all.

Figure B.37: Cooperative Tariffs (Homogeneous Model)



Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's optimal tariff that result in positive welfare gains for all.

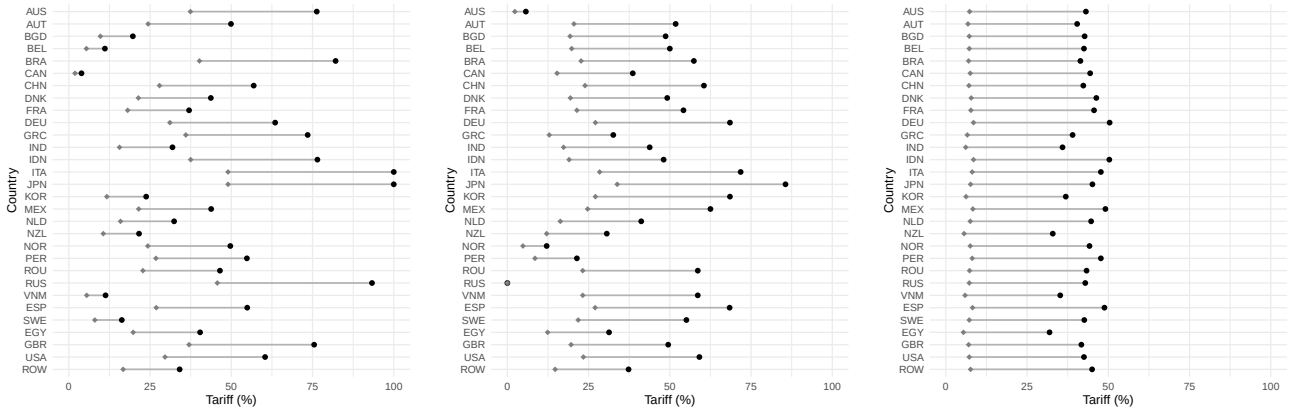
Figure B.38: Cooperative Tariffs (Perfect Competition Model)



Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's optimal tariff that result in positive welfare gains for all.

B.4 Cooperative Tariffs Staring from Nash Tariffs

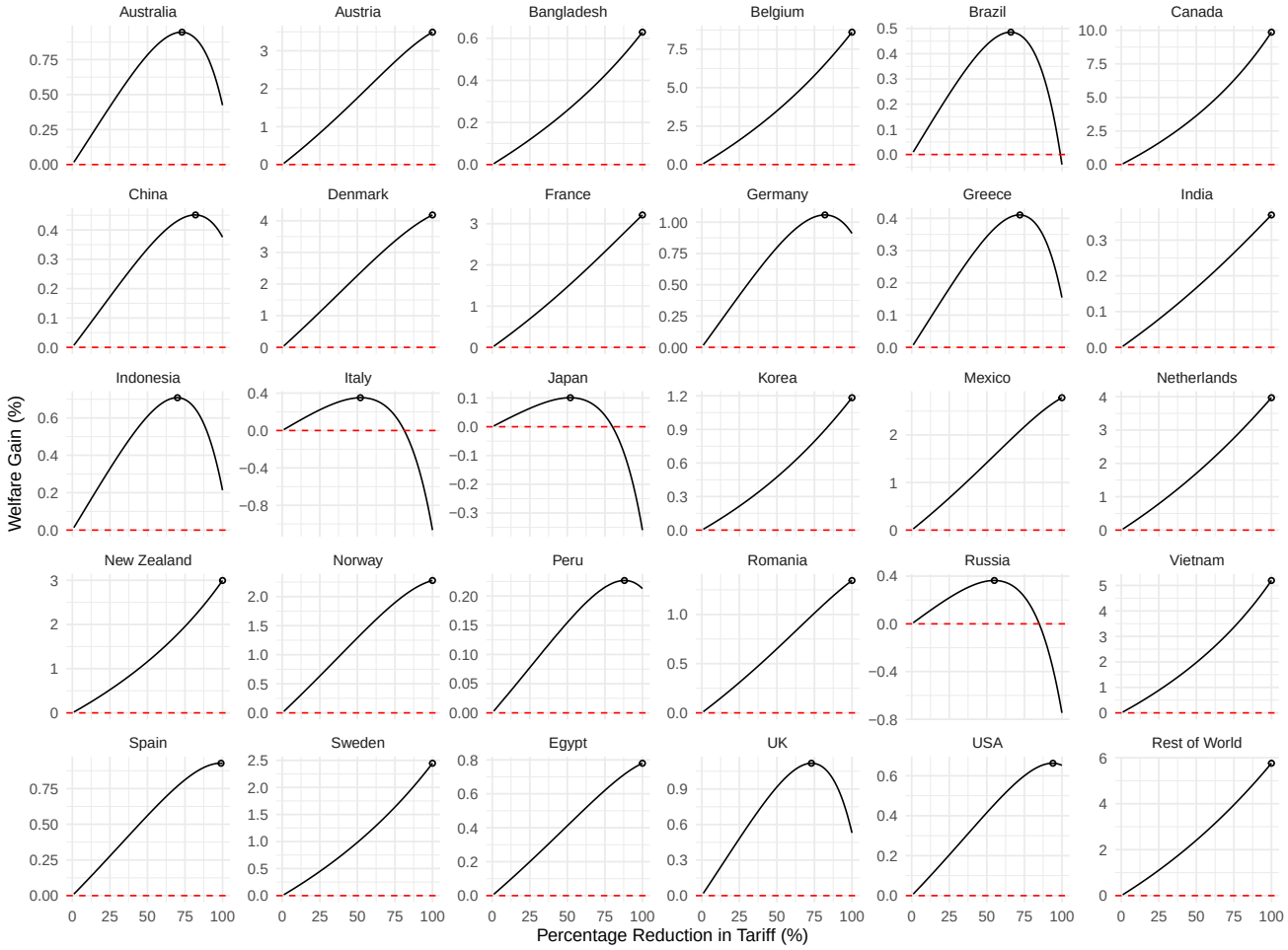
Figure B.39: From Nash to Cooperative Tariffs by Country



(a) Baseline (b) Homogeneous (c) Perfect Competition

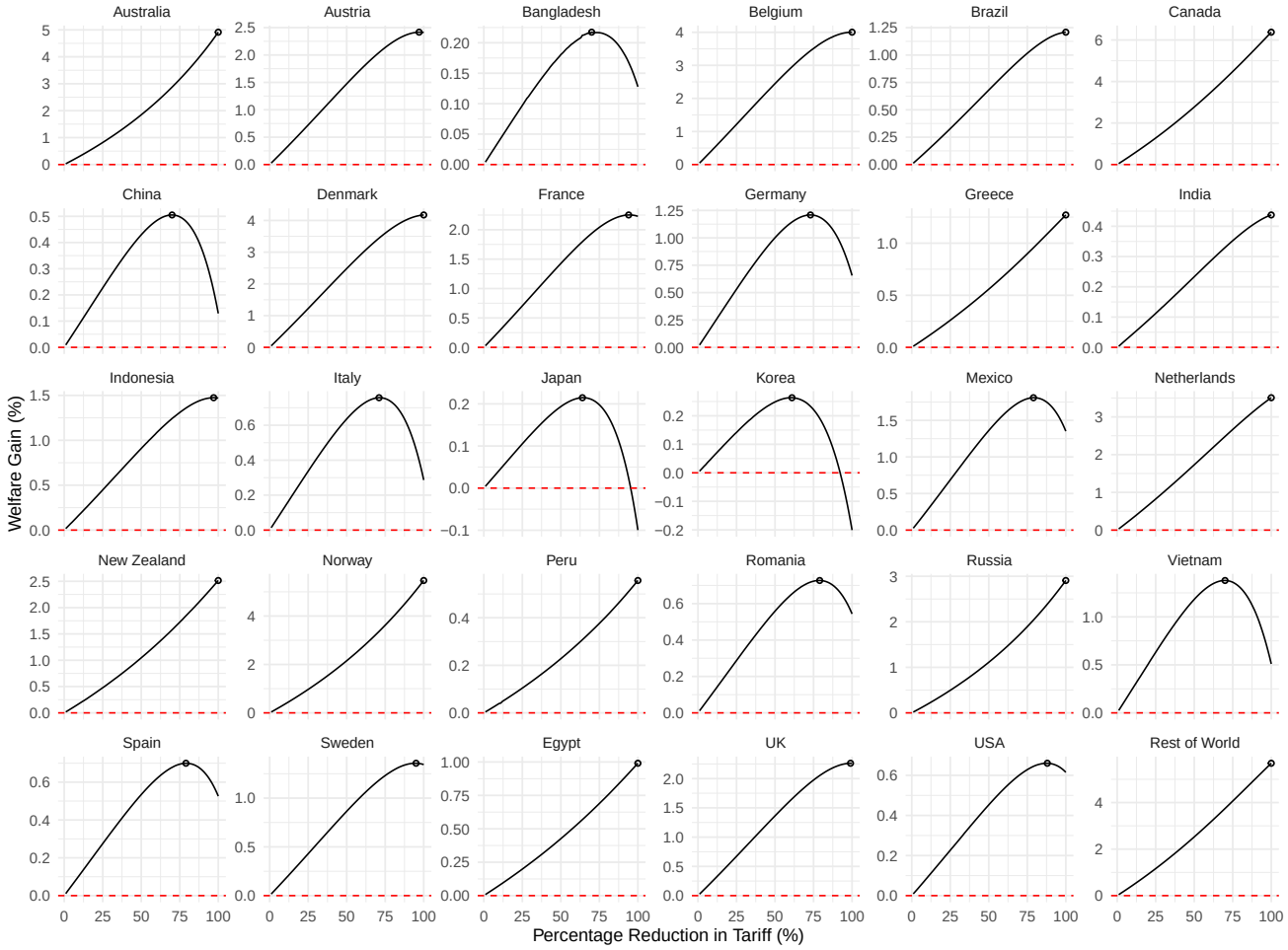
Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's Nash tariff that result in positive marginal welfare gains for all. Nash tariffs are the set of tariffs each country chooses to maximize its own welfare, taking all other countries' tariffs as given, such that no country has an incentive to deviate.

