Tariff Diplomacy in a Monetary Economy*

Emile A. Marin† Giancarlo Corsetti‡

1st November 2026

[*Preliminary Draft*]

Abstract

We extend a standard two-country monetary model such that one country can issue import-tariff threats, which the trading partner can avoid only by paying a lump-sum transfer. Optimal monetary policy internalizes its effect on the value of these threats, thereby shaping equilibrium transfers. Dollar pricing limits the ability of both threats and monetary policy to extract transfers. The transfer equilibrium achieves higher global welfare than a tariff equilibrium by avoiding efficiency losses, and moves the dollar by less than the tariff it averts. Calibrated to the 2025 U.S. tariff threats, a 29% threat extracts a transfer of 0.5–0.75% of the partner's GDP a year (depending on political costs), the deal appreciates the dollar far less than the tariff would (3–4% against 22%), and optimal policy is 1.4–3% looser in a deal year than without a threat.

JEL Codes: E52, F13, F31, F42.

Key Words: Tariff Threats; Monetary Policy; Dollar Pricing; Transfers; Reputation.

*We thank Javier Bianchi, Vito Cormun, Vincenzo Quadrini and seminar participants at UC Davis, Santa Clara University and the 1st Piraeus Conference for helpful comments.

†UC Davis. emarin@ucdavis.edu.

‡European University Institute. giancarlo.corsetti@eui.eu.

1 Introduction

Since April 2025, the U.S. has threatened, negotiated, and imposed tariffs on a number of its trading partners. This shift in the international policy landscape raises several economic questions that motivate this paper. First, how does this development change the incentives and conduct of monetary policy in open economies? While a large literature finds small gains from international monetary coordination (Obstfeld and Rogoff, 2002; Corsetti and Pesenti, 2005), we draw on a political science literature which argues that the greatest gains may arise from cross-instrument interactions (Frieden and Broz, 2006), such as the trade-policy implications of monetary actions. Second, will the current U.S. stance trigger widespread retaliation or a collapse in international trade? Evidence from the 2018 trade war suggests that such episodes carry substantial welfare costs (Fajgelbaum et al., 2020; Amiti et al., 2019). Third, what features of the U.S. and global economy support or undermine the credibility of these threats? While the central role of the U.S. dollar as the dominant invoicing currency (Gopinath et al., 2020b) may (or may not) confer a strategic advantage, recent work emphasizes geopolitical differences (Clayton et al., 2025).

To answer these questions, we develop a two-country monetary model with differentiated tradable goods, building on Corsetti and Pesenti (2001, 2005). Relative to the standard framework, we assume the U.S. makes a take-it-or-leave-it threat to impose an import tariff on the partner country's goods, similar to Clayton et al. (2026). The U.S. administration has explicitly stated that it views the U.S. as a "premium market" and intends to leverage its economic size to extract concessions from trading partners.[1] In response, many exporting countries may prefer to make a transfer to avoid the tariff or exclusion—rather than retaliate and trigger a tariff war. While we restrict attention to a lump-sum transfer, as in Clayton et al. (2026), this can be interpreted broadly as capturing real-world concessions such as FDI, preferential trade terms, or political commitments.

In this paper, we solve for Nash optimal monetary policy, but we explicitly model a channel through which monetary policy affects the threat value of tariffs. The monetary stance changes how much the Foreign country earns by trading with the U.S., thereby shifting the Foreign country's participation constraint. As a result, monetary policy directly influences the size of equilibrium transfers needed to avert tariffs. If monetary transmission is positive (negative), an expansionary (contractionary) stance at Home raises Foreign welfare, so the Foreign country is willing to make a larger transfer to maintain free trade. In our static model, calibrated to U.S. trade and invoicing data, a perpetual 20% tariff threat, comparable to the average 17% 'Liberation Day' tariff, extracts a transfer of roughly 0.3% of U.S. GDP a year. In a later section, we extend the model to a repeated game in which threats recur. Absent political costs of paying, Home's optimal policy coincides with that of a global planner and resembles the cooperative allocation; as the partner's political cost of paying rises, it moves towards the Nash allocation without threats.

Within our framework, the transmission of monetary policy depends on the pass-through of exchange rates to prices and on the markup Foreign firms earn on their sales. Without

[1] Comments by Steve Bannon on the This is Gavin Newsom podcast, Bannon (2025).

markups, the sign of transmission is the sign of Foreign's terms-of-trade gain from a dollar depreciation, whatever the elasticity of intertemporal substitution. When pass-through is low and markups are small, transmission is negative: a Home expansion raises Foreign's export sales, but the budget constraint ties Foreign's export revenue to its import spending, so extra sales are worth only the profit Foreign earns on them, and the U.S. stance is relatively contractionary in anticipation of tariff threats. As pass-through rises, a Home expansion improves Foreign's terms of trade, transmission becomes positive, and tariff threats make the U.S. stance expansionary, as under our dollar-pricing calibration. Internalizing the transfer then loosens U.S. policy by around 1%, against about 7% under producer currency pricing.

Dollar pricing also limits what threats are worth. Under producer currency pricing, a tariff appreciates the dollar and lowers the dollar price of U.S. imports, so the U.S. gains on its terms of trade. Under full dollar pricing, foreign exporters keep their dollar prices, so U.S. buyers bear the tariff, while U.S. exports become dearer abroad, and neither country's terms of trade move. The tariff becomes a self-inflicted cost-push shock that lowers U.S. welfare at every rate, even when monetary policy accommodates it optimally. The threat is then worth only the profit partners earn on their lost U.S. sales, and the central bank has little leverage over the transfer.

Next, we address why there may not be widespread retaliatory tariffs. We map off-equilibrium tariff threats, and the resulting transfers, into endogenous Negishi weights: absent political costs, the allocation is Pareto efficient, because the transfer equilibrium avoids the efficiency losses associated with tariffs, and any surplus Foreign gains from the cooperative monetary policy is redistributed to Home via the transfer. When the Foreign decision-maker faces a utility cost that is convex in the size of the transfer, the allocation is no longer efficient, but Foreign households strictly prefer the transfer allocation to an equilibrium with tariffs, and global welfare falls by significantly less than with tariffs: by about thirty percent as much, all of it the partner's political cost, so that world household welfare is essentially unchanged by a deal. As a result, we argue that countries may negotiate and avoid the implementation of tariffs.

We also investigate whether tariffs are credible, which we define as tariffs being subgame-perfect: should the trading partner refuse to make the transfer, would the U.S. still go through with the tariff? In our stylized framework the optimal tariff is positive whenever the tariff improves U.S. terms of trade, and zero under full dollar pricing. Dollar pricing thus works like a contract that ties the hegemon's hands: under full dollar pricing no threat is credible on its own. Under our dollar-pricing calibration a small terms-of-trade gain survives, and threats of up to about 33% are credible without reputation. Larger tariffs can nonetheless be supported in equilibrium by reputation costs, akin to the sovereign debt literature (Cole and Kehoe, 2000). To illustrate this, we make threats recurrent in a repeated game: each year the U.S. may threaten its trading partners, and a breach costs it the deals that follow, as for a long-run player facing a sequence of short-run players (Fudenberg et al., 1990). In such an equilibrium, monetary policy matters for credibility mainly through the stance if the tariff is levied: by easing, it makes the tariff cheaper to carry out, while internalizing the transfer raises the value of a deal, and so the reputation stake, only to second order. This channel of monetary–fiscal interaction is material under producer currency pricing, but dollar pricing keeps it small, which also protects central

bank independence: a fiscal authority has little to gain from pressuring the central bank.

Deals appreciate the dollar less than tariffs in general. Assuming, for illustration, that monetary policy is held fixed, a deal appreciates the dollar less than the tariff it averts for every tariff rate, as long as a stronger dollar lowers the partner's welfare. A tariff hurts the partner only through the dollar; a deal hurts it also through the work of producing the exports that earn the transfer and through the political cost of paying, so less of its burden must come through the dollar. The two move the dollar equally only if producing the exports costs no work and paying carries no political cost: the partner then pays exactly the transfer that reproduces the tariff's effect on the dollar. In our static model, a deal that averts a 20% tariff appreciates the dollar by 3.3% at date 0 and 1.6% thereafter, against 17.5% and 15.9% if the tariff were levied. Expected deals cannot, however, explain the 8% depreciation of the dollar in 2025. We detail the case of a loss of the dollar's safety premium, in line with Krishnamurthy and Vissing-Jorgensen (2012) and Jiang et al. (2021).[2]

Finally, we calibrate the repeated game to the U.S. in 2025: each year a threat may arrive, prices are fixed within the year, and the threat, the deal and the monetary stance last for that year. We target the average rate threatened against the partners that struck deals, 29%, the duration of import prices and, for reputation, the largest tariff the U.S. imposed and kept, 50%. The results of the static model carry over. Dollar pricing removes almost the entirety of the U.S. gain from levying the tariff: 0.03% of consumption, against 3.05% under producer currency pricing. A 29% threat extracts a transfer of 0.5–0.75% of the partner's GDP a year, depending on the political cost of paying, and optimal policy is 1.4–3% looser in a deal year than without a threat. A deal appreciates the dollar by 3–4%, against 22% if the tariff is levied, consistent with the muted response of the dollar to tariff news in 2025.

Related Literature. Our paper relates to four main strands of the international macroeconomics literature. First, it connects to the classic literature on monetary policy coordination in open economies (Corsetti and Pesenti (2001, 2005); Obstfeld and Rogoff (2002); Benigno and Benigno (2006), amongst others) as well as more recent contributions (Farhi and Werning (2012); Korinek (2016); Engel (2016)). We show that once tariff threats and the resulting transfers are taken into account, the country issuing the threats effectively behaves like a global planner—i.e., its Nash monetary policy resembles the cooperative allocation when paying carries no political cost for the partner. This mechanism speaks directly to arguments in the political science literature (e.g., Frieden and Broz (2006)) that the economic case for international monetary coordination is weak unless one considers cross-instrument spillovers.[3]

Second, our analysis contributes to a growing literature on the interaction of policy instruments (e.g., Gopinath et al. (2020a)). Lloyd and Marin (2024) study the joint determination of trade policy and capital controls. Auray et al. (2025) and Jeanne (2021) analyze trade wars and monetary policy in New Keynesian environments, while Bergin and Corsetti (2023) and Bianchi and Coulibaly (2025) examine optimal policy responses to tariffs, which we find to be

[2]Other explanations include retaliation (Ostry et al., 2025) and tariff uncertainty (Kalemli-Özcan et al., 2026; Merendino and Monacelli, 2026).

[3]For instance, a sharply depreciated currency in one country may provoke protectionist pressures elsewhere, making exchange rate policy spill over into trade policy. In our setting, the relevant externality is domestic: between monetary policy and the tariff authority.

expansionary also in the tariff branch of our model. Our contribution is distinct: we focus on tariff threats—rather than realized tariffs—and on how monetary policy strategically shapes their credibility and value.

Third, we contribute to work on dollar pricing and trade policy. Under dollar pricing the appreciation a tariff induces cannot undo border taxes (Gopinath, 2017; Barbiero et al., 2019), and U.S. tariffs pass almost fully into U.S. import prices (Amiti et al., 2019; Cavallo et al., 2021; Gopinath and Neiman, 2026). Dollar dominance is usually read as a source of U.S. power (Egorov and Mukhin, 2023; Clayton et al., 2025). For trade coercion, we show that it cuts the other way: dollar pricing makes a threat costly to carry out, worth little to the partner, and leaves the Fed almost no leverage over the transfer. We relate closely to Auray et al. (2025), who also point out that dollar pricing removes the terms-of-trade gain from a U.S. tariff, in Nash tariff wars between two New Keynesian economies.

Finally, we relate to a burgeoning literature on geoeconomics. Clayton et al. (2026) study how a hegemon can exclude foreign countries from critical inputs (e.g., restricting access to SWIFT).[4] Our framework differs in several respects. The nature of the threat is different: in our setting, the U.S. threatens exclusion from its domestic market. Moreover, our mechanism centers on how monetary policy manipulates terms of trade and participation constraints, rather than industrial policy or export controls.

2 Framework

Households We consider a discrete time, infinite horizon framework with no uncertainty. There are two countries (Home and Foreign). Country H consists of a continuum of identical households with lifetime utility denoted by:

$$\sum_{t=0}^{\infty} \beta^t \left\{ \frac{C_t^{1-\sigma}}{1-\sigma} - v\frac{L_t^{1+\gamma}}{1+\gamma} + \chi_m \log\left(\frac{M_t}{P_t}\right) \right\} \tag{1}$$

where C_t denotes aggregate consumption, L_t denotes labour supply, and M_t/P_t are real money balances. The parameters σ, γ and χ_m denote the inverse intertemporal elasticity of substitution, inverse Frisch elasticity and preference for money holdings respectively. For our analytical results we set $\gamma = 0$ (linear labour), as in Corsetti and Pesenti (2001) and Acharya et al. (2026).

Households consume a combination of Home and Foreign tradable goods (H and F):

$$C_t = \left[\alpha^{\frac{1}{\phi}} C_{H,t}^{\frac{\phi-1}{\phi}} + (1-\alpha)^{\frac{1}{\phi}} C_{F,t}^{\frac{\phi-1}{\phi}} \right]^{\frac{\phi}{\phi-1}} \tag{2}$$

where α is the degree of home bias and ϕ is the intra-temporal trade elasticity. The associated price index is given by:

$$P_t = \left[\alpha P_{H,t}^{1-\phi} + (1-\alpha) P_{F,t}^{1-\phi} \right]^{\frac{1}{1-\phi}} \tag{3}$$

[4] Clayton et al. (2025) also use large language models to extract geoeconomic signals from text.

For the remainder of the paper, we focus on $\phi = 1$, but allow for any level of σ, thus deviating from the Cole and Obstfeld (1991) parameterization used in Corsetti and Pesenti (2005), yielding important economic differences.[5] The relative demand for goods is given by:

$$C_{H,t} = \frac{\alpha}{1-\alpha}\frac{P_{F,t}}{P_{H,t}}C_{F,t} \tag{4}$$

The household budget constraint is given by:

$$P_t C_t \leq \Pi_t + W_t L_t + x_t - q_{t,t+1}x_{t+1} + T_t + (M_{t-1} - M_t) \tag{5}$$

where Π_t are firm profits reimbursed lump-sum, x_{t+1} is a one-period risk-free bond, T_t is a lump-sum transfer (or tax) from the government, and $M_{t-1} - M_t$ are changes in money balances.

The first order condition for households with respect to C_t, x_{t+1} and M_t is given by:

$$C_t^{-\sigma} - \lambda_t P_t = 0, \tag{6}$$

$$\lambda_t q_{t,t+1} - \beta\lambda_{t+1} = 0, \tag{7}$$

$$\frac{\chi_m}{M_t} - \lambda_t + \beta\lambda_{t+1} = 0 \tag{8}$$

Combining (6) and (7), these imply the household Euler equation:

$$q_{t,t+1} = \beta\frac{P_t C_t^{\sigma}}{P_{t+1}C_{t+1}^{\sigma}} \equiv \beta\frac{\mu_t}{\mu_{t+1}} \tag{9}$$

We define μ_t as the monetary stance, following Corsetti and Pesenti (2001). Iterating the Euler equation forward, it can be shown that μ_t is the return on a perpetual bond. Combining the household Euler and the first-order condition for money balances (8), we can derive a mapping between μ_t and nominal money balances M_t.[6] Analogous conditions apply abroad, and for simplicity we assume mirror symmetric preferences $\alpha^* = 1 - \alpha$.

Production and Prices We assume the Home country produces the H good and the Foreign country produces the F good. In each country there is a continuum of firms indexed by j, which produce a unique variety of tradable goods and are endowed with linear production technology which uses only labour,

$$Y_{H,t}(j) = A_t L_t(j) \tag{10}$$

[5] In the Cole and Obstfeld (1991) limit, the budget constraint is not part of the optimal policy problem. Any path of μ, μ^* will satisfy the budget constraint since prices move to compensate.

[6] Specifically, the first order condition for M_t is given by:

$$\frac{\chi_m}{M_t} - \lambda_t + \beta\lambda_{t+1} = 0$$

where $\lambda_t \equiv 1/\mu_t$. Combining:

$$M_t = \frac{\chi_m \mu_t}{1 - \beta\left[\frac{\mu_t}{\mu_{t+1}}\right]}.$$

where A_t is a Home (aggregate) productivity.

$$Y_{H,t} = A_t L_t, \quad Y_{F,t} = A_t^* L_t^* \tag{11}$$

Goods are consumed both domestically and exported abroad. If prices are flexible, firm profit maximization implies:

$$P_{H,t} = \frac{\epsilon}{\epsilon - 1} \frac{W_t}{A_t}, \tag{12}$$

where W_t is defined by the optimal labour supply chosen by households. Instead, we assume prices are perfectly rigid in the domestic currency, and prices on exports adjust to allow for variable pass-through according to:

$$P_{H,t}^* \mathcal{E}_t^{\lambda} = \overline{P}_H, \quad P_{F,t} = \overline{P}_F^* \mathcal{E}_t^{\lambda^*}, \tag{13}$$

The case of $\lambda^* = \lambda = 1$ corresponds to producer currency pricing whereas $\lambda^* = \lambda = 0$ corresponds to local currency pricing. Assuming the Home country is the U.S., the benchmark of full dollar pricing (close to our calibration; Corsetti and Pesenti, 2009; Gopinath et al., 2020b) is given by $\lambda = 1, \lambda^* = 0$. In a symmetric pricing equilibrium where firms choose a markup over expected marginal costs ($\mathbb{E}_0[\sum_{t=0}^{\infty} mc_t]$), prices satisfy $P_{H,t} = \frac{\epsilon}{\epsilon-1} E_0[\sum_{t=0}^{\infty} mc_t]$, where ϵ reflects the elasticity of substitution across varieties. In turn, $P_{H,t}^* = \mathcal{E}_t^{-\lambda} \frac{\epsilon}{\epsilon-1} E_0[\sum_{t=0}^{\infty} mc_t]$, whereas $P_{F,t}^* = \frac{\epsilon^*}{\epsilon^*-1} E_0[\sum_{t=0}^{\infty} mc_t^*]$, and $P_{F,t} = \mathcal{E}_t^{\lambda^*} \frac{\epsilon^*}{\epsilon^*-1} E_0[\sum_{t=0}^{\infty} mc_t^*]$. Since we abstract from productivity shocks, we set $\overline{P}_H = \overline{P}_F^* = 1$. The wage is $W_t^* = v^* \mu_t^*$, so each unit a Foreign firm sells costs it $v^* \mu_t^*$ in labour, and at the no-threat stance its real marginal cost is $v^* \bar{\mu}^*$. Foreign firms preset their price as a markup over this cost, $1 = \frac{\epsilon^*}{\epsilon^*-1} v^* \bar{\mu}^*$, where $\epsilon^* > 1$ is the elasticity of substitution between varieties; with $\epsilon^* = 6$ prices are 20% above marginal cost, a larger markup is a smaller ϵ^*, and $\epsilon^* \to \infty$ is no markup. Likewise at Home, with elasticity ϵ.

Regardless of pass-through, due to nominal rigidities, production is demand constrained implying:

$$L_t = C_{H,t} + C_{H,t}^*, \tag{14}$$

$$L_t^* = C_{F,t} + C_{F,t}^* \tag{15}$$

Risk-Sharing and Nominal Exchange Rate. Combining the Home and Foreign household Eulers, risk-sharing (or the law of one price for bonds) implies:

$$\underbrace{\beta \frac{P_t C_t^{\sigma}}{P_{t+1} C_{t+1}^{\sigma}}}_{q_{t,t+1}} = \underbrace{\beta \frac{P_t^* C_t^{*\sigma}}{P_{t+1}^* C_{t+1}^{*\sigma}} \frac{\mathcal{E}_t}{\mathcal{E}_{t+1}}}_{q_{t,t+1}^*} \tag{16}$$

Iterating forward, we can rewrite this as:

$$\mathcal{E}_t = \frac{P_t C_t^{\sigma}}{P_t^* C_t^{*\sigma}} \underbrace{\frac{P_0^* C_0^{*\sigma}}{P_0 C_0^{\sigma}} \mathcal{E}_0}_{\kappa} \equiv \frac{\mu_t}{\mu_t^*} \kappa \tag{17}$$

where κ captures the initial conditions and equals 1 in a symmetric equilibrium. However, the initial equilibrium is not symmetric if there are strategic differences in behaviour (i.e. optimal vs. passive monetary policy), or transfers (due to threats). An appreciation of the Home currency corresponds to $\mathcal{E}_t \downarrow$ and is the result of contractionary policy $\mu_t \downarrow$.

Monetary Policy and Equilibrium Determination Monetary policy is defined as a path for $\{\mu_t\}$ for the Home country and $\{\mu_t^*\}$ abroad. Using the definition $P_t^{(*)} C_t^{(*)\sigma} = \mu_t^{(*)}$, we express:

$$C(\mu_t, \mu_t^*) = \frac{1}{\omega}\left[\frac{\mu_t^{1-\lambda^*(1-\alpha)}\mu_t^{*\ \lambda^*(1-\alpha)}}{\overline{P}_H^{\alpha}\overline{P}_F^{*1-\alpha}}\frac{1}{\kappa^{\lambda^*(1-\alpha)}}\right]^{\frac{1}{\sigma}}, \tag{18}$$

$$C^*(\mu_t, \mu_t^*) = \frac{1}{\omega}\left[\frac{\mu_t^{\lambda(1-\alpha)}\mu_t^{*\ 1-\lambda(1-\alpha)}}{\overline{P}_H^{\alpha}\overline{P}_F^{*1-\alpha}}\kappa^{\lambda(1-\alpha)}\right]^{\frac{1}{\sigma}} \tag{19}$$

where $\omega = \alpha^{-\alpha}(1-\alpha)^{-(1-\alpha)}$. Our assumptions facilitate a simple analytical characterization of equilibrium. Consumption in equilibrium is a Cobb-Douglas function of monetary stances. Expansionary monetary policy in the Home country $\mu_t \uparrow$ always corresponds to a higher level of consumption C_t and the same is true for μ_t^* if $\lambda^* > 0$. Symmetrically, the same is true for μ_t^*, μ_t and C_t^*. Note that if $\lambda^* = 0$, C depends only on μ_t, and if $\lambda = 0$, C^* depends only on μ_t^*. Using (4) and (13), we can also construct $C_H(\mu_t, \mu_t^*), C_F(\mu_t, \mu_t^*)$ and analogously abroad, as detailed in the Appendix. Consequently, (18), (19) and (14) can be used to express $L(\mu, \mu^*)$ and analogously for $L^*(\mu, \mu^*)$ when prices are perfectly rigid. At the PCP limit, normalizing the rigid prices to 1: $C(\mu_t, \mu_t^*) = (\mu^{\alpha}\mu^{*\ 1-\alpha})^{1/\sigma}\kappa^{(\alpha-1)/\sigma}$.

2.1 Tariff Threats

There is a governmental or fiscal authority in the Home country that can threaten to attach a *perpetual* tariff θ_t on imports from the Foreign country, such that relative demand for goods becomes $C_{F,t} = \frac{1-\alpha}{1+\theta}\frac{P_t}{P_{F,t}}C_t$. In exchange for not going through with the threat, the Foreign country can choose to give a transfer τ_0, i.e. send a cheque to the U.S. Treasury. We also allow for transfers to bear a utility cost $-\frac{1}{2}\chi\tau_0^2$ on the Foreign *decision-maker*. The participation constraint for the foreign country is given by:

$$W^*(\{\mu_t, \mu_t^*\}; \tau_0, 0) - \tfrac{1}{2}\chi\tau_0^2 \geq W^*(\{\mu_t^{\theta>0}, \mu_t^{*\theta>0}\}; 0, \theta) \tag{20}$$

We assume the transfer is (optimally) chosen by the fiscal authority such that the Foreign decision-maker is indifferent between an equilibrium with tariffs and one with the transfer but free trade. $W^*(\{\mu_t, \mu_t^*\}; \tau_0, 0)$ is the present discounted welfare of foreign households at their optimal allocation, taking as given monetary policy stances, a transfer τ_0, and in the absence of tariffs. $W_0^*(\{\mu_t^{\theta>0}, \mu_t^{*\theta>0}\}_{t=0}^{\infty}; 0, \theta)$ is the corresponding welfare in the off-equilibrium (threat) outcome, evaluated at the sub-game perfect (optimal) monetary stance derived analogously.

We interpret $\frac{1}{2}\chi\tau_0^2$ as a utility cost borne by the Foreign decision-maker, not by Foreign

households. A government that pays a foreign power to lift a threat is seen to concede: leaders who back down are punished by domestic audiences (Fearon, 1994), and agreements must be ratified at home (Putnam, 1988), as in political-support models of trade policy (Hillman, 1982; Grossman and Helpman, 1995). As χ becomes large, only a small transfer satisfies the participation constraint. The case of $\chi > 0$ delivers an intuitive outcome: Foreign households strictly prefer the equilibrium with a lump-sum transfer to one with tariffs, by $\frac{1}{2}\chi\tilde{\tau}_0^2$. Only the decision-maker is indifferent.

Key to our contribution is that Home monetary policy, which seeks to maximize equilibrium welfare, takes the threat as given and adjusts policy to maximize these transfers where optimal. The size of the transfer depends on the participation constraint of the foreign country, and thus manipulating this participation constraint is a margin of geopolitical manipulation as in Clayton et al. (2026).[7]

2.2 Equilibrium.

Firm profits are given by $\Pi_t = P_{H,t}Y_{H,t} - W_tL_t$ and subbing in aggregate demand implies $\Pi_t = P_{H,t}C_{H,t} + P^*_{H,t}C^*_{H,t}\mathcal{E}_t - W_tL_t$. Using relative goods demand (static optimization), the firm profit condition above, and the households' Euler equation, the present-value consolidated budget constraint (country level) can be expressed as:

$$\sum_{t=0}^{\infty}\beta^t\left\{C(\mu_t,\mu_t^*)^{1-\sigma} - C^*(\mu_t,\mu_t^*)^{1-\sigma}\kappa\right\} \leq \frac{\tau_0}{(1-\alpha)\mu_0}, \tag{21}$$

where τ_0 is a transfer received from the Foreign government and we assume $x_0 = 0$. The bond is a dollar bond; with $x_0 = 0$ and perfect foresight its denomination is immaterial.

Lemma 1 (Equilibrium) *An equilibrium is a sequence $\{\mu_t, \mu_t^*\}$ from which we can calculate allocations $\{C_t, C_{H,t}, C_{F,t}, L_t, C_t^*, C_{H,t}^*, C_{F,t}^*, L_t^*\}$, given prices $\{P_t, P_{H,t}, P_{F,t}\}$, $\{P_t^*, P_{H,t}^*, P_{F,t}^*\}$ and $\mathcal{E}_t$, satisfying condition (21).*

Proof. See Appendix 8.1.

Within our framework with rigid prices, all allocations and prices in the economy can be written as a function of the monetary stance. Corsetti and Pesenti (2001) look at the special case of $\phi = \sigma = 1$, where any sequence of $\{\mu_t, \mu_t^*\}$ automatically satisfies equilibrium because prices adjust just so. Notice that when $\sigma > 1$, as C_t rises, prices move more than proportionally such that the budget constraint becomes easier to satisfy, so labour disutility is necessary to deliver an equilibrium with finite consumption. In an equilibrium where the import tariff is levied, the implementability condition is replaced by:

$$\sum_{t=0}^{\infty}\beta^t\left\{\frac{C(\mu_t,\mu_t^*)^{1-\sigma}}{1+\theta_t} - C^*(\mu_t,\mu_t^*)^{1-\sigma}\kappa\right\} \leq 0, \tag{22}$$

[7] We focus on a Stackelberg equilibrium where the Foreign country receiving the threat does not retaliate. Section 4.1 discusses that if we were to assume retaliation, the credibility of tariffs would be diminished.

3 Optimal Monetary Policy

Within the Home country, there are two distinct actors, the central government and the monetary authority, both of which maximize household utility (are benevolent). At the beginning of the period the monetary authority chooses a path for $\{\mu_t\}_{t=1}^{\infty}$ (the date-0 stance $\mu_0 = \bar{\mu}$ is predetermined), knowing that at the end of the period, the central government threatens the Foreign country with a perpetual tariff. We assume the Foreign country also chooses monetary policy optimally and we focus on an open-loop Nash equilibrium. The *only* asymmetry between the two countries is the ability of the Home country to levy tariff threats. If the tariff were levied, Home's central bank would set the stance that is then optimal, μ^{θ}.