Figure B.40: Percentage Reduction in Tariffs (Baseline Model)



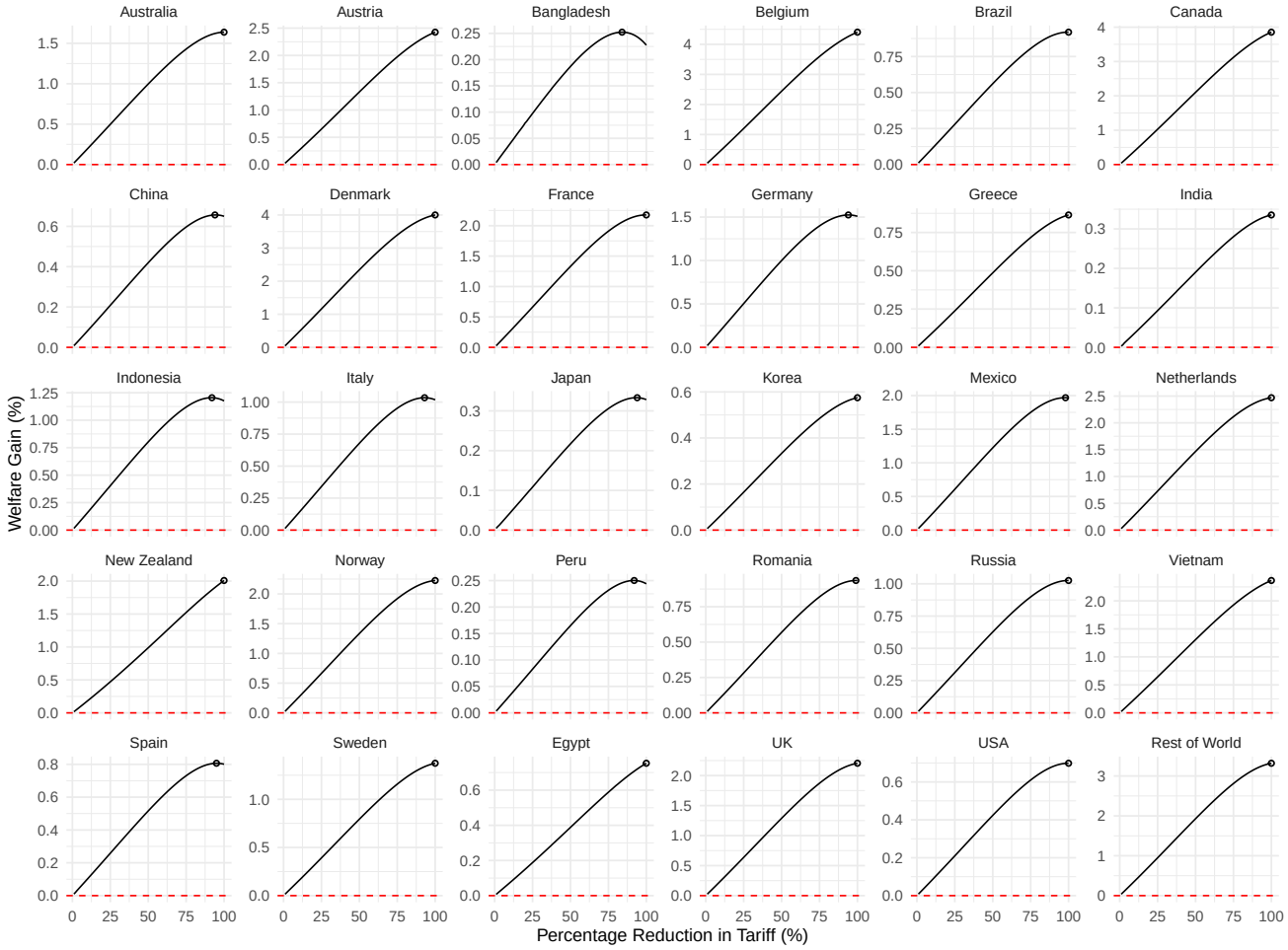
Notes: The dots indicate the points where marginal welfare gains become zero, and the horizontal dashed lines represent zero welfare gains. Depending on how cooperative tariffs are defined, the reduction point can be set in two ways: either (1) when a negotiating country is the first to reach zero marginal welfare gains, or (2) when a negotiating country is the first to experience negative welfare gains, in which case the reduction point is set just before that occurs.

Figure B.41: Percentage Reduction in Tariffs (Homogeneous Model)



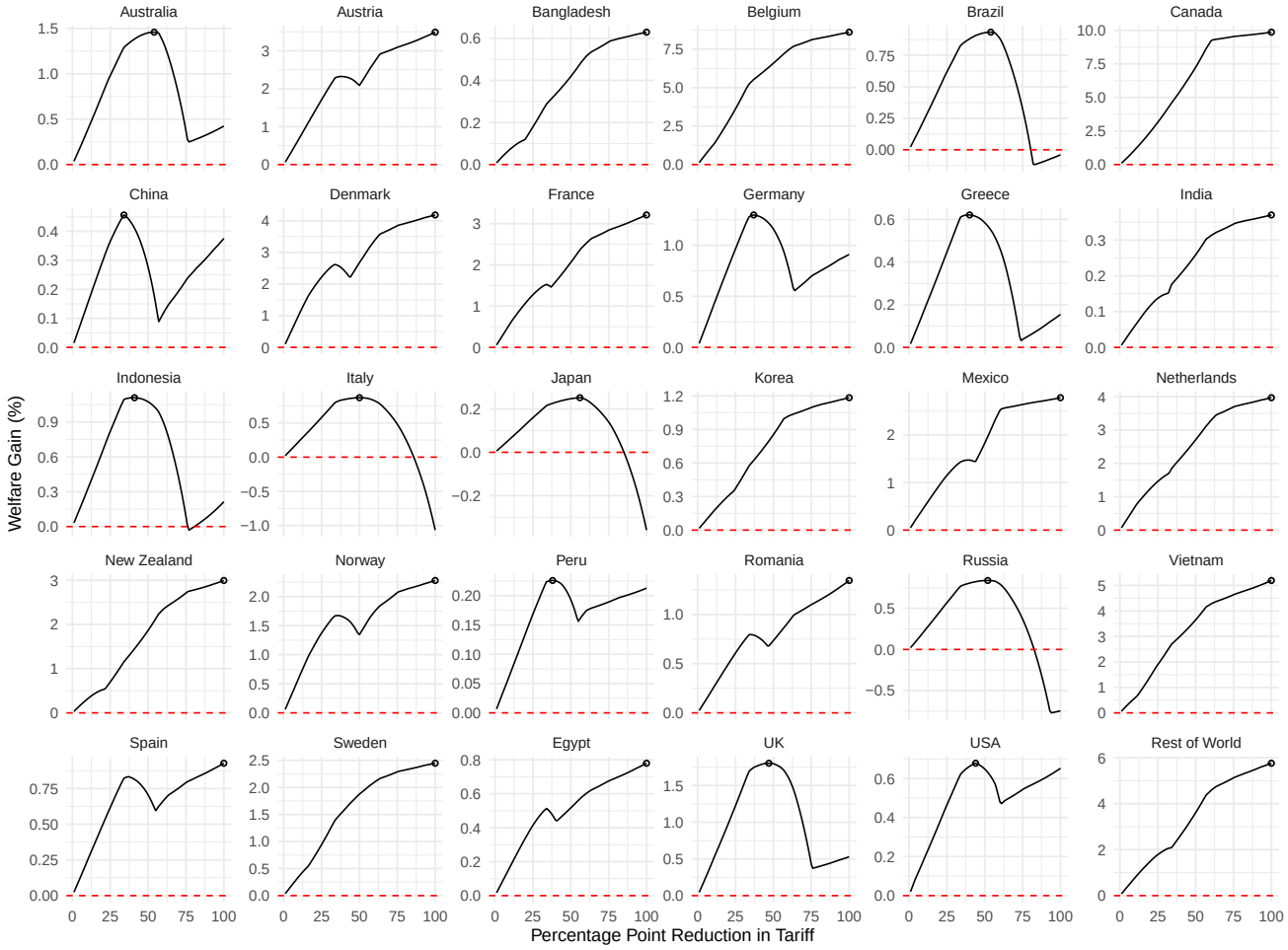
Notes: The dots indicate the points where marginal welfare gains become zero, and the horizontal dashed lines represent zero welfare gains. Depending on how cooperative tariffs are defined, the reduction point can be set in two ways: either (1) when a negotiating country is the first to reach zero marginal welfare gains, or (2) when a negotiating country is the first to experience negative welfare gains, in which case the reduction point is set just before that occurs.

Figure B.42: Percentage Reduction in Tariffs (Perfect Competition Model)



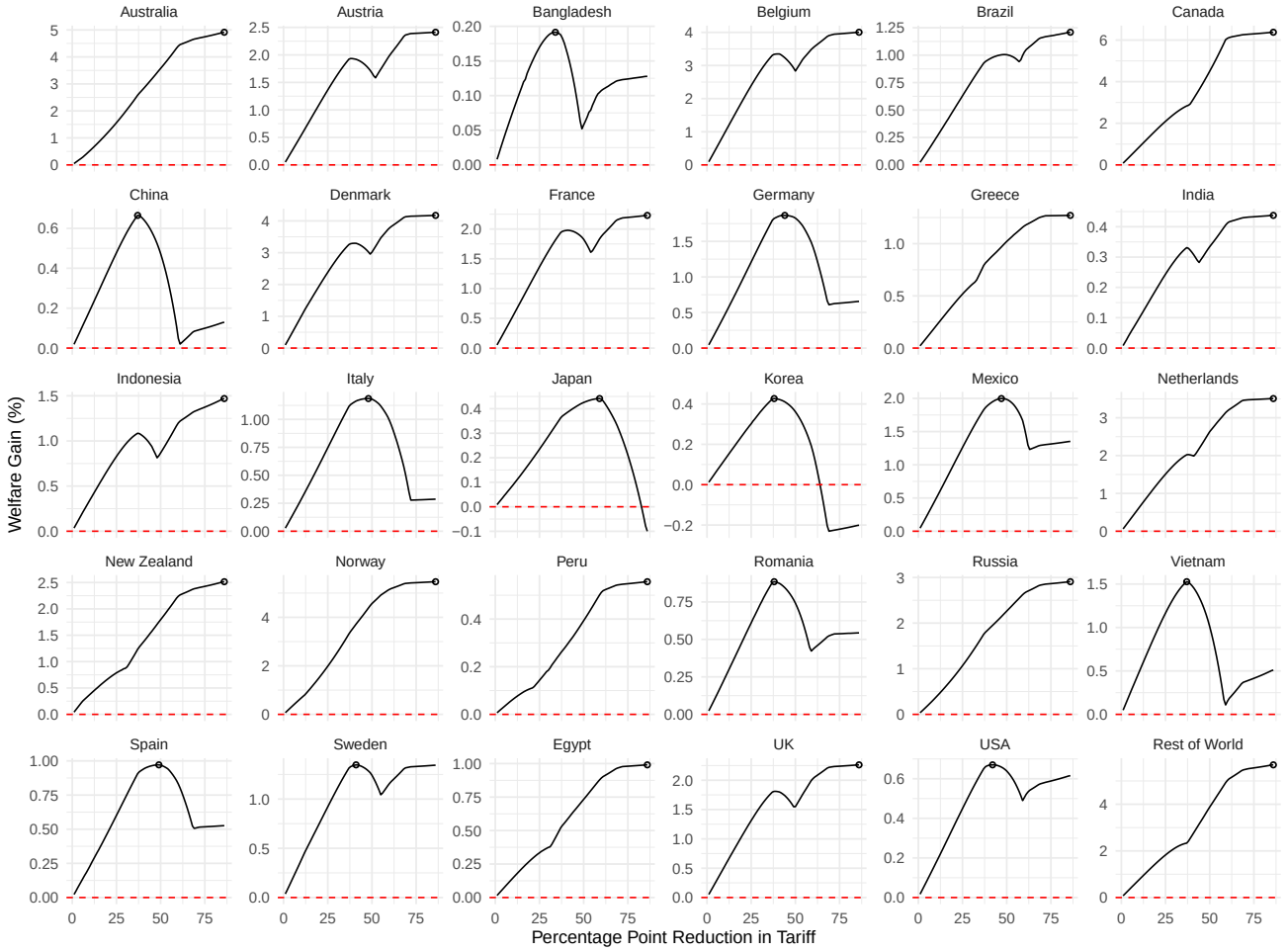
Notes: The dots indicate the points where marginal welfare gains become zero, and the horizontal dashed lines represent zero welfare gains. Depending on how cooperative tariffs are defined, the reduction point can be set in two ways: either (1) when a negotiating country is the first to reach zero marginal welfare gains, or (2) when a negotiating country is the first to experience negative welfare gains, in which case the reduction point is set just before that occurs.

Figure B.43: Percentage Point Reduction in Tariffs (Baseline Model)



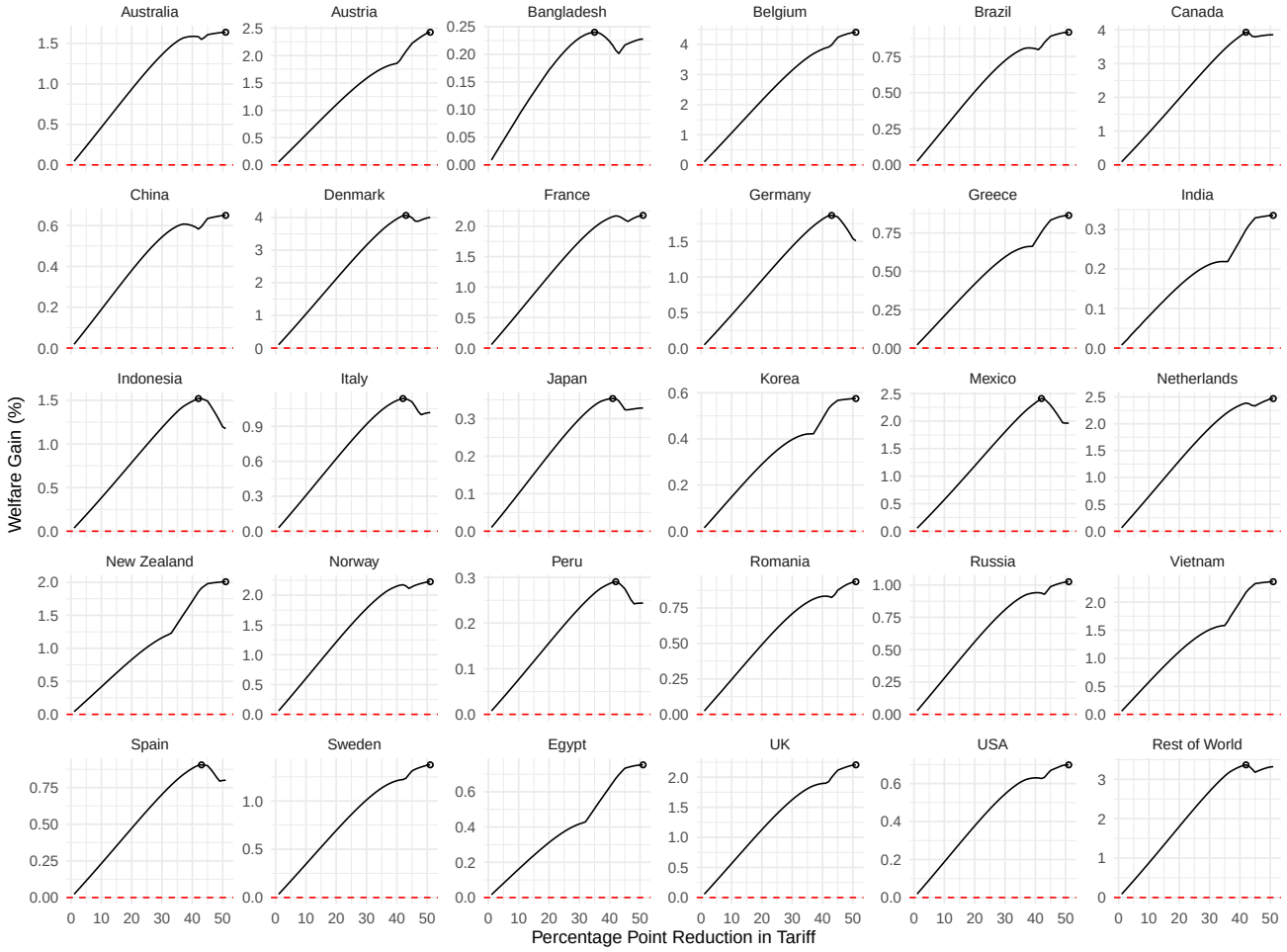
Notes: The dots indicate the points where marginal welfare gains become zero, and the horizontal dashed lines represent zero welfare gains. Depending on how cooperative tariffs are defined, the reduction point can be set in two ways: either (1) when a negotiating country is the first to reach zero marginal welfare gains, or (2) when a negotiating country is the first to experience negative welfare gains, in which case the reduction point is set just before that occurs.

Figure B.44: Percentage Point Reduction in Tariffs (Homogeneous Model)



Notes: The dots indicate the points where marginal welfare gains become zero, and the horizontal dashed lines represent zero welfare gains. Depending on how cooperative tariffs are defined, the reduction point can be set in two ways: either (1) when a negotiating country is the first to reach zero marginal welfare gains, or (2) when a negotiating country is the first to experience negative welfare gains, in which case the reduction point is set just before that occurs.

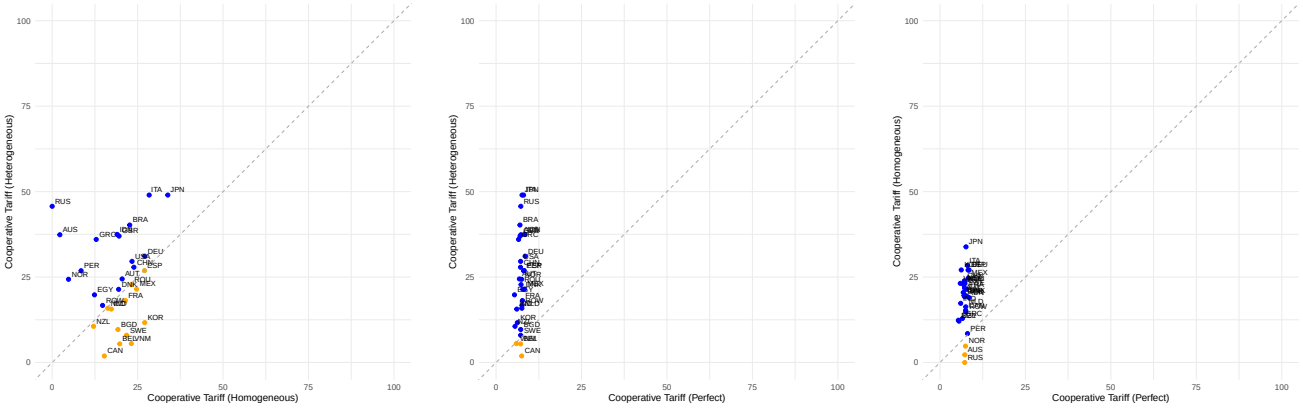
Figure B.45: Percentage Point Reduction in Tariffs (Perfect Competition Model)



Notes: The dots indicate the points where marginal welfare gains become zero, and the horizontal dashed lines represent zero welfare gains. Depending on how cooperative tariffs are defined, the reduction point can be set in two ways: either (1) when a negotiating country is the first to reach zero marginal welfare gains, or (2) when a negotiating country is the first to experience negative welfare gains, in which case the reduction point is set just before that occurs.