The consolidated Home planning problem is given by:

$$\max_{\{\mu_t\}_{t=1}^{\infty}} \left\{ \max_{\tau_0} \sum_{t=0}^{\infty} \beta^t \left[\frac{C(\mu_t, \mu_t^*)^{1-\sigma}}{1-\sigma} - v \frac{L(\mu_t, \mu_t^*)^{1+\gamma}}{1+\gamma} \right] \text{ s.t.} \right. \tag{23}$$

$$\sum_{t=0}^{\infty} \underbrace{\beta^t \left[C(\mu_t, \mu_t^*)^{1-\sigma} - C^*(\mu_t, \mu_t^*)^{1-\sigma}\, \kappa \right]}_{\psi(\mu_t, \mu_t^*)} \;\leq\; \frac{1}{(1-\alpha)\mu_0}\, \tau_0,$$

$$\left. W^*(\{\mu_t, \mu_t^*\}; \tau_0, 0) \;\geq\; W_0^*(\{\mu_t^{\theta>0}, \mu_t^{*\,\theta>0}\}; 0, \theta) \right\},$$

where the planner maximizes the non-monetary component of utility, and κ adjusts so that the budget constraint holds. The inner problem deals with the optimal determination of the transfer. It is easy to verify that Home welfare is monotonically rising in τ_0, so the optimal transfer is determined where the participation constraint (20) binds.

The outer maximization concerns the optimal monetary policy. We attach multiplier ξ to the present discounted budget constraint and derive the first order condition with respect to μ_t.

Proposition 1. *Optimal monetary policy with tariff threats:*

$$\underbrace{\beta^t \left[C_t^{-\sigma} \frac{dC_t}{d\mu_t} - v L_t^{\gamma} \frac{dL_t}{d\mu_t} \right]}_{\textit{MB of mon. expansion}} - \underbrace{\xi \left[\frac{d\psi_t}{d\mu_t} - \frac{1}{(1-\alpha)\mu_0} \frac{d\tilde{\tau}_0}{d\mu_t} \right]}_{\textit{MC of mon. expansion}} = 0, \tag{24}$$

where $\tilde{\tau}_0$ is such that (20) binds.

The first term, denoted MB (marginal benefit), captures the utility from an extra unit of consumption arising due to expansionary monetary policy today $\mu_t \uparrow$, net of labour disutility. The remaining terms capture the marginal cost associated with $\mu_t \uparrow$. The next term shows how monetary policy affects the budget constraint: trading off the incentive to appreciate and have cheaper imports with the incentive to depreciate and sell more exports, captured by $\frac{d\psi_t}{d\mu_t}$. The

sign of $\frac{d\psi_t}{d\mu_t}$ generally depends on $\sigma\phi$; with $\phi = 1$, which we maintain, it is governed by σ alone.[8] Collectively, these terms are standard in open economy models and reflect the canonical terms of trade argument, see e.g. Bagwell and Staiger (1990).

The final term is novel and captures the incentive for monetary policy to internalize its effects on the size of the lump-sum transfer. In equilibrium, since the participation constraint binds, the rent extracted $\tilde{\tau}_0$ exactly reflects the threat value, i.e. how much surplus the Foreign country derives under free trade relative to under a tariff, which we denote by ΔW_0^*. The threat value consists not only of changes in consumption and labour supply patterns, but also changes in the income earned from selling goods to the U.S., which we denote as the *export premium.* We assume that monetary policy off-equilibrium is sub-game perfect (and unrelated to the equilibrium level), so the threat value is fully determined by the effects of Home monetary policy on Foreign *on-equilibrium* welfare.

The Foreign country's present discounted welfare is given by:

$$W^*(\{\mu_t, \mu_t^*\}; \tau_0, 0) \equiv \max_{\{\mu_t^*\}_{t=0}^{\infty}} \sum_{t=0}^{\infty} \beta^t \left\{ \frac{C^*(\mu_t, \mu_t^*)^{1-\sigma}}{1-\sigma} - v^* \frac{L^*(\mu_t, \mu_t^*)^{1+\gamma}}{1+\gamma} \right\} \tag{25}$$
$$\sum_{t=0}^{\infty} \underbrace{\beta^t \left\{ C^*(\mu_t, \mu_t^*)^{1-\sigma} - C(\mu_t, \mu_t^*)^{1-\sigma} \frac{1}{\kappa} \right\}}_{\psi^*(\mu_t, \mu_t^*)} \leq -\tilde{\tau}_0 \frac{1}{(1-\alpha)\mathcal{E}_0 \mu_0^*},$$

and we denote the Foreign multiplier on the budget constraint by ξ^*. Notice that $\psi_t^* \kappa + \psi_t = 0$. If, instead, the Home country levies tariffs then, the budget constraint is replaced by:

$$\sum_{t=0}^{\infty} \underbrace{\beta^t \left\{ C^{*\ \theta>0}(\mu_t, \mu_t^*)^{1-\sigma} - \frac{1}{1+\theta_t} C^{\theta>0}(\mu_t, \mu_t^*)^{1-\sigma} \frac{1}{\kappa} \right\}}_{\psi^*(\mu_t, \mu_t^*)} \leq 0 \tag{26}$$

where $\theta_t > 0$ is the Home import tariff, monetary policy would be analogously determined, and the associated welfare is denoted by $W^*(\{\mu_t^{\theta>0}, \mu_t^{*\theta>0}\}; 0, \theta)$. Foreign monetary policy is determined according to (25), taking $\{\mu_t\}$ as given (open-loop Nash). However, in equilibrium the participation constraint is binding, so the Foreign country is indifferent across its own monetary policy stances.

The next Lemma summarizes the effect of a Home depreciation on the threat value.

Lemma 2 (Threat Value and Depreciations) *The effects of monetary policy on the threat value $\Delta W_0^* = W_0^* - W_0^{*\theta>0}$ are determined by:*

$$\frac{d\Delta W^*}{d\mu_t} = \beta^t \left[C_t^{*\ -\sigma} \frac{dC_t^*}{d\mu_t} - v^* L_t^{*\ \gamma} \frac{dL_t^*}{d\mu_t} \right] - \xi^* \frac{d\psi_t^*}{d\mu_t} \tag{27}$$

In particular, with linear labour ($\gamma = 0$) and a unit trade elasticity ($\phi = 1$), at any allocation,

[8] Holding κ fixed, at the no-threat point $\frac{d\psi_t}{d\ln\mu_t} = \frac{1-\sigma}{\sigma} \bar{C}^{1-\sigma} \left[1 - (1-\alpha)(\lambda + \lambda^*)\right]$, which has the sign of $1-\sigma$ since $(1-\alpha)(\lambda+\lambda^*) < 1$: an expansion widens Home's trade deficit, measured in units of the stance, if and only if $\sigma < 1$. This sign concerns Home's budget term only; the effect of the stance on the transfer, with κ adjusting, does not depend on it (eq. A.3 in the Appendix).

holding κ fixed:

$$\frac{d\Delta W^*}{d\ln\mu_t} = \beta^t\Big[\frac{(1-\alpha)\lambda}{\sigma}C_t^{*1-\sigma} - v^*\Big(\underbrace{\frac{(1-\sigma)(1-\alpha)\lambda}{\sigma}C^*_{F,t}}_{dL^*\text{: domestic sales}} + \underbrace{\Big(1-\lambda^*+\frac{1-\sigma}{\sigma}\big(1-(1-\alpha)\lambda^*\big)\Big)C_{F,t}}_{dL^*\text{: exports}}\Big)\Big]$$
$$-\xi^*\underbrace{\beta^t\frac{1-\sigma}{\sigma}\Big[(1-\alpha)\lambda\,C_t^{*1-\sigma} - \big(1-(1-\alpha)\lambda^*\big)\frac{C_t^{1-\sigma}}{\kappa}\Big]}_{d\psi_t^*}$$

Proof. See Appendix 8.1. □

Lemma 2 decomposes the effect of a Home expansion on foreign welfare into i) a direct effect on utility through Foreign consumption (the term converges to 0 when $\lambda = 0$) and changes in labour supply, and ii) an indirect effect through the change in the amount of Home goods the Foreign country can afford, accounting for the change in export revenues and a valuation effect, weighted by the shadow value of Foreign wealth, ξ^*. The tariff branch does not enter: Home's stance there is chosen in that branch, so $d\Delta W^*/d\mu_t = dW^*/d\mu_t$. With linear labour and a unit trade elasticity, a Home expansion lowers Foreign's domestic sales when $\sigma > 1$, since Foreign keeps its stance and cheaper imports raise C^*, and raises its exports, because Home spends more and, under dollar pricing, U.S. buyers barely face a higher price. These terms pull in different directions, so the sign is not determined in general; Corollary 1 signs it in the cases we focus on.

To solve for the optimal monetary stance, we build on Proposition 1 and account for how monetary policy internalizes its effects on the lump-sum transfers. Using the envelope theorem, we need only consider the effect of the monetary stance on time t variables, as shown below.

Proposition 2 *When the participation constraint for the Foreign country binds (20), the effect of the monetary policy stance $\{\mu_t\}$ on the transfer is captured by:*

$$\frac{d\tilde{\tau}_0}{d\mu_t} = \frac{(1-\alpha)\mathcal{E}_0\mu_0^*}{\xi^* + (1-\alpha)\mathcal{E}_0\mu_0^*\chi\tilde{\tau}_0}\underbrace{\Big(\beta^t\Big[C_t^{*\,-\sigma}\frac{dC_t^*}{d\mu_t} - v^*L_t^{*\,\gamma}\frac{dL_t^*}{d\mu_t}\Big] - \beta^t\xi^*(1-\sigma)\Big[C_t^{*-\sigma}\frac{dC_t^*}{d\mu_t} - \frac{1}{\kappa}C_t^{-\sigma}\frac{dC_t}{d\mu_t}\Big]\Big)}_{d\Delta W^*/d\mu_t} \tag{28}$$

where $\dfrac{(1-\alpha)\mathcal{E}_0\mu_0^*}{\xi^* + (1-\alpha)\mathcal{E}_0\mu_0^*\chi\tilde{\tau}_0} = -\Big(\dfrac{dW_0^*}{d\tilde{\tau}_0} - \chi\tilde{\tau}_0\Big)^{-1}$.

Proof. See Appendix 8.1. □

The implications of endogenous transfers on the behaviour of monetary policy will depend on whether the monetary policy transmission is positive or negative—in the language of Corsetti and Pesenti (2001). If monetary policy transmission is positive (negative), expansionary Home policy ($\mu\uparrow$) implies a rise (fall) in Foreign welfare. In general, expansionary policy can lead to higher foreign welfare due to i) higher demand for exports (an income effect) and ii) positive terms of trade effects abroad, i.e. imports are cheaper for Foreigners due to a Foreign appreciation. Because the budget constraint (21) ties Foreign's export revenue to its import spending, the income effect is worth only the profit $1/\epsilon^*$ on each extra unit sold. Because of

the endogenous transfer, as long as transmission is positive (negative), the monetary authority has an incentive to loosen (tighten) monetary policy in order to extract a larger transfer. We discuss this further in Section 4.

3.1 Pass-through, Markups and the Sign of Transmission

Consider the monetary policy stance that does not internalize the transfer (it takes $\tilde{\tau}_0$ as given), denoted by μ_t^{NT}, which, by Proposition 1, must satisfy:

$$MB_t(\mu_t^{NT}) - \xi MC_t(\mu_t^{NT}) = 0 \tag{29}$$

where MB_t is the first term in (24) and $MC_t \equiv d\psi_t/d\mu_t$. Instead, in the presence of threats and transfers:

$$MB_t(\mu_t^{T}) - \xi MC_t(\mu_t^{T}) + \frac{\xi}{(1-\alpha)\mu_0}\frac{d\tilde{\tau}_0}{d\mu_t} = 0 \tag{30}$$

Assuming (23) is concave, as is standard (see e.g. Costinot et al. (2014)), the relative monetary stance is determined by the sign of $d\tilde{\tau}_0/d\mu_t$.

Corollary 1 (Pass-through and the sign of transmission) *Let $\gamma = 0$, $\phi = 1$, home bias $\alpha \geq \frac{1}{2}$, and constant stances. If (23) is concave:*

i) Under PCP ($\lambda = \lambda^* = 1$), transmission is positive and $\mu^T > \mu^{NT}$, for any σ and any markup.

ii) Under LCP ($\lambda = \lambda^* = 0$), transmission is negative, for any σ and any markup.

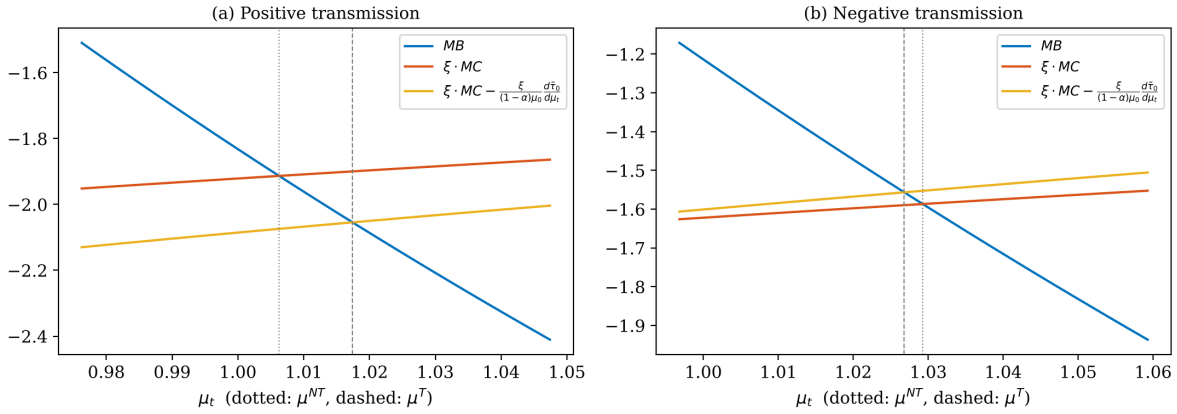
iii) Under full dollar pricing ($\lambda = 1$, $\lambda^* = 0$), transmission has the sign of $(\epsilon^* - 1)\,\Gamma\,(1 - \mathcal{E}) + 1/\sigma$, with $\Gamma \equiv \alpha + \frac{1-\alpha}{\sigma}$.

Proof. See Appendix 8.1. □

Numerical illustration. We set $\sigma = 2$ and $\beta = 0.96$, a 4% interest rate, home bias $\alpha = 0.86$, so that U.S. imports of goods and services are 14% of GDP as in 2024, $\phi = 1$ and linear labour ($\gamma = 0$). Pass-through is $\lambda = 0.9$ and $\lambda^* = 0.2$, consistent with dollar invoicing (Gopinath et al., 2020b); we call this our DCP calibration and contrast it throughout with producer currency pricing ($\lambda = \lambda^* = 1$), full dollar pricing ($\lambda = 1$, $\lambda^* = 0$) and local currency pricing ($\lambda = \lambda^* = 0$). The threat is a perpetual 20% tariff ($\theta = 0.2$), guided by the 17% average Liberation Day tariff, and the political cost is $\chi = 10$, so that the equilibrium transfer, a present value of 8.3% of one year's U.S. GDP, is worth $8.3\% \times (1 - \beta) \approx 0.33\%$ of GDP a year.[9] Home's labour weight v is set so that $\bar{\mu} = 1$ is its optimal stance absent threats, consistent with prices set under the expected policy. Foreign firms price at a markup of 20% ($\epsilon^* = 6$; Galí, 2015), and Foreign keeps

[9] This number, while large, is meant to capture the present discounted value of all future transfers, as well as political concessions.