B.4.1 Marginal Welfare Gains with Percentage Reduction

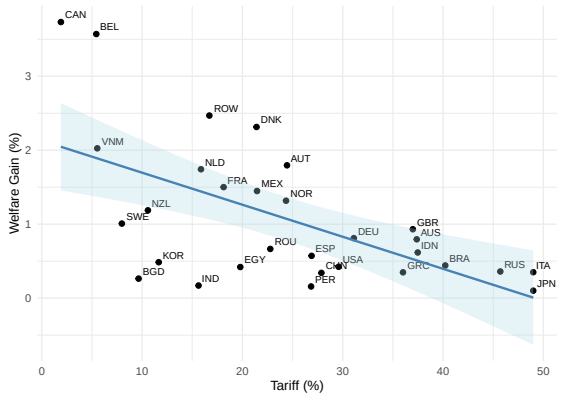
Figure B.46: Comparison of Cooperative Tariffs Across Market Structures



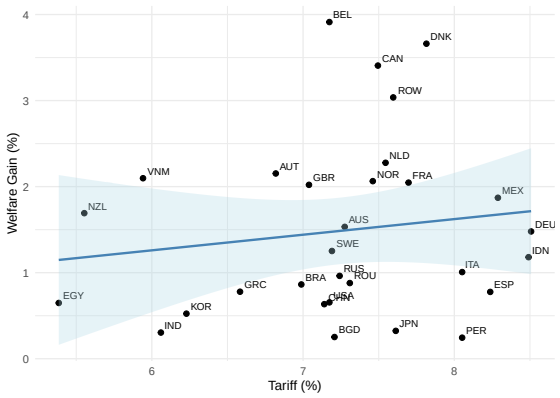
(a) Baseline vs. Homogeneous (b) Baseline vs. Perfect (c) Homogeneous vs. Perfect

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from each country's Nash tariff that result in positive marginal welfare gains for all. Each panel plots the cooperative tariffs (%) under two different market structures for each country. The dashed line indicates the 45-degree line where the two cooperative tariffs are equal. Countries above the line set higher tariffs under the y-axis scenario and vice versa.

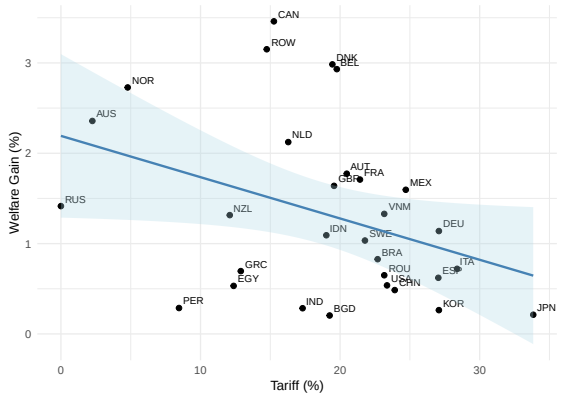
Figure B.47: Cooperative Tariffs and Welfare Gains under Different Market Structures



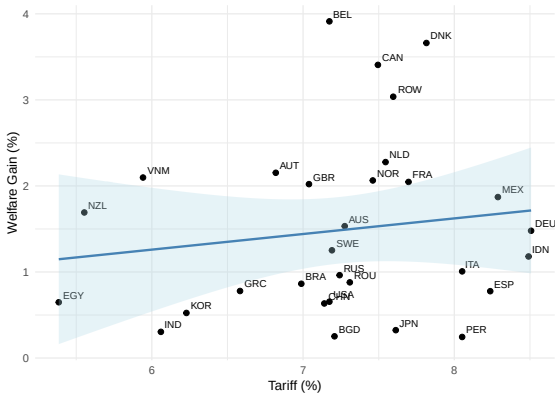
(a) Baseline Model



(b) Perfect Competition



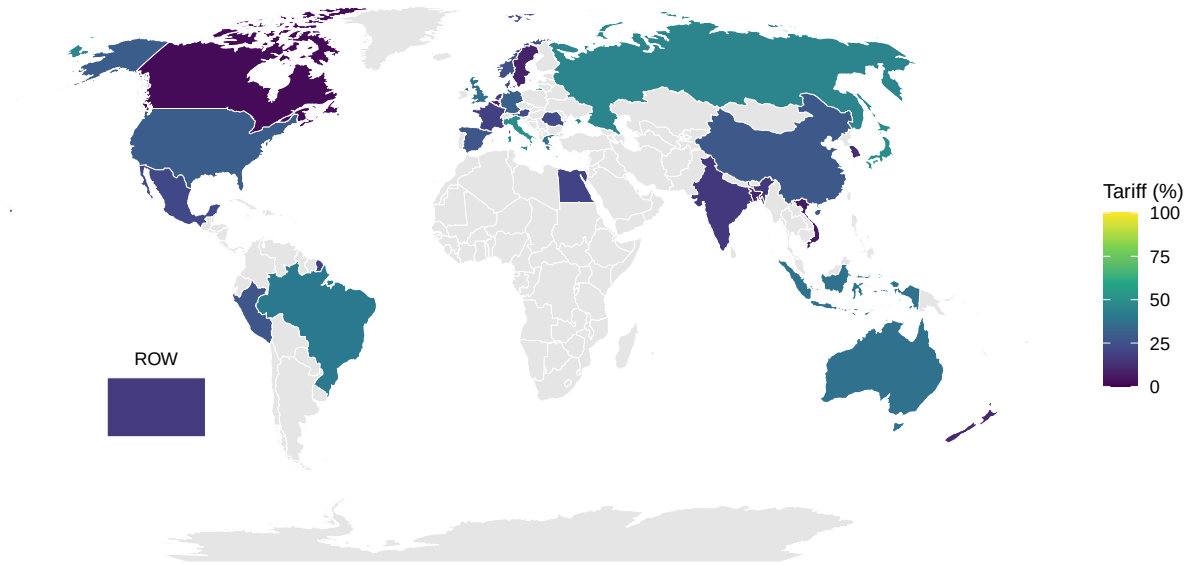
(c) Homogeneous Model



(d) Perfect Competition

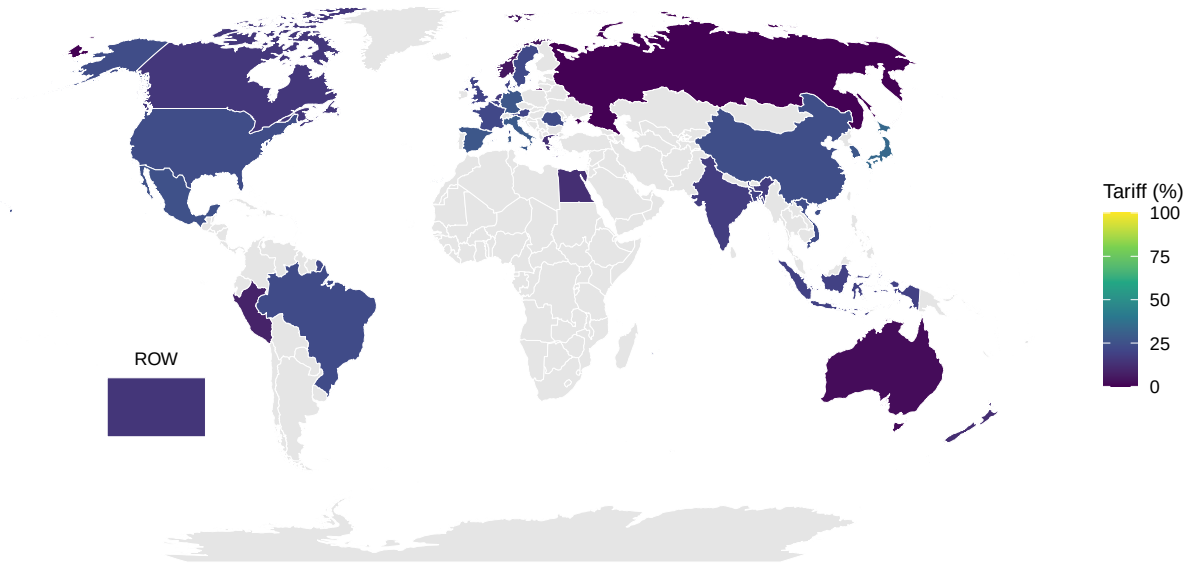
Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from each country's optimal tariff that result in positive marginal welfare gains for all. All panels plot welfare gains (vertical axis, in %) against cooperative tariffs (horizontal axis, in %) that maximize a country's own welfare, assuming other countries' tariffs are fixed. Panel (a) shows the baseline heterogeneous model; (b) shows the perfect competition case without profit-shifting and fixed costs; (c) uses the same model as (a) but with a homogeneous elasticity (fixed at the USA value); (d) repeats the perfect competition case with a homogeneous elasticity. Shaded areas are 95% confidence intervals of linear fits.

Figure B.48: Cooperative Tariffs (Baseline Model)



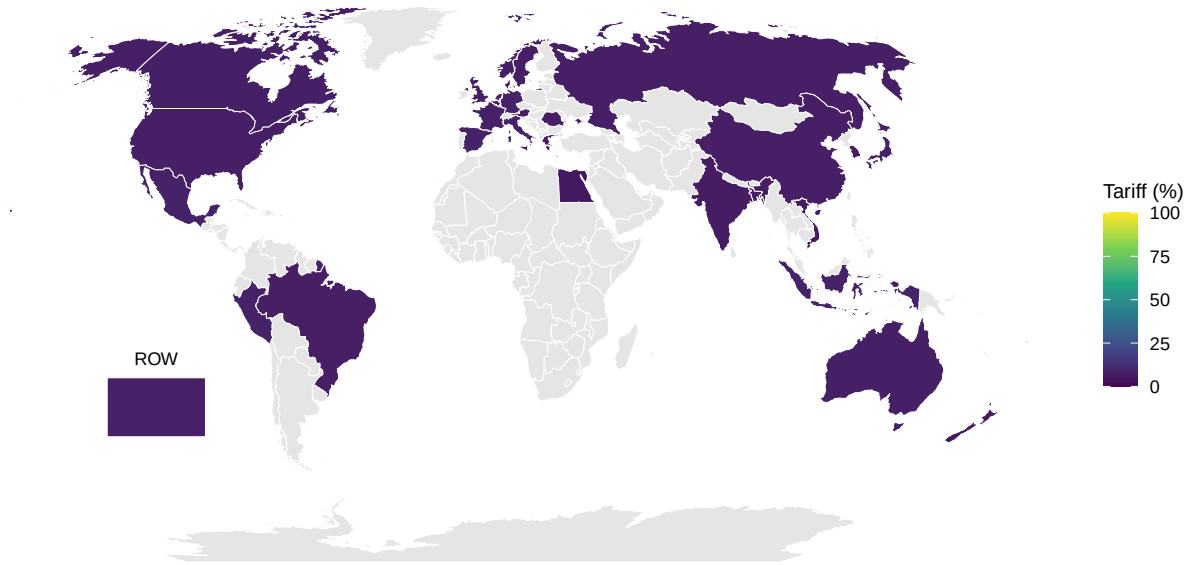
Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from each country's Nash tariff that result in positive marginal welfare gains for all.