Figure 1: Monetary Policy and Transfers



Notes: Home's first-order condition for μ_t, $t \geq 1$, in the transfer equilibrium, $\theta = 0.2$. (a) Our DCP calibration. (b) As (a), with $\lambda = 0.72$, so that $\lambda + \lambda^* = 0.92$.

$\bar{\mu}^* = 1$; without a transfer, trade then balances at $\kappa = 1$, so $\mathcal{E} = 1$ initially. As a comparative static we also remove the markup ($\epsilon^* \to \infty$).

Figure 1 illustrates the two cases, with Home's first-order condition solved exactly in this illustration. In panel (a), our dollar-pricing calibration, $\lambda + \lambda^* = 1.1$, transmission is positive and Home eases to raise the transfer. Panel (b) lowers the pass-through into the Foreign price of U.S. exports to $\lambda = 0.72$, so that $\lambda + \lambda^* = 0.92$; transmission is negative and Home tightens. Both panels keep v and ϵ^* at their baseline values. Table 1 quantifies the two cases by pricing regime.

Under PCP a weaker dollar improves Foreign's terms of trade, since its import prices fall while its exporters keep their own-currency prices, so Foreign consumes more for the same work and Home eases to raise the transfer. Under LCP no price Foreign faces moves: a Home expansion only makes Foreign ship more goods for the same revenue, so Foreign loses, and Home would tighten if a deal existed; under LCP none does, because a tariff raises Foreign's welfare (Section 5). Under full dollar pricing every traded price is fixed in dollars, so Home's stance reaches Foreign only through the volume it sells to the U.S., and the sign has two parts. On the share $(\epsilon^* - 1)/\epsilon^*$ of each extra unit paid for with work, Foreign gains only if it is currently exporting less than it would choose, which is the case when the dollar is stronger than at the no-threat equilibrium, as it is after a transfer ($\mathcal{E} < 1$); on the remaining $1/\epsilon^*$ it earns a profit that costs no work. Both are small, one being proportional to how far the transfer has moved the dollar and the other to Foreign's markup, so under dollar pricing the central bank has little leverage over the transfer. Our calibration, $\lambda + \lambda^* = 1.1$, keeps a small terms-of-trade component: transmission is positive, and the loosening it induces is about a sixth of that under PCP.[10] At $\sigma = 1$ the special case of Lemma 2 reduces to the transmission in Corsetti and Pesenti (2005): Foreign consumption rises with λ, Foreign employment with $1 - \lambda^*$, and the budget term vanishes. Negative transmission and a binding participation constraint coexist only when $\lambda + \lambda^*$ is somewhat below one: a tariff

[10] In the limit where $\sigma \to 1$, maintaining $\phi = 1$, the budget constraint becomes $1 - \kappa \leq \frac{1-\beta}{1-\alpha} \tau_0/\mu_0$, so transfers are absorbed into period-0 exchange rates.

appreciates the dollar, so if a weaker dollar hurts Foreign a stronger one helps it, and the tariff bites only through its second-order deadweight loss. Panel (b) of Figure 1 is such a case.

Table 1 reports the stances in our illustration.

Table 1: Monetary policy by pricing regime ($\theta = 0.2$)

	μ^{NT}	μ^{T}	μ^{θ}	$d\tau/d\mu$	Transfer at μ^{NT} / μ^{T} (PV, % GDP)
PCP ($\lambda = \lambda^* = 1$)	1.024	1.094	1.024	0.362	19.8 / 22.0
Our DCP ($\lambda = 0.9$, $\lambda^* = 0.2$)	1.006	1.017	1.020	0.139	8.1 / 8.3
Full DCP ($\lambda = 1$, $\lambda^* = 0$)	1.005	1.011	1.024	0.079	6.6 / 6.6
LCP ($\lambda = \lambda^* = 0$)	–	–	1.000	–	no deal

The sign of transmission orders the regimes, as Corollary 1 shows. Internalizing the transfer loosens policy by 6.8% under PCP, by 1.1% under our calibration and by 0.6% under full dollar pricing, where only the partner's markup is left to lever, and it raises the transfer from 19.8% to 22.0% of GDP under PCP but only from 8.1% to 8.3% under our calibration. The PCP deal is hypothetical, since at $\chi = 10$ the U.S. prefers levying the tariff. Internalizing the transfer is accordingly worth little to the U.S. under dollar pricing: 0.027% of consumption a year in the calibrated repeated game of Section 6, against 0.81% under PCP. This also limits the scope for conflict between a fiscal authority that sets tariffs and values the transfer more than the central bank does, and the central bank itself: under dollar pricing a fiscal authority gains little from pressuring the central bank (on independence, see Alesina and Summers, 1993; Walsh, 2008; Martin, 2014). If instead the tariff were levied, the U.S. would ease by about 2% in every regime except LCP, since the tariff is a cost-push shock. Under LCP transmission is negative, so the U.S. would tighten in a deal, but none exists, and Table 1 reports only the stance under the tariff: the tariff appreciates the dollar, which under LCP raises the partner's export revenue in its own currency while its import prices stay fixed, so the tariff improves the partner's terms of trade and raises its welfare; a deal with a tightening arises only for $\lambda + \lambda^*$ somewhat below one (Figure 1b). Finally, the transfer rises with the markup partners earn on their U.S. sales, from 6.2% of GDP without a markup to 6.8% at a 5% markup ($\epsilon^* = 21$), 8.3% at our 20% and 9.3% at 33% ($\epsilon^* = 4$), because a Home easing then raises the profits the partner earns on the extra sales.

4 Efficient Transfers

A large literature has noted that even if tariffs are unilaterally desirable, they lead to global efficiency losses even absent retaliation, see e.g. Dixit (1985) for a survey and Lloyd and Marin (2024) for a recent contribution. In the case of tariff *threats*, the picture is different. We have already noted that the Home monetary authority has an incentive to raise Foreign welfare, since this results in a larger transfer in equilibrium. The Proposition below shows that, under the transfer regime without political costs ($\chi = 0$), the Home country acts akin to a global planner who maximizes a weighted average of Home and Foreign Welfare.

Proposition 3 (Efficiency of Transfer Equilibrium) *i) If $\chi = 0$, the optimal monetary path $\{\mu_t\}$ chosen by the Home country according to (30) coincides with the choice of a benevolent global planner:*

$$\max_{\{\mu_t\}} \sum_{t=0}^{\infty} \mathcal{U}_t + \nu\, \mathcal{U}_t^*,$$

so the allocation is Pareto efficient for some Negishi weight $\nu = \kappa \frac{\xi}{\xi^*}$. ii) If $\chi > 0$, the allocation is not Pareto efficient.

Proof. See Appendix 8.1. □

Put simply, in case i), the ability to levy threats leads only to redistribution, without large welfare losses associated with inefficient tariffs. The Negishi weight is given by the ratio of Home to Foreign implementability constraint multipliers, scaled by κ, and numerically the Negishi weight falls monotonically with the size of the off-equilibrium threat. Intuitively, as transfers become larger, the marginal value of wealth for the Home country falls, and since $\xi = MB/MC$, it follows that ν is decreasing in off-equilibrium θ.

In practice, the Home country extracting the full threat value is implausible. This is captured in case (ii), where we assume the Foreign country (or decision-maker) faces a cost $\frac{1}{2}\chi\tau_0^2$ when making a transfer due to political costs or enforcement penalties, see (20). When $\chi > 0$ the resulting allocation is inefficient. Specifically, the first order condition for the Home monetary authority is now given by:

$$\frac{dU}{d\mu_t} + \hat{\kappa}^{global} \frac{dU^*}{d\mu_t} - \xi\, MC_t \left(1 - \frac{\xi^*}{\xi^* + (1-\alpha)\mathcal{E}_0 \mu_0^* \chi \tau_0}\right) = 0 \tag{31}$$

where $MC_t = d\psi_t/d\mu_t$ as in (29), $\hat{\kappa}^{global} \equiv s\,\nu$, with ν the Negishi weight of Proposition 3, and $s \equiv \xi^*/(\xi^* + (1-\alpha)\mathcal{E}_0\mu_0^*\chi\tau_0) \in (0,1]$ is the share of a marginal unit of Foreign's willingness to pay that reaches Home as transfer; the rest, $1-s$, is absorbed by the decision-maker's marginal cost of paying, $\chi\tau_0$. Equation (31) is the first-order condition of a planner who weights Foreign by $\hat{\kappa}^{global} = s\nu$ rather than ν. With $\chi = 0$ Home's policy is the cooperative one (Proposition 3); as $\chi \to \infty$ no transfer can be extracted and we get the Nash allocation without threats. In between, Home is partly cooperative and partly manipulates its terms of trade. Notice that the Home implementability constraint now matters (i.e. the initial allocation), in contrast to a planning problem. However, Section 5 shows that while efficiency losses from this channel are still significant, they are smaller than those in the tariff equilibrium.

Equation (31) is also the first-order condition of a planner who maximizes $W + \hat{\kappa}^{global}\left(W^* - \frac{1}{2}\chi\tau_0^2\right)$ over both the stance and the transfer, so the deal is efficient between the two decision-makers. It is not efficient between households: holding Home's welfare fixed, a slightly larger transfer combined with a looser Home stance raises Foreign household welfare by $\chi\tilde{\tau}_0$ per unit of transfer. Foreign households would accept a larger deal than their decision-maker signs.

4.1 Tariff Threats and Credibility.

What are the welfare implications of a tariff for the Home country? On the one hand, looking at (22), the tariff tilts the terms of trade in a favorable manner for the Home country making

imports relatively cheaper. On the other hand, tariffs distort the relative demand for goods (4), and in the presence of nominal rigidities can result in overworking as well. With prices fixed in domestic currency, pass-through matters because of the effect of tariffs on exchange rates: under full dollar pricing the terms-of-trade gain disappears altogether, and the tariff is a loss for the U.S., as we detail in the corollary below.

Corollary 2 (Dollar pricing and credibility) *Let $\gamma = 0$, $\phi = 1$, $\lambda = 1$ and $\lambda^* = 0$. If the tariff is levied, Home's optimal stance is the same at every date, $\mu^\theta = \bar{\mu}/h(\theta) > \bar{\mu}$ with $h(\theta) \equiv \alpha + \frac{1-\alpha}{1+\theta}$, and Home's welfare, maximized over any path of stances, is lower with the tariff than without it: $W^{\theta>0} < W^0$ for every $\theta > 0$, every σ and every $\alpha \in (0,1)$. Absent reputation, no tariff threat is credible.*

Proof. See Appendix 8.1. □

The intuition is simple. Under full dollar pricing the dollar value of U.S. exports equals their volume, so Home's budget constraint ties the labour it devotes to exports to its own import spending, whatever the exchange rate and Foreign's stance do; Home's welfare then depends only on its own stance and the tariff, its problem is the same at every date, and its optimal stance is constant. Foreign exporters keep their dollar prices, so the appreciation a tariff causes does not lower what the U.S. pays at the border: U.S. buyers pay the whole tariff, consistent with the near-complete pass-through of the 2018–19 and 2025 tariffs into U.S. import prices (Amiti et al., 2019; Fajgelbaum et al., 2020; Cavallo et al., 2021; Gopinath and Neiman, 2026). U.S. exports are also priced in dollars, so the appreciation raises their price abroad one for one. Neither country's terms of trade move, and the tariff is only a distortion of the U.S. consumption basket. The tariff is a cost-push shock, so the central bank eases, by 2.4% at $\theta = 0.2$; easing restores demand but cannot undo the distortion. Under our calibration a small terms-of-trade gain survives, since $\lambda + \lambda^* - 1 = 0.1$: the tariff raises U.S. welfare by at most 0.09% of consumption (0.08% at $\theta = 0.2$), and lowers it for tariffs above 33%.

Nonetheless, even tariffs that would otherwise *not* be credible, can be supported in equilibrium by reputation costs. These are costs incurred by the Home country if it reneges on the threat, denoted by $\mathcal{R}$, similar e.g. to costs of default from the sovereign debt literature, Cole and Kehoe (2000). Specifically, we denote welfare in the transfer equilibrium by $W(\{\mu_t, \mu_t^*\}, 0, \tilde{\tau})$, while $W(\{\mu_t, \mu_t^*\}, 0, 0)$ reflects the case of no threat and no transfer, and analogously $W(\{\mu_t, \mu_t^*\}, \theta, 0)$ is the off-equilibrium case where the Home country levies a tariff θ and receives no transfer. In all cases, $\{\mu_t, \mu_t^*\}$ are the optimally chosen paths of monetary policy. The tariff threat is credible as long as:

$$W(\{\mu_t, \mu_t^*\}, \theta, 0) \geq W(\{\mu_t, \mu_t^*\}, 0, 0) - \mathcal{R}$$

Endogenous Reputation. Reputation costs arise endogenously when the U.S. expects to make threats again. Suppose that if it reneges, partners no longer believe its threats and refuse to pay. Then $\mathcal{R}$ is the value of the deals it forfeits,

$$\mathcal{R} = \rho\Big[W(\{\mu_t, \mu_t^*\}, 0, \tilde{\tau}) - \max\big\{W(\{\mu_t, \mu_t^*\}, 0, 0),\, W(\{\mu_t, \mu_t^*\}, \theta, 0)\big\}\Big],$$

where ρ is the expected discounted number of future deals and the bracket is the value of a deal relative to the best alternative. Section 6 derives ρ in a repeated game in which threats recur. In Section 5, we show two important numerical results. First, $W^{\theta>0}$ falls below W^0 for θ above about 33% (Figure 2a). Second, the Home country significantly prefers the transfer equilibrium (Figure 2b), so reputation incentives are strong ($W(\{\mu_t, \mu_t^*\}, 0, \tilde{\tau}) - W(\{\mu_t, \mu_t^*\}, \theta, 0) >> 0$).

Monetary policy in a deal changes the stake only through the value of the deal. Internalizing the transfer raises that value only to second order, because μ^T maximizes it (the envelope theorem), so it barely changes which threats are credible (Section 6). What the stake does deliver is credibility for large threats: because a deal is worth far more to the U.S. than carrying out one tariff costs it, 0.3 expected further deals make a 50% threat credible in our illustration, and under full dollar pricing, where no threat is credible on its own, 0.7 further deals make a 20% threat credible.