Figure B.49: Cooperative Tariffs (Homogeneous Model)



Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from each country's Nash tariff that result in positive marginal welfare gains for all.

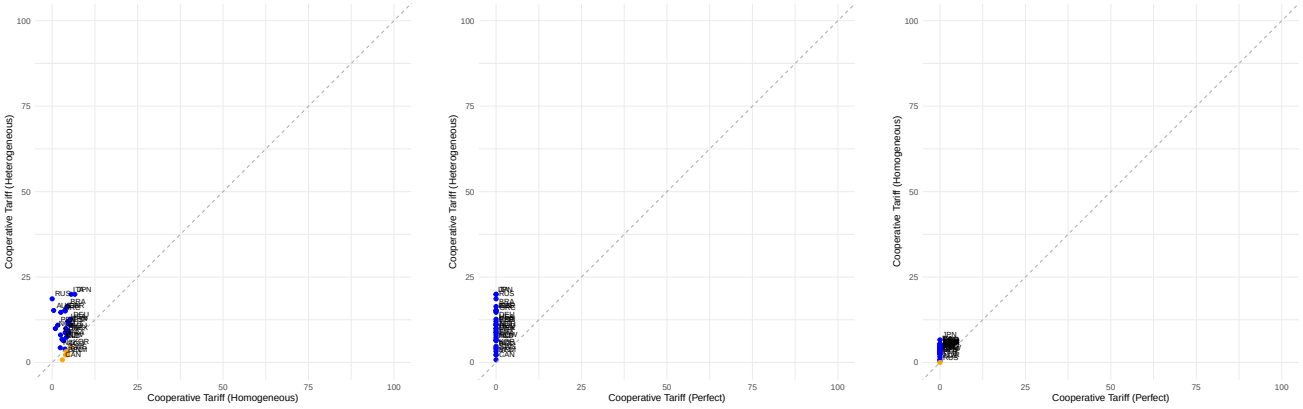
Figure B.50: Cooperative Tariffs (Perfect Competition Model)



Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from each country's Nash tariff that result in positive marginal welfare gains for all.

B.4.2 Positive Welfare Gains with Percentage Reduction

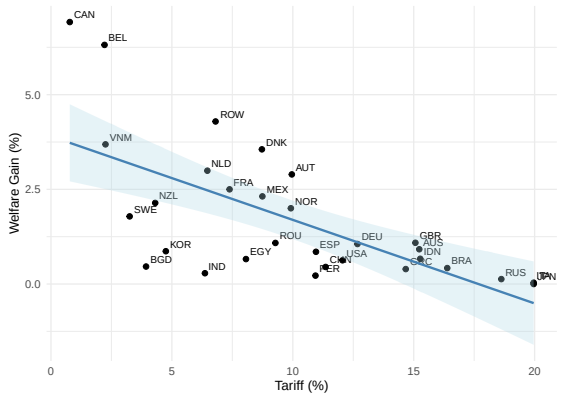
Figure B.51: Comparison of Cooperative Tariffs Across Market Structures



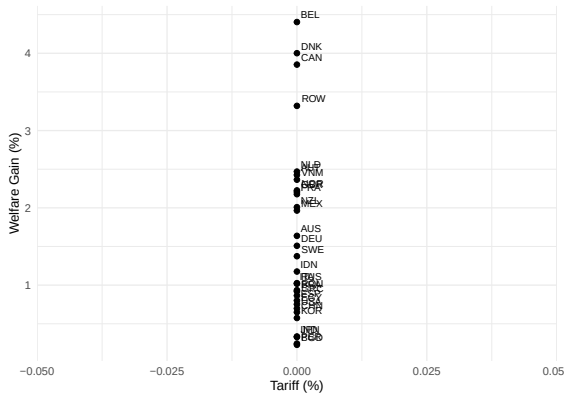
(a) Baseline vs. Homogeneous (b) Baseline vs. Perfect (c) Homogeneous vs. Perfect

Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from each country's Nash tariff that result in positive welfare gains for all. Each panel plots the cooperative tariffs (%) under two different market structures for each country. The dashed line indicates the 45-degree line where the two cooperative tariffs are equal. Countries above the line set higher tariffs under the y-axis scenario and vice versa.

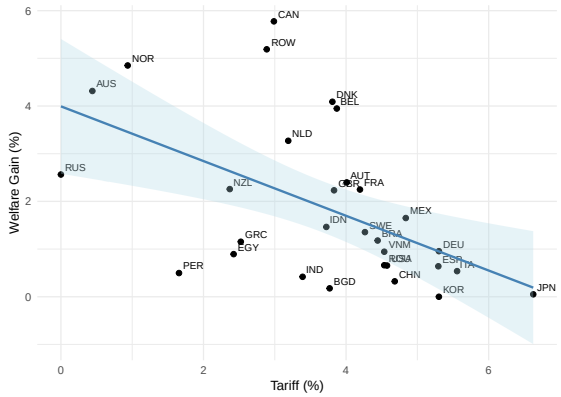
Figure B.52: Cooperative Tariffs and Welfare Gains under Different Market Structures



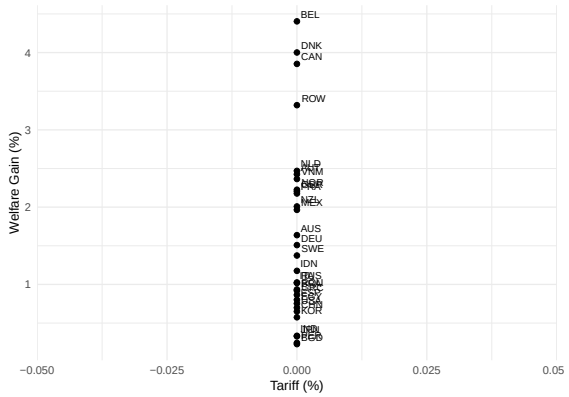
(a) Baseline Model



(b) Perfect Competition



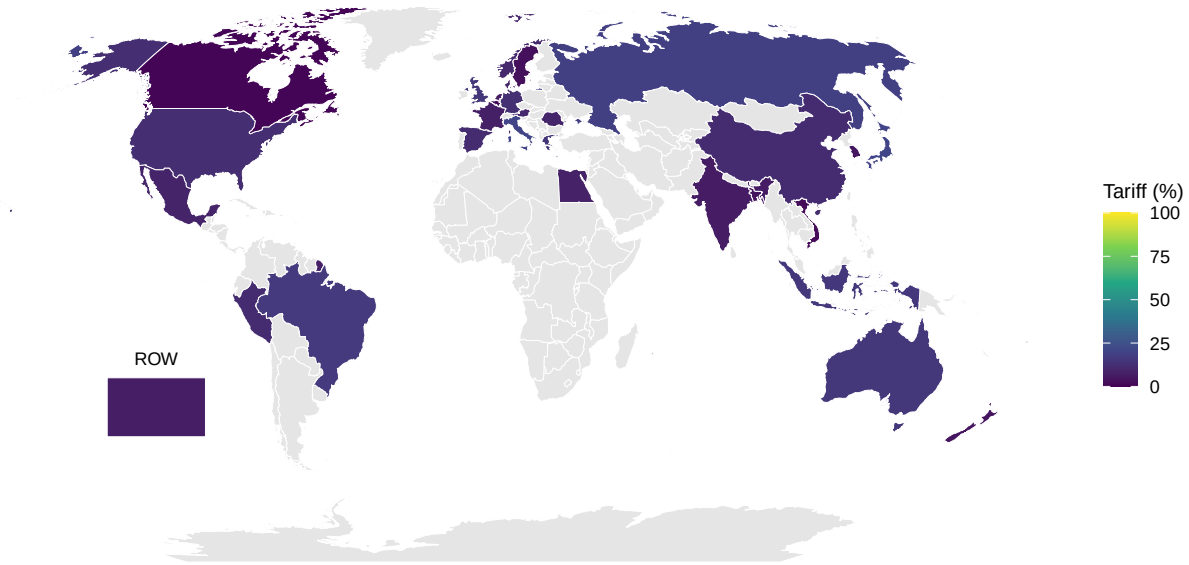
(c) Homogeneous Model



(d) Perfect Competition

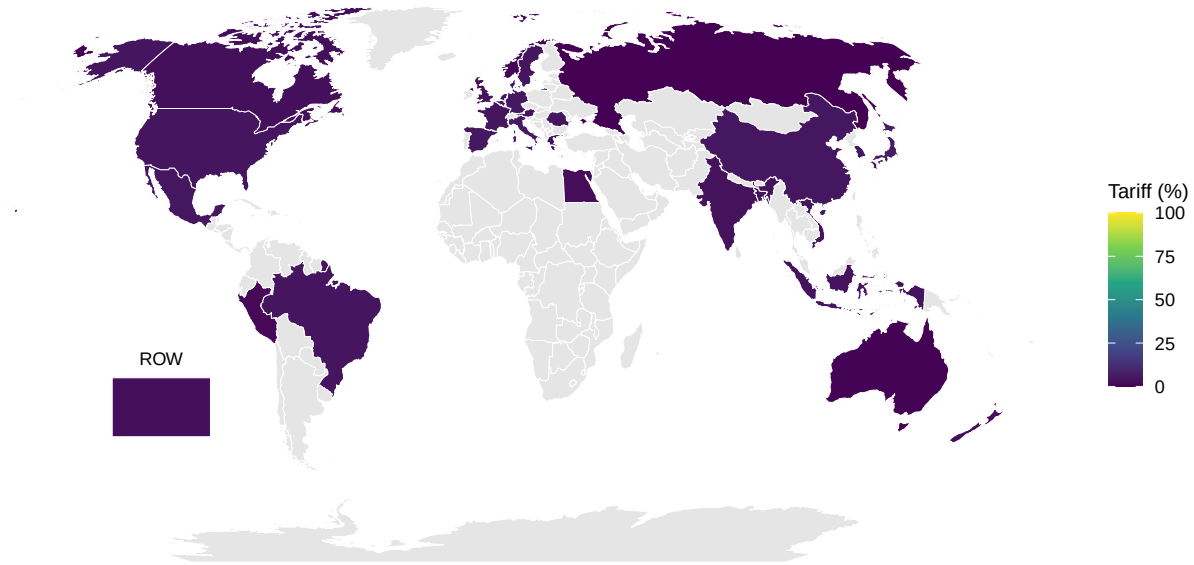
Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from each country's Nash tariff that result in positive welfare gains for all. All panels plot welfare gains (vertical axis, in %) against cooperative tariffs (horizontal axis, in %) that maximize a country's own welfare, assuming other countries' tariffs are fixed. Panel (a) shows the baseline heterogeneous model; (b) shows the perfect competition case without profit-shifting and fixed costs; (c) uses the same model as (a) but with a homogeneous elasticity (fixed at the USA value); (d) repeats the perfect competition case with a homogeneous elasticity. Shaded areas are 95% confidence intervals of linear fits.

Figure B.53: Cooperative Tariffs (Baseline Model)



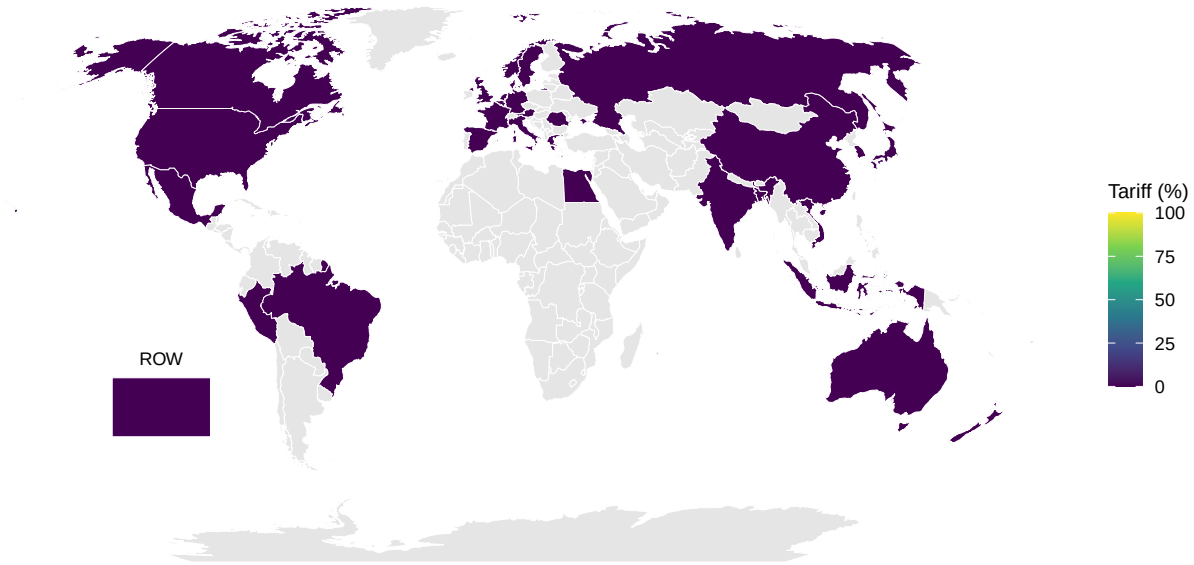
Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from each country's Nash tariff that result in positive welfare gains for all.

Figure B.54: Cooperative Tariffs (Homogeneous Model)



Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from each country's Nash tariff that result in positive welfare gains for all.

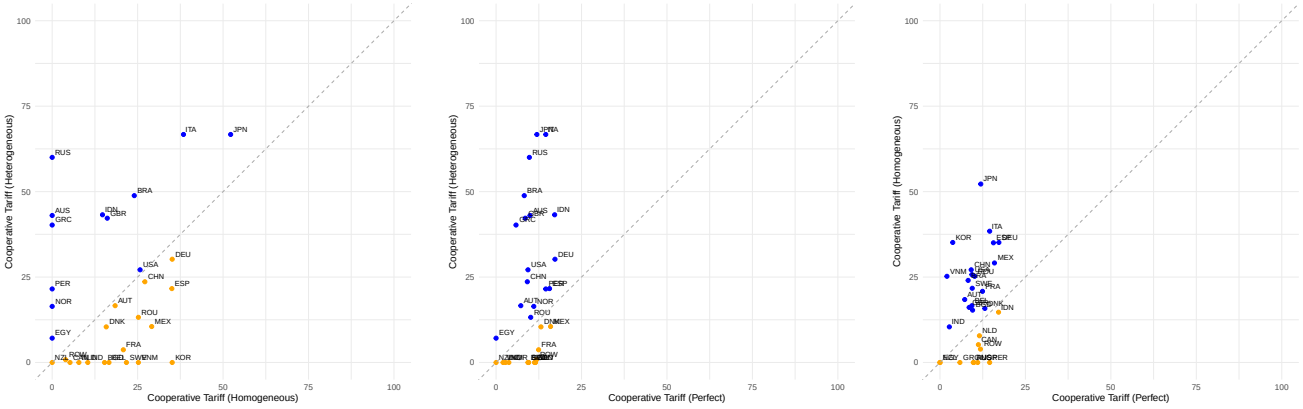
Figure B.55: Cooperative Tariffs (Perfect Competition Model)



Notes: The cooperative tariffs correspond to the largest uniform percentage reductions from each country's Nash tariff that result in positive welfare gains for all.

B.4.3 Marginal Welfare Gains with Percentage Point Reduction

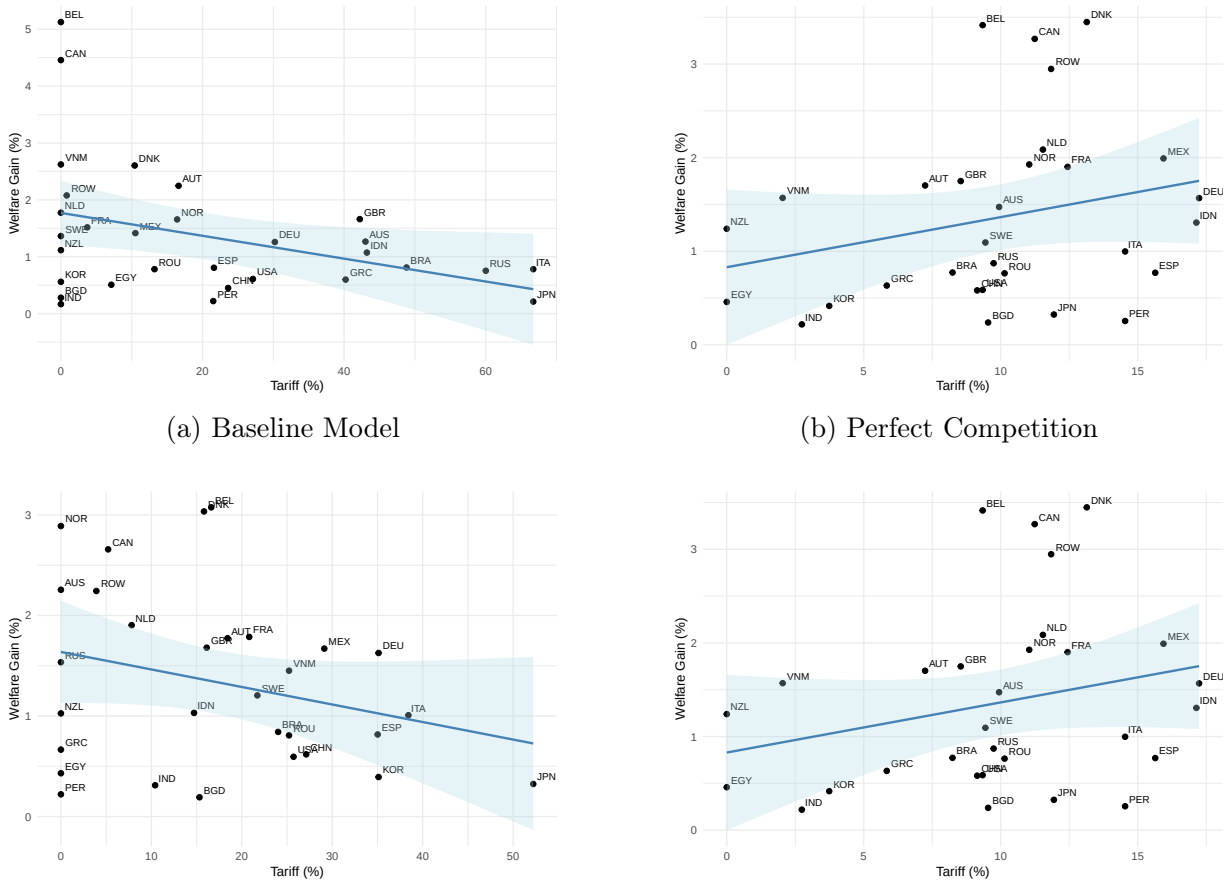
Figure B.56: Comparison of Cooperative Tariffs Across Market Structures



(a) Baseline vs. Homogeneous (b) Baseline vs. Perfect (c) Homogeneous vs. Perfect

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's Nash tariff that result in positive marginal welfare gains for all. Each panel plots the cooperative tariffs (%) under two different market structures for each country. The dashed line indicates the 45-degree line where the two cooperative tariffs are equal. Countries above the line set higher tariffs under the y-axis scenario and vice versa.