Trade Wars. The framework can be extended to think about retaliation and trade wars. For this, $W(\{\mu_t, \mu_t^*\}, \theta_t, 0)$ is replaced by $W(\{\mu_t, \mu_t^*\}, \theta_t, -K)$ where $-K$ is a negative transfer which could reflect other forms of retaliation (political, military or otherwise) or captures lost rents due to a trade war in reduced form. It follows that the benefits of tariffs for the Home country fall in this case and threats are credible for a smaller set of parameters (and smaller θ). Retaliation in kind also removes whatever terms-of-trade gain the U.S. tariff would have earned through the appreciation: a Foreign tariff is the mirror image of a U.S. tariff, so with $\theta^* = \theta$ the dollar moves only with the stances (eq. A.1 in the Appendix). In our illustration, a 20% trade war in kind costs the U.S. 0.21% of consumption, even with an optimal easing, against a gain of 0.08% if the partner does not retaliate. A threat that is expected to meet retaliation is therefore credible only through reputation. Off the equilibrium path the partner could also reduce its exposure to the U.S., for instance through industrial policy (Clayton et al., 2026); such decoupling lowers the threat value and the transfer, and could deepen international fragmentation.

5 Additional Results

In this section, we use the numerical illustration of Section 3.1 to assess the implications of the size of the off-equilibrium tariff on i) the credibility of the threat, ii) the equilibrium welfare consequences for both countries, iii) the equilibrium transfer and resulting exchange rates, and iv) how far a deal and a tariff each move the dollar.

Welfare & Credibility of the Threat i) Figure 2a (left panel) illustrates Home, Foreign and average world welfare in the off-equilibrium path with tariffs, for different values of the tariff θ. Due to terms of trade effects, the tariff improves Home welfare and therefore is credible for values up to about 33% where $W^{\theta>0} = W(\{\mu_t, \mu_t^*\}, \theta, 0) > W^0 = W(\{\mu_t, \mu_t^*\}, 0, 0)$.[11] World

[11] This result is sensitive to the pass-through parameter. In our framework, allowing for higher pass-through in foreign prices, e.g. PCP, additionally implies cheaper imports for the U.S. due to appreciation effects of tariffs, improving Home welfare in the off-equilibrium path with tariffs. As a result, larger tariffs are credible under PCP but not DCP.

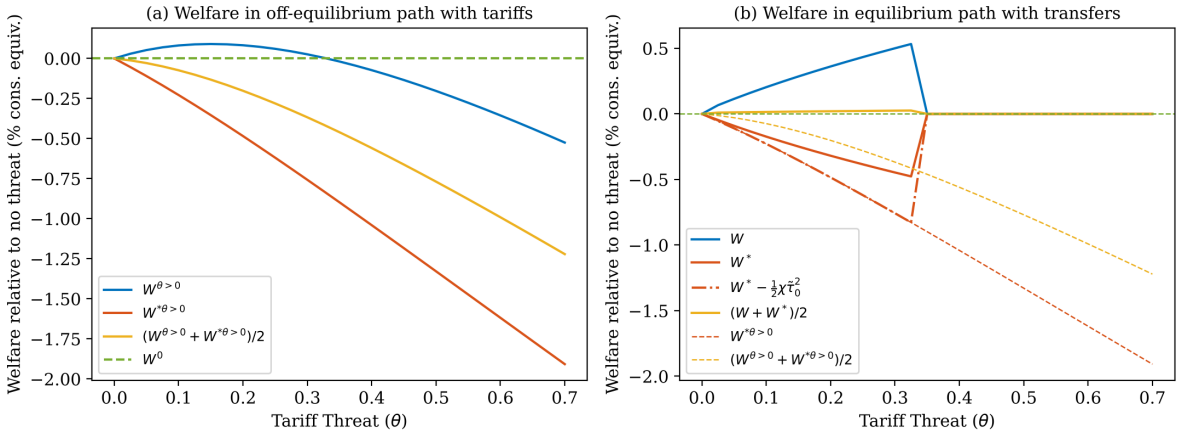


Figure 2: Welfare relative to no threat, DCP (% of consumption). (a) Tariff levied; (b) transfer equilibrium.

welfare is always decreasing in the size of the tariff. By the credibility condition of Section 4.1, the required size for the reputation cost can be read directly from the graph. For example, a 50% tariff threat would require a reputation cost of about 0.20% of consumption, about twice the largest welfare gain from unilateral tariffs (0.09%). Section 6 gives $\mathcal{R}$ an endogenous foundation and calibrates it so that the largest credible threat is 50%, the highest rate the U.S. imposed and kept in 2025.

ii) Figure 2b instead illustrates how *equilibrium* welfare varies with the size of the threat θ, (dashed lines correspond to off-equilibrium values and are included for comparability). Welfare for Home is monotonically increasing in θ, as Home can extract a larger transfer while incurring no costs—as long as the threat remains credible ($\theta \lesssim 33\%$). The interesting findings relate Foreign and world welfare in the transfer equilibrium to their counterparts in the tariff equilibrium. World welfare falls by less in the transfer equilibrium than in the tariff equilibrium as θ grows, and when $\chi = 0$ world welfare is near identical, consistent with Proposition 3. For $\theta = 0.2$, the global welfare loss in the transfer equilibrium is about 30% that of the tariff equilibrium, and all of it is the political cost $\frac{1}{2}\chi\tilde{\tau}_0^2$: world household welfare, $(W + W^*)/2$, is essentially unchanged by the transfer (+0.02% of consumption, against −0.20% under the tariff). As a result, a global planner would prefer the transfer regime to the tariff equilibrium since it avoids the inefficiency costs of tariffs. With $\chi > 0$, Foreign households also significantly prefer the transfer equilibrium: only the Foreign decision-maker is indifferent due to the presence of political costs. Foreign households gain $\frac{1}{2}\chi\tilde{\tau}_0^2$, about 0.17% of consumption at $\theta = 0.2$ (Section 2.1). Under PCP the deal raises world household welfare above its no-threat level, because the cooperative U.S. stance removes the terms-of-trade externality of the no-threat equilibrium; under dollar pricing this gain is negligible, because the U.S. stance has little effect on the partner.

Transfers and Exchange Rates iii) A tariff is a permanent wedge on U.S. import demand; because trade must balance, U.S. exports must fall as much as U.S. imports, and only a stronger dollar achieves this. A deal involves no wedge, only a transfer, which appreciates the dollar through the transfer problem (Keynes, 1929; Ohlin, 1929). The partner is indifferent

between the two, since its participation constraint binds, yet the deal moves the dollar less.

Proposition 4 (Deals, tariffs and the dollar) *Let $\gamma = 0$ and $\phi = 1$, and let each country's stance be the same at every date, including date 0: $\mu_t = \mu$ and $\mu_t^* = \bar{\mu}^*$ for all $t \geq 0$. Home's stance μ may take any value, including $\bar{\mu}$, and may differ between the deal and the tariff. (Our baseline also fixes the date-0 stance at $\bar{\mu}$, but lets Home re-optimise from date 1; Figure 4 shows the result there.) As long as a stronger dollar lowers the partner's welfare,*

$$\frac{\epsilon^* - 1}{\epsilon^*}(\lambda + \lambda^* - 1) + \frac{1}{\epsilon^*}\frac{\lambda}{\sigma} \geq 0,$$

a deal appreciates the dollar less than the tariff it averts, $\mathcal{E}^{\theta} < \mathcal{E}^{\text{deal}}$, for every tariff θ that appreciates the dollar and any political cost $\chi \geq 0$. The two appreciations coincide only in the limit $\epsilon^* \to 1$, where exports cost no work, and with $\chi = 0$.

Proof. See Appendix 8.1. □

A tariff hurts the partner only through the dollar: the partner's welfare depends on the tariff and on the U.S. stance only through $\mathcal{E}$, which sets the prices it faces and the exports it needs to pay for its imports. A deal hurts it through the dollar and through the costs of paying: the work of producing the exports that earn the transfer, $(\epsilon^* - 1)/\epsilon^*$ per unit, and, for its government, the political cost $\frac{1}{2}\chi\tau_0^2$. A transfer that moved the dollar as much as the tariff would leave the partner with the same prices and consumption as the tariff, plus these costs, and the partner would refuse it. The transfer it accepts is smaller and moves the dollar less. The more of the burden that comes through the costs of paying, the less must come through the dollar: the two move the dollar equally only if exports cost nothing to produce and paying carries no political cost, in which case the partner pays exactly the transfer that reproduces the tariff's effect on the dollar. Under full dollar pricing the dollar hurts the partner only through its markup, so most of the burden of the deal comes through the costs of paying.

The driving force for the on-equilibrium results is the lump-sum transfer τ_0, plotted in Figure 3 (left panel). The transfer is 8.3% of GDP at the 20% threat of the calibration and rises to about 12% when the threat is 33%, the largest credible threat; without a markup it is 6.2% at $\theta = 0.2$. The transfer jumps at small θ because even a small credible threat lets Home extract the Foreign gain from making its monetary policy more cooperative (Proposition 3). Figure 3 (RHS) illustrates how exchange rates at time $t > 0$ vary with the size of the off-equilibrium threat. The date-0 line reflects the importance of the time-0 appreciation captured by κ, see (17), consistent with the transfer problem (Keynes, 1929; Ohlin, 1929). A larger θ off-equilibrium implies a larger transfer and an appreciation at time 0, in line with (17). Specifically, the 20% perpetual off-equilibrium tariff, delivering 8.3% of a single year's GDP, would result in a 3.3% USD appreciation at date 0 and 1.6% thereafter, driven by a time-0 appreciation, only partly offset by monetary policy $\mu_t \uparrow$.

In our illustration the tariff would appreciate the dollar by 17.5% at date 0 and 15.9% thereafter, far more than the deal (Figure 3). Figure 4 shows why, with the political cost and the stances Home chooses. Panel (a) splits the partner's loss into the part that comes through the dollar and the costs of paying. The losses are equal, since the participation constraint binds.

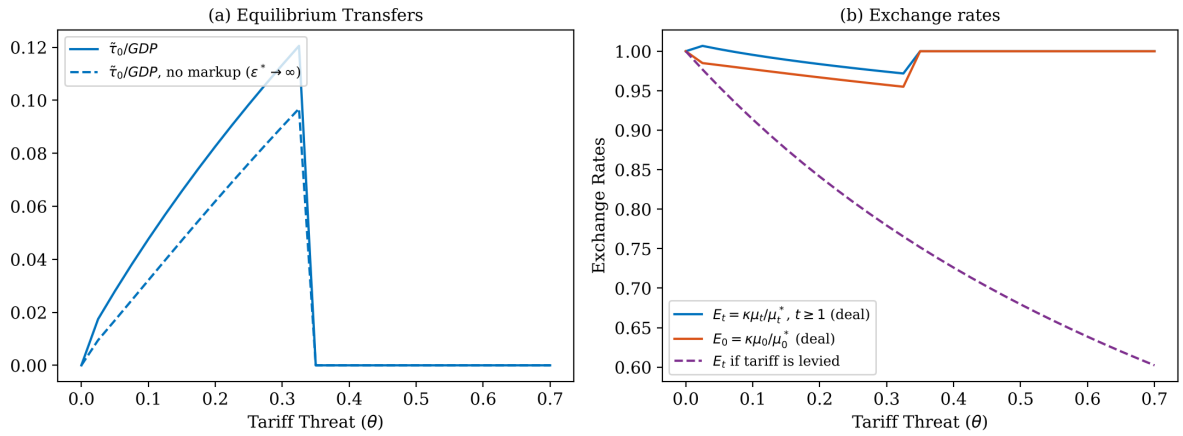


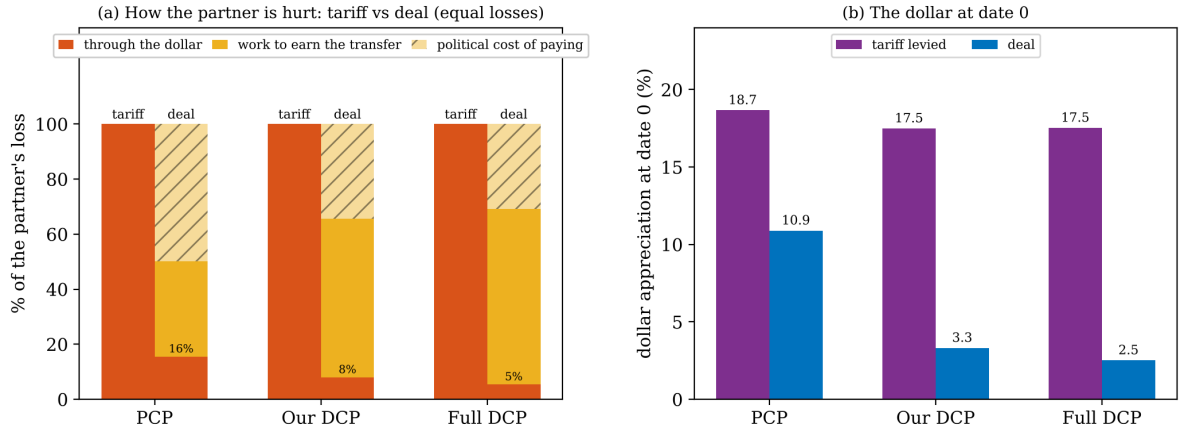
Figure 3: (a) Transfer, DCP (present value, % of one year's GDP). (b) Exchange rates in the deal and under the tariff.

Under the tariff all of the loss comes through the dollar. In the deal only 16% of it does under PCP, 8% under our DCP and 5% under full dollar pricing; the rest is the work of earning the transfer and the political cost. Panel (b) shows what this means for the exchange rate: at date 0 the deal appreciates the dollar by 3.3% under our DCP and 2.5% under full dollar pricing, against 17.5% for the tariff. Under PCP the deal moves the dollar more, 10.9% against 18.7%, because the partner bears more of the tariff and so pays more. A threat that ends in a deal therefore moves the dollar by the deal's amount, not the tariff's. The tariff's own appreciation is about the same under any pricing, so the muted response of the dollar to tariff announcements in 2025 suggests that markets priced in deals, not tariffs. Daily data bear this out. Over the two trading days around the eight main threat announcements of 2025 the broad dollar index moved by -0.13% on average (standard error 0.21), and by $+0.04\%$ leaving out Liberation Day, when it fell 1.4%; around the ten deals it rose by 0.28% (0.12), and by 0.16% leaving out the three windows with an FOMC statement.[12] Threats thus moved the dollar by far less than the tariff, and less even than the deal predicts, consistent with the loss of safety premium we turn to next.