Figure B.57: Cooperative Tariffs and Welfare Gains under Different Market Structures



(a) Baseline Model

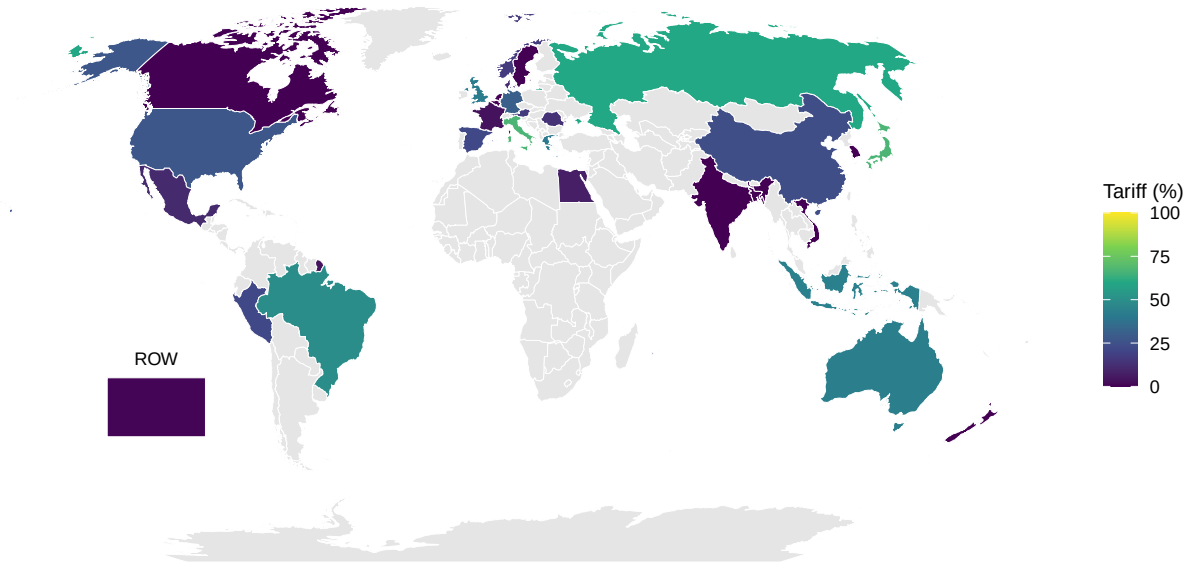
(b) Perfect Competition

(c) Homogeneous Model

(d) Perfect Competition

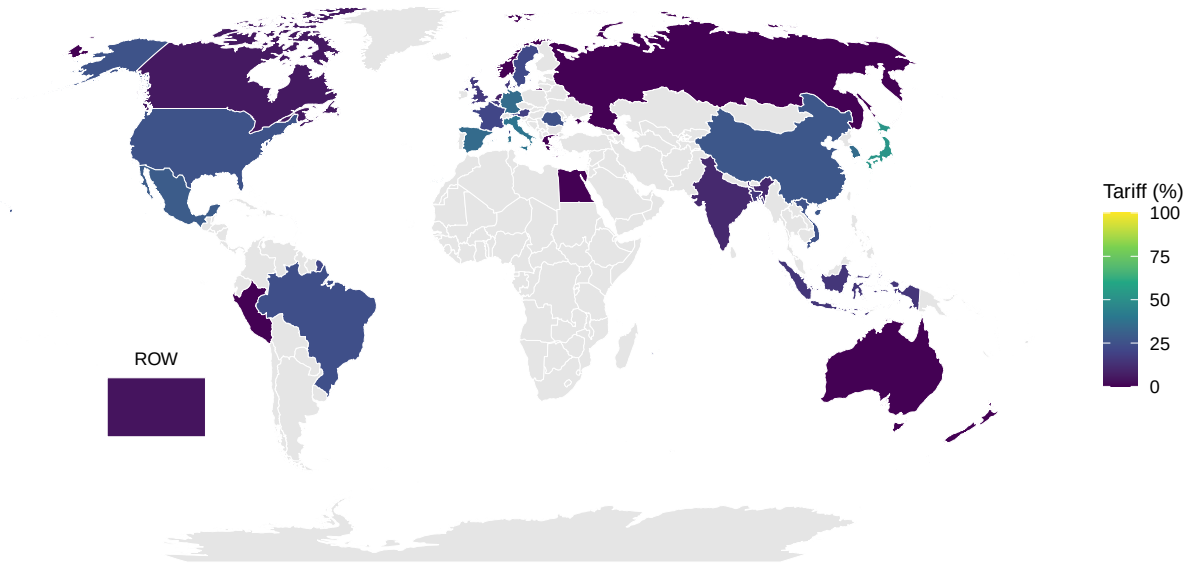
Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's Nash tariff that result in positive marginal welfare gains for all. All panels plot welfare gains (vertical axis, in %) against cooperative tariffs (horizontal axis, in %) that maximize a country's own welfare, assuming other countries' tariffs are fixed. Panel (a) shows the baseline heterogeneous model; (b) shows the perfect competition case without profit-shifting and fixed costs; (c) uses the same model as (a) but with a homogeneous elasticity (fixed at the USA value); (d) repeats the perfect competition case with a homogeneous elasticity. Shaded areas are 95% confidence intervals of linear fits.

Figure B.58: Cooperative Tariffs (Baseline Model)



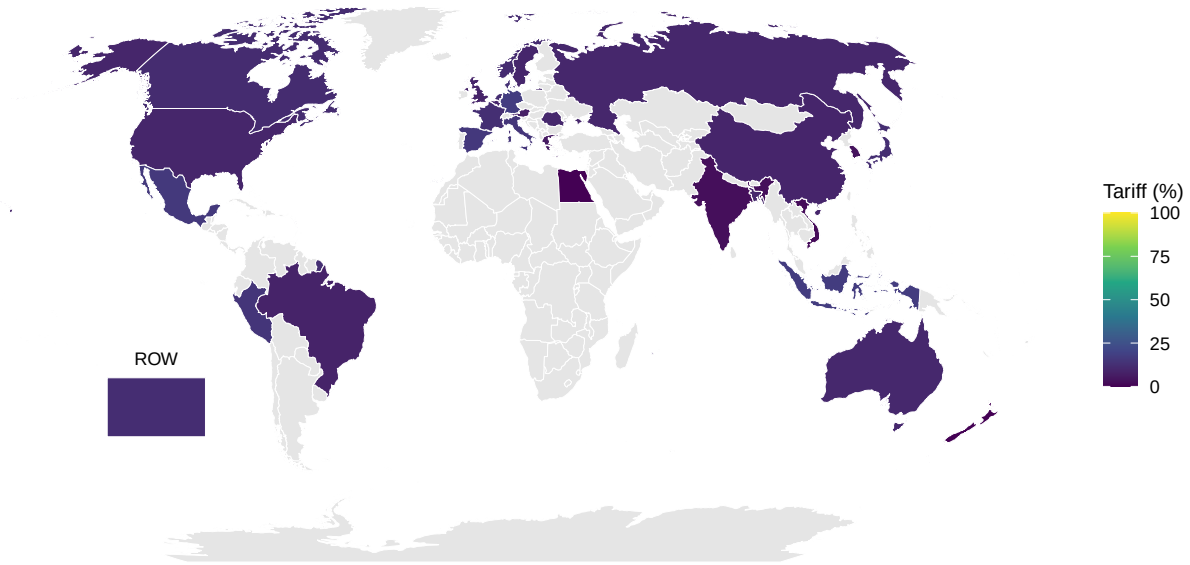
Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's Nash tariff that result in positive marginal welfare gains for all.

Figure B.59: Cooperative Tariffs (Homogeneous Model)



Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's Nash tariff that result in positive marginal welfare gains for all.

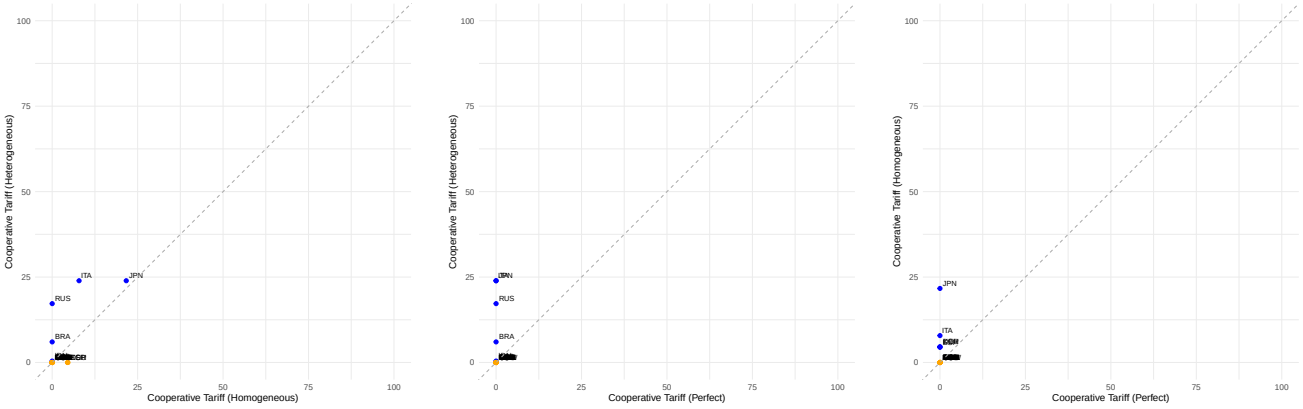
Figure B.60: Cooperative Tariffs (Perfect Competition Model)



Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's Nash tariff that result in positive marginal welfare gains for all.