When can the dollar fall? Expected deals explain a muted response, but not the 8% depreciation of the dollar in 2025. The literature offers three explanations. Tariffs met with retaliation weaken the dollar, while tariffs that go unanswered strengthen it (Ostry et al., 2025). Tariff uncertainty raises the risk premium on dollar assets (Kalemli-Özcan et al., 2026), the more so when it is unclear whether tariffs will last (Merendino and Monacelli, 2026). And a trade war that isolates U.S. goods markets erodes the dollar's safety premium (Hassan et al., 2025). Our model speaks to the first (Section 4.1) and the last; the uncertainty channels lie outside it, since threats and their outcomes are foreseen. We model the safety premium as follows. Foreign investors value U.S. safe assets for their liquidity and safety, and hold a stock B_t^* of

[12] Federal Reserve H.10 noon rates and the nominal broad dollar index, from the last day before each announcement to the second trading day from it. Threats: 1 February (Canada, Mexico, China), 2 April (Liberation Day), 7, 9 and 12 July (letters to Japan and Korea, Brazil, the EU and Mexico), 31 July (reciprocal rates set), 6 August (India) and 10 October (China). Deals: the U.K. (8 May), China (12 May, 11 August and 30 October), Vietnam (2 July), Indonesia (15 July), Japan (22 July), the EU (27 July), Korea (30 July) and Switzerland (14 November).

Figure 4: Why a deal moves the dollar less than the tariff



Notes: $\theta = 0.2$, equilibrium stances. (a) The partner's loss relative to no threat, split as in the proof of Proposition 4. The PCP deal is hypothetical: at $\chi = 10$ Home prefers levying the tariff.

them at a yield below the world interest rate by the convenience yield ς_t (Krishnamurthy and Vissing-Jorgensen, 2012; Jiang, 2024). Each period the U.S. earns seigniorage $\varsigma_t B_t^*$, a receipt in Home's budget constraint (21) that is part of κ in the no-threat equilibrium. A threat that erodes the dollar's safety premium lowers the convenience yield by $\Delta\varsigma_t$. This is a loss to the U.S. and a gain to foreign holders, worth

$$S = \sum_{t=0}^{\infty} \beta^t \frac{\mu_0}{\mu_t} \Delta\varsigma_t \, B_t^*$$

in present value. The loss occurs once the threat is made, whatever its outcome, so Home's budget constraint receives $\tilde{\tau}_0 - S$ in the deal and $-S$ if the tariff is levied. κ rises, and the dollar depreciates through the transfer problem. Table 2 reports the results. A loss of 5.3% of one year's GDP (0.21% a year) leaves the dollar unchanged in the deal, and losses of 22% and 38% (0.9% and 1.5% a year) would be needed to depreciate it by 5% and 10%.[13] Foreign holdings of U.S. Treasuries are about 30% of U.S. GDP (Congressional Research Service, 2026). The loss of 0.21% of GDP a year that leaves the dollar unchanged thus corresponds to a fall in the convenience yield on these holdings of about 0.7 percentage points, the 0.7 points that Krishnamurthy and Vissing-Jorgensen (2012) estimate for its level. A depreciation of 5–10% would require losing several times the whole convenience yield, so it must also reflect the uncertainty channels above. Because the loss occurs on and off the equilibrium path, it barely changes the threat value or credibility. The transfer falls from 8.3% to 7.9% of GDP when the dollar is unchanged (7.0% at a 5% depreciation), and levying the tariff still beats reneging.

[13] Only the present value of S matters in our model. The budget constraint (21) discounts Home's net receipts at Home's nominal interest rates, and κ, and hence the exchange rate given the stances, depends on that present value alone. A loss spread over time, such as a lower convenience yield on U.S. debt in every period, is therefore equivalent to the one-off loss with the same present value, whatever its time profile. This holds when the loss is a pure wealth transfer, i.e. lost seigniorage. If the convenience yield also drives a wedge in the Euler equation, as in Jiang (2024) and Ding and Jiang (2026), the exchange rate responds to the path of the wedge as well.

Table 2: A loss of the dollar's safety premium

Dollar in the deal (from date 1)	S (% of one year's GDP)	S per year (% of GDP)	Transfer (% of GDP)	$\mu^T/\mu^{NT} - 1$ (%)
Appreciates 1.6% (no loss)	0	0	8.3	1.1
Unchanged	5.3	0.21	7.9	1.3

Notes: $\theta = 0.2$, DCP.

The loss also changes monetary policy: a poorer U.S. tightens, but values each unit of transfer more, so internalizing the transfer loosens policy slightly more (Table 2). With stances fixed, S enters Home's budget constraint like a negative transfer, so at a given stance the dollar weakens in a deal only if the loss exceeds the transfer, $S > \tilde{\tau}_0$. Because the deal stance is looser than the no-threat stance, the dollar is already flat at $S = 5.3\%$, about two thirds of the transfer.

5.1 Dollar pricing limits the U.S. ability to levy threats

Corollaries 1 and 2 showed that dollar pricing removes the terms of trade from the monetary lever and from the U.S. gain from a tariff. Table 3 puts numbers on what this means for the deal, comparing our calibration with PCP, full dollar pricing and LCP at $\theta = 0.2$. The first row repeats the tariff gain behind Corollary 2: 2.23% of consumption under PCP, 0.08% under our calibration, and a loss under full dollar pricing and LCP.

What can the U.S. extract? What the U.S. can threaten is Foreign's terms-of-trade loss from the tariff and the profit it earns on the sales the tariff destroys, plus a second-order deadweight loss. Under full dollar pricing Foreign's terms of trade do not move, so the partner loses only its profit on lost sales. The threat is worth less, so the transfer is smaller: 6.6% of GDP under full dollar pricing, against 8.3% under our calibration and 22% under PCP.

Table 3: What dollar pricing changes ($\theta = 0.2$)

	PCP	$\lambda = 0.9$, $\lambda^* = 0.2$	Full DCP	LCP
Tariff gain (% cons.)	2.23	0.08	−0.19	−2.50
Stance after the tariff, $\mu^\theta/\bar{\mu}$	1.024	1.020	1.024	1.000
Transfer (PV, % of GDP)	22.0	8.3	6.6	no deal
Loosening, $\mu^T/\mu^{NT} - 1$ (%)	6.8	1.1	0.6	–

Notes: Under LCP the tariff raises the partner's welfare, so no deal exists. Under PCP the deal is hypothetical: at $\chi = 10$ Home prefers levying the tariff.

Near the no-threat equilibrium, under full dollar pricing Home's stance moves the transfer only through that profit. Dollar pricing therefore works like a contract that ties the hegemon's hands. It makes tariffs costly to carry out, limits what can be extracted, and makes reputation, rather than monetary accommodation, the source of credibility. Under the intermediate pricing of our illustration a small terms-of-trade component and a small credible region survive. This qualifies the view that the dollar's central role is a source of U.S. geoeconomic leverage (Clayton et al., 2025): in our model, it constrains coercion through trade policy.

6 Repeated Game: Recurring Threats [Under Construction]

The model of Section 2 treats the threat as a one-off and holds prices fixed for good. In 2025, by contrast, threats were issued, suspended and renegotiated within months. This section makes three changes to that model and keeps everything else as before: preferences, technology, the pricing equations (13), and Foreign's stance $\bar{\mu}^*$. First, threats recur. Each year a threat arrives with probability q, and the tariff θ, the transfer τ_t and Home's stance μ_t last for that year only. Foreign is, as before, the bloc of U.S. trading partners, which pays or refuses as one, and it is a one-shot player each year, which pays when its participation constraint binds. Second, prices are set for a year rather than for good, and trade balances within the year apart from the transfer,

$$P_{F,t}C_{F,t} - \mathcal{E}_t P^*_{H,t}C^*_{H,t} = \tau_t, \tag{R.1}$$

which pins down κ_t in each year. This rules out borrowing across years: with it, net foreign assets would become a state variable linking the years. Each year's allocation is therefore that of the static model with constant stances, so the closed forms (A.1), Lemma 2, Corollaries 1–2 and Proposition 4 apply year by year, and welfare is per year, $w_t = C_t^{1-\sigma}/(1-\sigma) - vL_t$, and similarly w_t^*. Third, reputation is endogenous. If the U.S. reneges on a threat, partners refuse to pay until a new administration takes office, which happens with probability $1 - p_a$ each year. The reputation cost of Section 4.1 is then $\mathcal{R} = \rho_R\big[w^{\text{deal}} - \max\{w^0, w^\theta\}\big]$, and the threat in year t is credible if

$$w^\theta - w^0 + \rho_R\Big[w^{\text{deal}} - \max\{w^0, w^\theta\}\Big] \geq 0, \qquad \rho_R = \frac{\beta q\, p_a}{1 - \beta p_a}, \tag{R.2}$$

where ρ_R is the expected discounted number of future threats the current administration faces. We look for a stationary subgame-perfect equilibrium with trigger strategies: partners punish a breach by refusing to pay until the administration changes. Every year is the same stage game, so the value functions are constant, and (R.2) is the one-shot deviation condition: the U.S. compares carrying out the threat today, and keeping future deals, with backing down and facing refusals until the administration changes.

Within a year, events unfold as follows. Firms first set their prices for the year, at the level of the no-threat equilibrium, and keep them fixed for the year, in line with a median duration of U.S. import prices of 10.6 months (Gopinath and Rigobon, 2008). They do not price in threats, a good approximation when threats are rare: at our calibration a threat arrives once every 19 years. A threat then arrives with probability q: a tariff θ on the partner's goods for the rest of the year, unless it pays τ_t within the year. The partner pays if the transfer leaves it as well off as the tariff,

$$w^*(\mu_t, \tau_t) - \tfrac{1}{2}\chi\tau_t^2 = w^*(\mu_t^\theta, 0; \theta), \tag{R.3}$$

where μ_t^θ is the stance Home would set if the tariff were levied. Home's central bank then sets the year's stance, knowing whether there was a threat and how it was resolved. In a deal year it sets the stance announced when the deal was struck, μ^T, to which it is committed for the year, which internalizes the transfer as in Proposition 2; if the tariff is levied it sets the stance that is then optimal, μ^θ, so the threat is subgame perfect; without a threat it sets $\bar{\mu}$. Finally, trade

balances, (R.1). Years are linked only through reputation. Each stance lasts exactly as long as prices are fixed, so its real effects are those of the static model, and the policy rate returns to its no-threat level the following year.

Table 4: Calibration of the repeated game

Parameter	Value	Target	Data	Model
β	0.96	real interest rate	4%	4%
σ	2	elasticity of intertemporal substitution	1/2	1/2
$1-\alpha$	0.14	U.S. imports / GDP, 2024 (BEA)	14.0%	14%
–	1 year	price duration: median import price, months (Gopinath and Rigobon, 2008)	10.6	12
λ, λ^*	0.9, 0.2	pass-through within the year, dollar invoicing (Gopinath et al., 2020b, 2010)	0.25	$\lambda^* = 0.2$
v	–	$\bar{\mu} = 1$ optimal in a year without a threat	–	–
ϵ^*	6	partner's markup (Galí, 2015)	20%	20%
θ	29%	average threatened rate, 2025 deal partners	29%	29%
χ	0	benchmark: partner pays its full loss	–	–
ρ_R	0.14	largest tariff imposed and kept (Brazil, India)	50%	50%

Relative to the illustration of Section 3.1, the calibration adds three targets from the U.S. in 2025 (Table 4); preferences, home bias, pass-through, the markup and the labour weights are as there. Prices last a year, close to the median duration of U.S. import prices. The threat is a tariff of 29%, the average rate threatened against the twelve partners that struck deals in 2025. Because the transfer is now paid each year rather than once, the political cost is recalibrated: we set $\chi = 0$, so the transfer is the partner's full loss from the tariff, the most a threat can extract. Reputation is set so that the largest credible threat is 50%, the highest rate the U.S. imposed and kept in 2025 (Brazil and India). This requires $\rho_R = 0.14$; with four-year administrations ($p_a = 0.75$), a threat arrives with probability $q = 0.054$ a year. Three further facts about the episode are not targeted: the effective U.S. tariff rate rose far less than the rates threatened, U.S. import prices excluding duties did not fall, and the dollar did not appreciate.

Table 5: Main results in the repeated game ($\theta = 29\%$)

U.S. gain from levying the tariff (% of consumption): DCP / PCP	0.03 / 3.05
Share of the tariff borne by the partner (its loss / tariff revenue)	0.25
Easing from internalizing the transfer, $\mu^T/\mu^{NT} - 1$: DCP / PCP	3.3% / 21%
U.S. easing if the tariff is levied, $\mu^\theta - 1$	2.7%
Largest credible threat: no reputation / with reputation	33% / 50%
Transfer: % of the partner's GDP per year / share of the tariff revenue	0.75 / 0.24
Dollar appreciation: tariff levied / deal	21.5% / 4.2%
deal, with a loss of safety premium	2.6%
Households' welfare, world average (% of consumption): tariff / deal	−0.35 / 0.04

Notes: DCP unless stated; welfare, stances and the dollar relative to a year without a threat. Safety-premium loss: a fall of 0.6 percentage points in the convenience yield on foreign holdings of Treasuries of 30% of GDP (Krishnamurthy and Vissing-Jorgensen, 2012).

Table 5 shows that the results of Sections 3–5 carry over. Dollar pricing removes almost the entirety of the U.S. gain from levying the tariff (Corollary 2), because the partner bears only a quarter of the tariff. Transmission is positive but small (Corollary 1): internalizing the transfer loosens policy by 3.3% in a deal year, against 21% under PCP. If the tariff is levied the U.S. eases by 2.7%, a policy rate about 2.6 percentage points lower for the year, because the tariff is a cost-push shock. Threats are credible on their own up to 33%, a bound that rises with import pass-through (15% at $\lambda^* = 0.15$, 57% at $\lambda^* = 0.25$); reputation extends it to 50%. Internalizing the transfer is worth 0.027% of consumption a year (0.81% under PCP) and barely changes the largest credible threat (50.0% against 49.5%). The partner pays 0.75% of its GDP a year, and the deal-year stance is 3.0% looser than without a threat, a policy rate about 3 percentage points lower for the year; with a political cost that cuts the transfer by a third, to 0.50% of GDP, the stance is 1.4% looser and the deal appreciates the dollar by 3.1%. A deal appreciates the dollar by 4.2%, against 21.5% if the tariff is levied (Proposition 4), and a loss of safety premium close to the size estimated by Krishnamurthy and Vissing-Jorgensen (2012) cuts this to 2.6%. A tariff year lowers the two countries' household welfare by 0.35% of consumption on average; a deal raises it by 0.04%, because the transfer only moves resources between them and the U.S. easing raises output that markups hold below its efficient level.