B.4.4 Positive Welfare Gains with Percentage Point Reduction

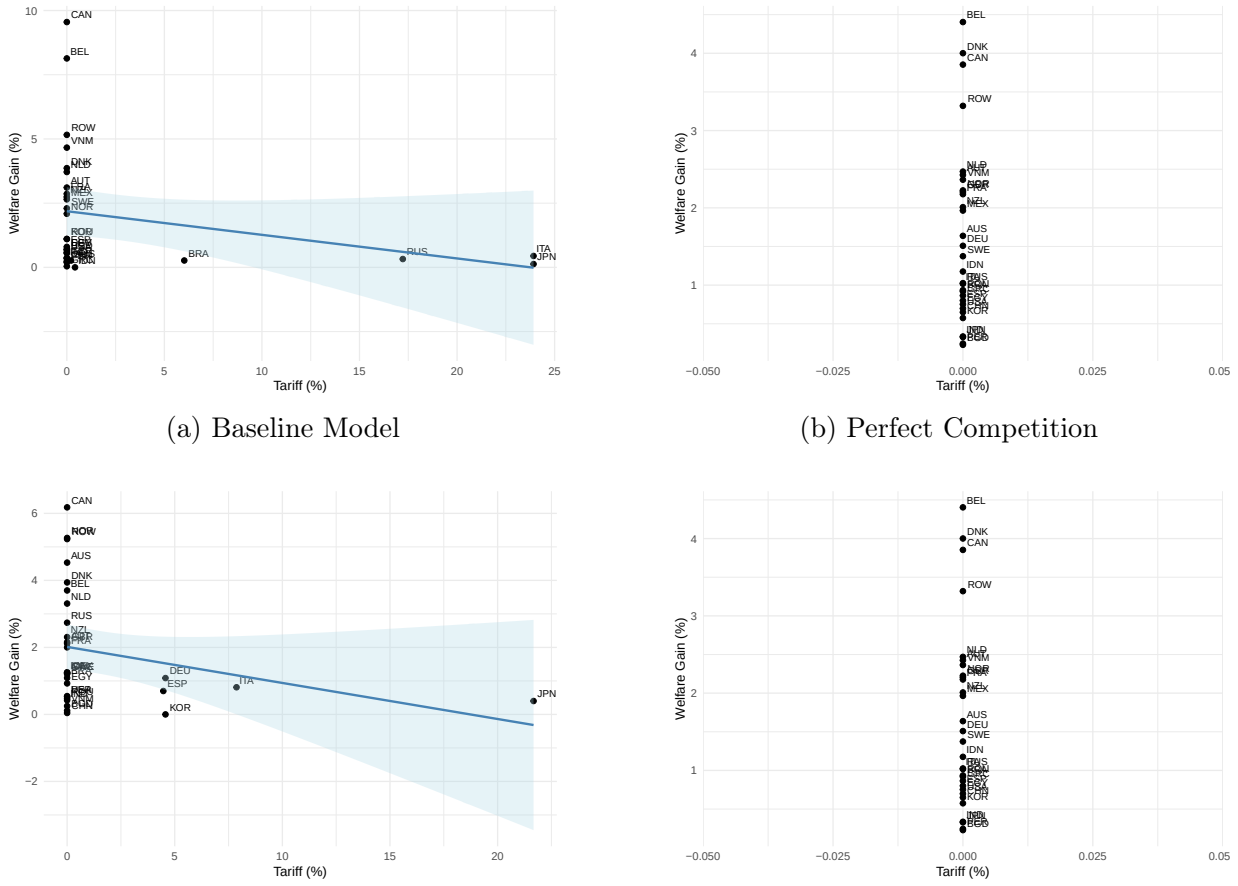
Figure B.61: Comparison of Cooperative Tariffs Across Market Structures



(a) Baseline vs. Homogeneous (b) Baseline vs. Perfect (c) Homogeneous vs. Perfect

Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's Nash tariff that result in positive welfare gains for all. Each panel plots the cooperative tariffs (%) under two different market structures for each country. The dashed line indicates the 45-degree line where the two cooperative tariffs are equal. Countries above the line set higher tariffs under the y-axis scenario and vice versa.

Figure B.62: Cooperative Tariffs and Welfare Gains under Different Market Structures



(a) Baseline Model

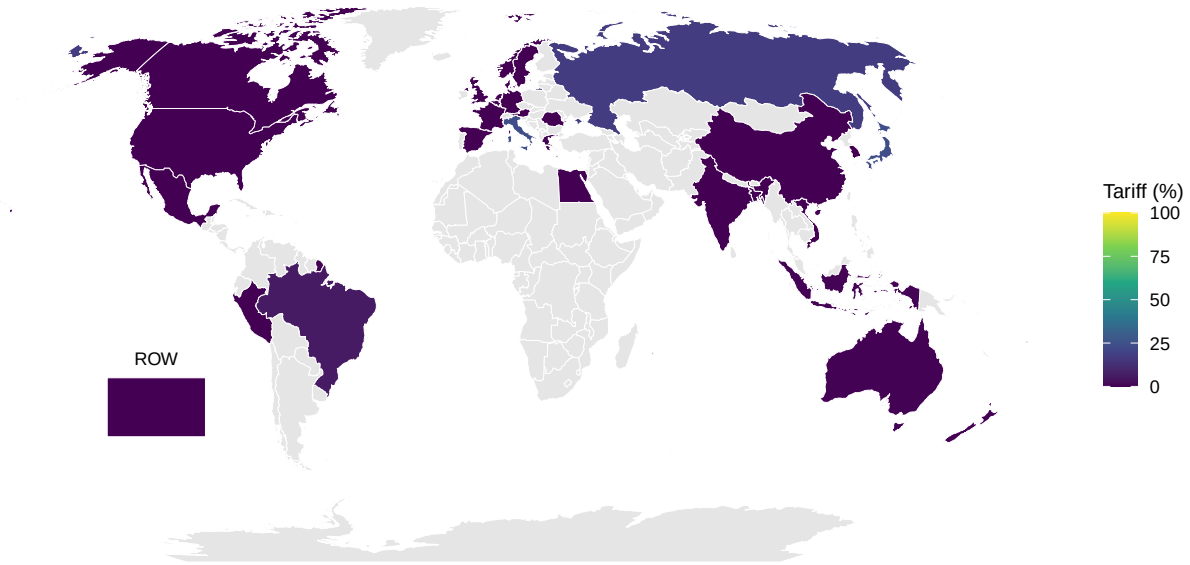
(b) Perfect Competition

(c) Homogeneous Model

(d) Perfect Competition

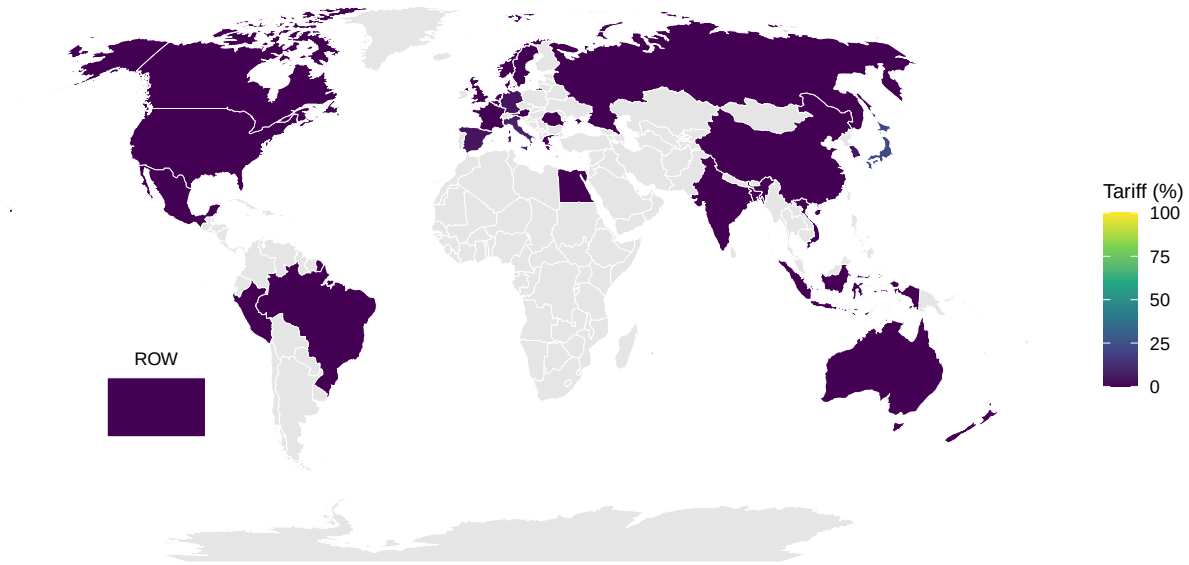
Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's Nash tariff that result in positive welfare gains for all. All panels plot welfare gains (vertical axis, in %) against cooperative tariffs (horizontal axis, in %) that maximize a country's own welfare, assuming other countries' tariffs are fixed. Panel (a) shows the baseline heterogeneous model; (b) shows the perfect competition case without profit-shifting and fixed costs; (c) uses the same model as (a) but with a homogeneous elasticity (fixed at the USA value); (d) repeats the perfect competition case with a homogeneous elasticity. Shaded areas are 95% confidence intervals of linear fits.

Figure B.63: Cooperative Tariffs (Baseline Model)



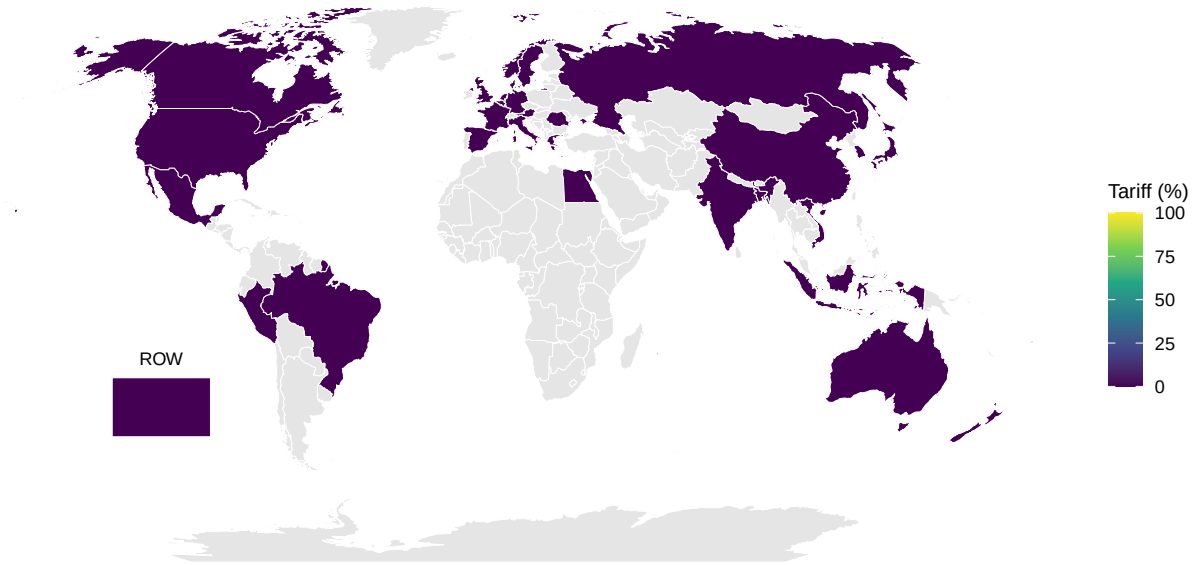
Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's Nash tariff that result in positive welfare gains for all.

Figure B.64: Cooperative Tariffs (Homogeneous Model)



Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's Nash tariff that result in positive welfare gains for all.

Figure B.65: Cooperative Tariffs (Perfect Competition Model)



Notes: The cooperative tariffs correspond to the largest uniform percentage point reductions from each country's Nash tariff that result in positive welfare gains for all.