Two features of the 2025 deals are not targeted. The pledges are larger than the model allows. In the model the partner, the bloc of U.S. trading partners, exports 14% of its GDP to the U.S., and a 29% threat extracts at most about 5% of these exports a year. Japan's pledge, $550 billion or about 12% of its GDP to be raised within three years (Chien and Mori, 2025), is about 4% of its GDP a year, more than its annual exports to the U.S., so the pledges exceed the economic value of the threats many times over. And the rates agreed averaged 17%, against 29% threatened; matching them requires deals that combine a lower tariff with a transfer, a natural extension. The model also predicts which partners pay: transfers rise with the markup partners earn on their U.S. sales and fall with the political cost of paying, so partners that would be punished at home for a cash payment should pay in kind, through purchase commitments. The 2025 deals offer only weak support: pledges rise little with partners' exposure to the U.S. market, and their enforcement varies widely (Auclair and Mazarei, 2026).

7 Conclusion

We develop a two-country monetary model in which one country can issue tariff threats that the trading partner may avoid only by making a lump-sum transfer. The key insight of the paper is that optimal monetary policy internalizes its effect on the value of these tariff threats. Through this channel, monetary policy directly shapes the size of equilibrium transfers.

A central result is that, under dollar pricing, the U.S. prefers the deal to the tariff it averts, the partner is no worse off, and world household welfare is essentially unchanged by a deal while a tariff destroys resources. Transfers allow the threatening country to extract concessions without incurring the efficiency losses associated with protection, and they can also imply relatively higher welfare for the targeted country, once political costs of concessions are taken into account. This may rationalize why the 2025 Liberation Day tariff threats were met not by widespread retaliation, but by negotiation. Dollar pricing, however, limits what the hegemon can extract: it removes the terms-of-trade gains that make tariffs worth levying and threats valuable, so large threats rest on reputation, and what they extract rests on partners' markups. The analysis suggests that tariff threats and the transfers they induce can make international monetary policy interactions resemble cooperative outcomes.

Our findings highlight a new channel of monetary–fiscal interaction: monetary policy affects the value of trade threats by altering terms of trade and participation constraints abroad. This mechanism alters the perceived gains from monetary coordination and reshapes how monetary policy should be evaluated in a world of geoeconomic pressure. Calibrated to 2025, the model accounts for three features of the episode, that the tariffs levied fell far short of those threatened, that U.S. buyers paid the tariffs and that the dollar barely moved on tariff news, though not its 8% fall. Understanding how trade, geopolitics, and monetary policy jointly determine global allocations remains a promising avenue for future research.

References

Acharya, S., E. Challe, and L. Coulibaly (2026): "The International RBC Model Finally Works!" Working Paper 35448, National Bureau of Economic Research.

Alesina, A. and L. H. Summers (1993): "Central bank independence and macroeconomic performance," *Journal of Money, Credit and Banking*, 25, 151–162.

Amiti, M., S. J. Redding, and D. E. Weinstein (2019): "The impact of the 2018 trade war on U.S. prices and welfare," *Journal of Economic Perspectives*, 33, 187–210.

Auclair, G. and A. Mazarei (2026): "The America First Investment Pledges: How Are They Structured and Are They Realistic?" Policy Brief 26-2, Peterson Institute for International Economics.

Auray, S., M. B. Devereux, and A. Eyquem (2025): "Trade wars, nominal rigidities, and monetary policy," *The Review of Economic Studies*, 92, 2228–2270, published online 11 July 2024.

Bagwell, K. and R. W. Staiger (1990): "A theory of managed trade," *American Economic Review*, 80, 779–795.

Bannon, S. (2025): "And, this is Steve Bannon," Podcast episode of This Is Gavin Newsom.

Barbiero, O., E. Farhi, G. Gopinath, and O. Itskhoki (2019): "The Macroeconomics of Border Taxes," in *NBER Macroeconomics Annual 2018*, ed. by M. Eichenbaum and J. A. Parker, University of Chicago Press, vol. 33, 395–457.

Benigno, P. and G. Benigno (2006): "Designing targeting rules for international monetary policy cooperation," *Journal of Monetary Economics*, 53, 473–506.

Bergin, P. R. and G. Corsetti (2023): "The macroeconomic stabilization of tariff shocks: What is the optimal monetary response?" *Journal of International Economics*, 143, 103758.

Bianchi, J. and L. Coulibaly (2025): "The Optimal Monetary Policy Response to Tariffs," Working Paper 33560, National Bureau of Economic Research.

Cavallo, A., G. Gopinath, B. Neiman, and J. Tang (2021): "Tariff Pass-Through at the Border and at the Store: Evidence from US Trade Policy," *American Economic Review: Insights*, 3, 19–34.

Chien, Y. and M. Mori (2025): "Analyzing Japan's $550 Billion Pledge to Invest in the U.S." On the Economy Blog, Federal Reserve Bank of St. Louis, 24 November 2025.

Clayton, C., A. Coppola, M. Maggiori, and J. Schreger (2025): "Geoeconomic pressure," Working Paper, February 2025.

Clayton, C., M. Maggiori, and J. Schreger (2026): "A Framework for Geoeconomics," *Econometrica*, 94, 105–136.

Cole, H. L. and T. J. Kehoe (2000): "Self-fulfilling debt crises," *Review of Economic Studies*, 67, 91–116.

Cole, H. L. and M. Obstfeld (1991): "Commodity trade and international risk sharing: How much do financial markets matter?" *Journal of Monetary Economics*, 28, 3–24.

Congressional Research Service (2026): "Foreign Holdings of Federal Debt," Tech. Rep. RS22331, Congressional Research Service.

Corsetti, G. and P. Pesenti (2001): "Welfare and macroeconomic interdependence," *Quarterly Journal of Economics*, 116, 421–445.

——— (2005): "International dimensions of optimal monetary policy," *Journal of Monetary Economics*, 52, 281–307, originally circulated as NBER Working Paper No. 8807.

——— (2009): "The simple geometry of transmission and stabilization in open economies," in *NBER International Seminar on Macroeconomics 2007*, ed. by R. H. Clarida, J. A. Frankel, F. Giavazzi, and C. A. Pissarides, University of Chicago Press, 65–116.

Costinot, A., G. Lorenzoni, and I. Werning (2014): "A theory of capital controls as dynamic terms-of-trade manipulation," *Journal of Political Economy*, 122, 77–128.

Ding, X. and Z. Jiang (2026): "Dollar Strength and Exorbitant Privilege: A Safe-Asset View," Working paper.

Dixit, A. K. (1985): "Tax policy in open economies," in *Handbook of Public Economics*, ed. by A. J. Auerbach and M. Feldstein, Elsevier, vol. 1, chap. 6, 313–374.

Egorov, K. and D. Mukhin (2023): "Optimal Policy under Dollar Pricing," *American Economic Review*, 113, 1783–1824.

Engel, C. (2016): "International coordination of central bank policy," *Journal of International Money and Finance*, 68, 207–218.

Fajgelbaum, P. D., P. K. Goldberg, P. Kennedy, and A. K. Khandelwal (2020): "The return to protectionism," *Quarterly Journal of Economics*, 135, 1–55.

Farhi, E. and I. Werning (2012): "Dealing with the trilemma: Optimal capital controls," *NBER Working Paper 18199*.

Fearon, J. D. (1994): "Domestic Political Audiences and the Escalation of International Disputes," *American Political Science Review*, 88, 577–592.

Frieden, J. A. and J. L. Broz (2006): "The political economy of international monetary relations," *Annual Review of Political Science*, 9, 407–424.

Fudenberg, D., D. M. Kreps, and E. S. Maskin (1990): "Repeated Games with Long-Run and Short-Run Players," *Review of Economic Studies*, 57, 555–573.

Galí, J. (2015): *Monetary Policy, Inflation, and the Business Cycle: An Introduction to the New Keynesian Framework and Its Applications*, Princeton University Press, 2nd ed.

Gopinath, G. (2017): "A Macroeconomic Perspective on Border Taxes," *Brookings Papers on Economic Activity*, 2017.

Gopinath, G., E. Boz, C. Casas, F. Díez, P.-O. Gourinchas, and M. Plagborg-Møller (2020a): "Integrated monetary and financial frameworks for policy analysis," IMF Working Paper WP/20/121, International Monetary Fund.

Gopinath, G., E. Boz, C. Casas, F. J. Díez, P.-O. Gourinchas, and M. Plagborg-Møller (2020b): "Dominant currency paradigm," *The Quarterly Journal of Economics*, 135, 783–830.

Gopinath, G., O. Itskhoki, and R. Rigobon (2010): "Currency Choice and Exchange Rate Pass-Through," *American Economic Review*, 100, 304–336.

Gopinath, G. and B. Neiman (2026): "The Incidence of Tariffs: Rates and Reality," *Journal of Economic Perspectives*, 40, 123–144.

Gopinath, G. and R. Rigobon (2008): "Sticky Borders," *Quarterly Journal of Economics*, 123, 531–575.

Grossman, G. M. and E. Helpman (1995): "Trade Wars and Trade Talks," *Journal of Political Economy*, 103, 675–708.

Hassan, T. A., T. M. Mertens, J. Wang, and T. Zhang (2025): "Trade War and the Dollar Anchor," Brookings Papers on Economic Activity, Fall 2025 conference draft.

Hillman, A. L. (1982): "Declining Industries and Political-Support Protectionist Motives," *American Economic Review*, 72, 1180–1187.

Jeanne, O. (2021): "Currency wars, trade wars, and global demand," Working Paper 29603, National Bureau of Economic Research.

Jiang, Z. (2024): "Exorbitant Privilege: A Safe-Asset View," Working Paper 32454, National Bureau of Economic Research.

Jiang, Z., A. Krishnamurthy, and H. Lustig (2021): "Foreign Safe Asset Demand and the Dollar Exchange Rate," *Journal of Finance*, 76, 1049–1089.

Kalemli-Özcan, Ş., C. Soylu, and M. A. Yildirim (2026): "Global Trade, Tariff Uncertainty, and the US Dollar," *AEA Papers and Proceedings*.

Keynes, J. M. (1929): "The German transfer problem," *The Economic Journal*, 39, 1–7.

Korinek, A. (2016): "Currency wars or efficient spillovers? A general theory of international policy cooperation," Working Paper.

Krishnamurthy, A. and A. Vissing-Jorgensen (2012): "The Aggregate Demand for Treasury Debt," *Journal of Political Economy*, 120, 233–267.

Lloyd, S. and E. A. Marin (2024): "Capital controls and trade policy," *Journal of International Economics*, forthcoming.

Martin, F. M. (2014): "Debt, inflation and central bank independence," Working Paper 2014-013A, Federal Reserve Bank of St. Louis.

Merendino, A. and T. Monacelli (2026): "Tariffs, Uncertainty, and the Exchange Rate," Working paper, Bocconi University, Economic Policy conference, June 2026.

Obstfeld, M. and K. Rogoff (2002): "Global implications of self-oriented national monetary rules," *Quarterly Journal of Economics*, 117, 503–535.

Ohlin, B. (1929): "The reparations problem: A discussion," *The Economic Journal*, 39, 172–182.

Ostry, D., S. Lloyd, and G. Corsetti (2025): "Trading Blows: The Exchange-Rate Response to Tariffs and Retaliations," Discussion Paper 20452, CEPR.

PUTNAM, R. D. (1988): "Diplomacy and Domestic Politics: The Logic of Two-Level Games," *International Organization*, 42, 427–460.

WALSH, C. E. (2008): *Monetary Theory and Policy*, Cambridge, MA: MIT Press, 3rd ed.

8 Appendix

8.1 Proofs.

Proof to Lemma 1. Substituting $P_tC_t = P_{H,t}C_{H,t} + P_{F,t}C_{F,t}$ and $\Pi_t + W_tL_t = P_{H,t}C_{H,t} + P^*_{H,t}C^*_{H,t}\mathcal{E}_t$ into the household budget constraint gives $P_{F,t}C_{F,t} \leq P^*_{H,t}C^*_{H,t}\mathcal{E}_t + x_t - q_{t,t+1}x_{t+1} + T_t$, with $T_0 = \tau_0$ and $T_t = 0$ otherwise. Iterating forward, with $x_{t+\infty} \to 0$ and $q_{t,t+1} = \beta P_tC_t^\sigma/(P_{t+1}C_{t+1}^\sigma)$ from (9),

$$\sum_{t=0}^{\infty} \beta^t \frac{P_0C_0^\sigma}{P_tC_t^\sigma}\left[P_{F,t}C_{F,t} - P^*_{H,t}C^*_{H,t}\mathcal{E}_t\right] \leq \tau_0.$$

By (4), $P_{F,t}C_{F,t} = (1-\alpha)P_tC_t$ and $P^*_{H,t}C^*_{H,t} = (1-\alpha)P^*_tC^*_t$, and by (17), $\mathcal{E}_tP^*_tC^{*\sigma}_t/(P_tC_t^\sigma) = \kappa$, so the bracket divided by $P_tC_t^\sigma$ is $(1-\alpha)\left[C_t^{1-\sigma} - \kappa C_t^{*1-\sigma}\right]$. With $P_0C_0^\sigma = \mu_0$ this is (21). □

Proof to Lemma 2. Assuming off-equilibrium monetary policy is sub-game perfect, $\frac{d\Delta W^*}{d\mu_t} = \frac{dW^*}{d\mu_t}$. Then, by the envelope condition, $\frac{dW_0^*}{d\mu_t} = \frac{d\mathcal{L}^*}{d\mu_t}$. Moreover, ξ^* is derived from rearranging the foreign FOC:

$$\beta^t\left[C_t^{*\ -\sigma}\frac{dC_t^*}{d\mu_t^*} - v^*L_t^{*\ \gamma}\frac{dL_t^*}{d\mu_t^*}\right] - \xi^*\frac{d\psi_t^*}{d\mu_t^*} = 0.$$

Note that $\tilde{\tau}$ is taken as given since it is optimized (such that PC binds). □

Proof to Proposition 2. First, taking a total derivative of the participation condition yields:

$$\frac{dW_0^*}{d\mu_t}d\mu_t + \underbrace{\frac{dW_0^*}{d\mu_t^*}}_{=0}d\mu_t^* + \left(\frac{dW_0^*}{d\tau_0} - \chi\tau_0\right)d\tau_0 = \underbrace{\frac{dW_0^{*\theta>0}}{d\mu_t}d\mu_t + \frac{dW_0^{*\theta>0}}{d\mu_t^*}d\mu_t^*}_{=0} \implies$$

$$\frac{d\tau_0}{d\mu_t} = -\frac{\frac{dW_0^*}{d\mu_t}}{\frac{dW_0^*}{d\tau_0} - \chi\tau_0} = \frac{\frac{dW_0^*}{d\mu_t}}{\frac{\xi^*}{(1-\alpha)\mathcal{E}_0\mu_0^*} + \chi\tau_0}. \tag{32}$$

where $\frac{dW_0^*}{d\tau_0}$ follows from:

$$\frac{dW_0^*}{d\tau_0} = \frac{dW_0^*}{d\mu_t}\underbrace{\frac{d\mu_t}{d\tau_0}}_{=0\ (NASH)} + \underbrace{\frac{dW_0^*}{d\mu_t^*}}_{=0\ (FOC)}\frac{d\mu_t^*}{d\tau_0} + \underbrace{\frac{d\sum_{t=0}^{\infty}U^*(\cdot)}{d\tau_0}}_{=0} - \xi^*\frac{1}{(1-\alpha)\mathcal{E}_0\mu_0^*} \tag{33}$$

where the only active channel is from the effect of the transfer on the budget constraint. Finally, we assume that in the off-equilibrium threat allocation, monetary policy is sub-game perfect and

chosen at $\{\mu_t^{\theta>0}, \mu_t^{*\theta>0}\}$. Combining the above and using the Lemma yields the result. Corollary 1, which signs this expression, is proved below. □

Proof to Proposition 3. Consider the FOC given by Proposition 1. Substituting in $\frac{d\tau_0}{d\mu_t}$ yields:

$$\beta^t\Big[C_t^{-\sigma}\frac{dC_t}{d\mu_t} - vL_t^{\gamma}\frac{dL_t}{d\mu_t}\Big] - \xi\frac{d\psi_t}{d\mu_t} \tag{34}$$
$$+\frac{\mathcal{E}_0\mu_0^*}{\mu_0}\frac{\xi}{\xi^*}\left(\beta^t\left[C_t^{*\ -\sigma}\frac{dC_t^*}{d\mu_t} - v^*L_t^{*\ \gamma}\frac{dL_t^*}{d\mu_t}\right] - \xi^*\frac{d\psi_t^*}{d\mu_t}\right) = 0$$

Next consider the problem faced by a global planner:

$$\max_{\{\mu_t\}}\sum_{t=0}^{\infty}\mathcal{U}_t + \nu\,\mathcal{U}_t^*,$$

which yields:

$$\beta^t\Big[C_t^{-\sigma}\frac{dC_t}{d\mu_t} - vL_t^{\gamma}\frac{dL_t}{d\mu_t} + \nu\left[C_t^{*\ -\sigma}\frac{dC_t^*}{d\mu_t} - v^*L_t^{*\ \gamma}\frac{dL_t^*}{d\mu_t}\right]\Big] = 0$$

Using the fact that $\frac{d\psi_t^*}{d\mu_t}\kappa + \frac{d\psi_t}{d\mu_t} = 0$, and $\mathcal{E}_0\mu_0^*/\mu_0 = \kappa$, the two equations coincide when $\nu = \kappa\frac{\xi}{\xi^*}$. □

The dollar and Foreign welfare. Let $\gamma = 0$, $\phi = 1$, constant stances μ and $\bar{\mu}^*$, a Home tariff θ and a Foreign tariff θ^*, and let net receipts from Foreign finance the share d of Home's import spending each period. With $\phi = 1$, $P = \omega[(1+\theta)\mathcal{E}^{\lambda^*}]^{1-\alpha}$ and $P^* = \omega[(1+\theta^*)\mathcal{E}^{-\lambda}]^{1-\alpha}$, and $\mu = PC^{\sigma}$ gives $PC = \mu^{1/\sigma}P^{1-1/\sigma}$. The allocation is stationary, so trade balances each period, $(1-d)(1-\alpha)PC/(1+\theta) = \mathcal{E}(1-\alpha)P^*C^*/(1+\theta^*)$. Taking logs, the coefficient of $\ln\mathcal{E}$ is $D \equiv 1-(1-\frac{1}{\sigma})(1-\alpha)(\lambda+\lambda^*)$ and that of $\ln\frac{1+\theta}{1+\theta^*}$ is $-\Gamma$:

$$D\ln\mathcal{E} = \frac{1}{\sigma}\ln\frac{\mu}{\bar{\mu}^*} - \Gamma\ln\frac{1+\theta}{1+\theta^*} + \ln(1-d). \tag{A.1}$$

A loss of safety premium acts as a negative transfer. For Foreign with $\theta^* = 0$, $C_F^* = \alpha P^*C^*$, and trade balance gives $C_F = (1-\alpha)P^*C^*\mathcal{E}^{1-\lambda^*}/(1-d)$. With $v^*\bar{\mu}^* = (\epsilon^*-1)/\epsilon^*$ and $P^*C^* = \bar{\mu}^*C^{*1-\sigma}$,

$$W^* = \frac{C^{*1-\sigma}}{1-\beta}\Big[\frac{1}{1-\sigma} - \frac{\epsilon^*-1}{\epsilon^*}\Big(\alpha+(1-\alpha)\frac{\mathcal{E}^{1-\lambda^*}}{1-d}\Big)\Big], \qquad C^{*1-\sigma} = \Big(\frac{\bar{\mu}^*}{\omega}\Big)^{\frac{1-\sigma}{\sigma}}\mathcal{E}^{\zeta}, \quad \zeta \equiv \frac{(1-\sigma)(1-\alpha)\lambda}{\sigma}. \tag{A.2}$$

With a general trade elasticity, the same steps give, to first order, $D_\phi = 1+(\lambda+\lambda^*)[(\phi-1)\alpha - (1-\alpha)(1-\frac{1}{\sigma})]$ in place of D.

Proof of the special case in Lemma 2. Hold κ fixed, so that $d\ln\mathcal{E}_t = d\ln\mu_t$. By $C_t^{*1-\sigma} = (\mu_t^*/P_t^*)^{\frac{1-\sigma}{\sigma}}$ and $C_t^{1-\sigma} = (\mu_t/P_t)^{\frac{1-\sigma}{\sigma}}$, $d\ln C_t^*/d\ln\mu_t = (1-\alpha)\lambda/\sigma$ and $d\ln C_t/d\ln\mu_t = (1-(1-\alpha)\lambda^*)/\sigma$. Foreign's labour is $C_{F,t}^* + C_{F,t}$, with $C_{F,t}^* = \alpha\mu_t^*C_t^{*1-\sigma}$ and $C_{F,t} = (1-\alpha)\mu_tC_t^{1-\sigma}\mathcal{E}_t^{-\lambda^*}$, so $d\ln C_{F,t}^*/d\ln\mu_t = (1-\sigma)(1-\alpha)\lambda/\sigma$ and $d\ln C_{F,t}/d\ln\mu_t = 1-\lambda^*+\frac{1-\sigma}{\sigma}(1-(1-\alpha)\lambda^*)$. With

$\gamma = 0$ the marginal disutility of labour is v^*, and $\psi_t^* = \beta^t\{C_t^{*1-\sigma} - C_t^{1-\sigma}/\kappa\}$. Substituting into (27), multiplied by μ_t, gives the expression in the Lemma. □

Transmission at the no-threat point. Perturb μ_t at a single date $t \geq 1$. At a stationary allocation with balanced trade, the budget constraint (21) gives $d\ln\kappa = (1-\beta)\beta^t\big(\frac{1}{\sigma D} - 1\big)d\ln\mu_t$, so $d\ln\mathcal{E}_s = d\ln\kappa$ for $s \neq t$ and $d\ln\mathcal{E}_t = d\ln\kappa + d\ln\mu_t$. Foreign welfare in period s depends on $\mathcal{E}_s$ and, through Home's demand, on μ_s, with $d\ln C_{F,s} = \frac{1}{\sigma}d\ln\mu_s - \lambda^*\Gamma\, d\ln\mathcal{E}_s$. Summing over s, $dW^*/d\ln\mu_t = \beta^t(1-\beta)\, dW^*/d\ln\mu$, the derivative of (A.2) along (A.1) with $d = 0$:

$$\frac{dW^*}{d\ln\mu} = \frac{C^{*1-\sigma}}{(1-\beta)\sigma D}\Big\{s_L^*\big[(1-\alpha)\lambda - x^*(1-\lambda^*)\big] + (1-s_L^*)(1-\alpha)\frac{\lambda}{\sigma}\Big\},$$

with labour share $s_L^* = \frac{\epsilon^*-1}{\epsilon^*}\Lambda^*$, $\Lambda^* \equiv \alpha + (1-\alpha)\mathcal{E}^{1-\lambda^*}$, and export share $x^* = (1-\alpha)\mathcal{E}^{1-\lambda^*}/\Lambda^*$. At $\mathcal{E} = 1$, $s_L^* = (\epsilon^*-1)/\epsilon^*$ and $x^* = 1-\alpha$, so

$$\frac{dW^*}{d\ln\mu} = \frac{(1-\alpha)C^{*1-\sigma}}{(1-\beta)\sigma D}\Big[\frac{\epsilon^*-1}{\epsilon^*}(\lambda + \lambda^* - 1) + \frac{1}{\epsilon^*}\frac{\lambda}{\sigma}\Big], \tag{A.3}$$

a weighted average of Foreign's terms-of-trade gain from a weaker dollar, $\lambda + \lambda^* - 1$, and its consumption gain, λ/σ. □

Proof of Corollary 1. With constant stances and a transfer share d, differentiating (A.2) along (A.1) gives

$$\frac{dW^*}{d\ln\mu} = \frac{(1-\alpha)C^{*1-\sigma}}{(1-\beta)\sigma\epsilon^*(D - dD_\lambda)}\Big\{(\epsilon^*-1)\big[\lambda + \lambda^* - 1 - c(X-1) + dD_\lambda X\big] + \frac{\lambda}{\sigma}\Big\}, \tag{A.4}$$

with $X \equiv \mathcal{E}^{1-\lambda^*}/(1-d)$, $c \equiv 1 - \lambda^* - (1-\frac{1}{\sigma})(1-\alpha)\lambda$ and $D_\lambda \equiv 1 - (1-\frac{1}{\sigma})(1-\alpha)\lambda$. The denominator is positive: $D > 0$ for every σ when $\alpha \geq \frac{1}{2}$, and $d < D/D_\lambda$ for $d < (2\alpha-1)/\alpha$, since $D/D_\lambda \geq (2\alpha-1)/\alpha$. i) Under PCP, $X = 1/(1-d)$ and the square bracket equals $1/(1-d)$, so the braces are $(\epsilon^*-1)/(1-d) + 1/\sigma > 0$. ii) Under LCP, $c = D_\lambda = D = 1$ and the braces are $-(\epsilon^*-1)\mathcal{E} < 0$. iii) Under full dollar pricing, $c = D_\lambda = \Gamma$, so for any d the braces are $(\epsilon^*-1)\Gamma(1-\mathcal{E}) + 1/\sigma$. The ranking of μ^T and μ^{NT} follows from (29)–(30) and concavity. □

Proof of Corollary 2. With $\lambda = 1$ and $\lambda^* = 0$, $P = \omega(1+\theta)^{1-\alpha}$, so C_t depends only on (μ_t, θ), and the dollar value of Home's exports equals their volume. Home's problem is to maximize $\sum_t \beta^t F(\mu_t, \kappa)$ subject to $\sum_t \beta^t G(\mu_t, \kappa) = 0$ with the same F and G at every date, so the optimal stance is constant, trade balances each period, $L = \mu C^{1-\sigma}h(\theta)$, and

$$W = \frac{1}{1-\beta}\Big(\frac{\mu}{\omega}\Big)^{\frac{1-\sigma}{\sigma}}(1+\theta)^{-\frac{(1-\alpha)(1-\sigma)}{\sigma}}\Big[\frac{1}{1-\sigma} - v\mu\, h(\theta)\Big]. \tag{A.5}$$

Maximizing over μ gives $\mu^\theta = \bar{\mu}/h(\theta)$ and $\max_\mu W = \frac{\sigma}{(1-\sigma)(1-\beta)}(\omega v)^{-m}g(\theta)^{-m}$, with $m \equiv \frac{1-\sigma}{\sigma}$ and $g(\theta) = (1+\theta)^{-\alpha}[\alpha(1+\theta) + 1 - \alpha]$. For any $\sigma \neq 1$ (and, by continuity, at $\sigma = 1$) this is decreasing in g, and $g(\theta) > 1 = g(0)$ for $\theta > 0$ by the weighted AM–GM inequality. □

Proof of Proposition 4. With constant stances, compare one period, normalising $\bar{\mu}^* = 1$ and $\bar{C}^{*1-\sigma} = 1$. Foreign's prices are $P_H^* = \mathcal{E}^{-\lambda}$ and $P_F^* = 1$, so $C^{*1-\sigma} = P^*C^* = \mathcal{E}^{\zeta}$. Its exports pay for its imports plus the annual transfer τ: $\mathcal{E}^{\lambda^*}C_F = \mathcal{E}(1-\alpha)P^*C^* + \tau$. Its welfare is therefore

$$w^* = f(\mathcal{E}) - \frac{\epsilon^* - 1}{\epsilon^*}\tau\mathcal{E}^{-\lambda^*}, \qquad f(\mathcal{E}) \equiv \mathcal{E}^{\zeta}\Big[\frac{1}{1-\sigma} - \alpha\frac{\epsilon^* - 1}{\epsilon^*}\Big] - (1-\alpha)\frac{\epsilon^* - 1}{\epsilon^*}\mathcal{E}^{\zeta+1-\lambda^*},$$

and neither the tariff nor Home's stance enters except through $\mathcal{E}$. Differentiating,

$$\frac{df}{d\ln\mathcal{E}} = (1-\alpha)\mathcal{E}^{\zeta}\Big[\frac{\lambda}{\sigma}\Big(1 - (1-\sigma)\alpha\frac{\epsilon^* - 1}{\epsilon^*}\Big) - \frac{\epsilon^* - 1}{\epsilon^*}(1 - \lambda^* + \zeta)\mathcal{E}^{1-\lambda^*}\Big].$$

At $\mathcal{E} = 1$ the bracket is the condition in the Proposition, hence non-negative. For $\mathcal{E} < 1$, $\mathcal{E}^{1-\lambda^*} \leq 1$: if $1 - \lambda^* + \zeta \geq 0$ the second term is smaller in absolute value than at $\mathcal{E} = 1$, so the bracket is larger; if $1 - \lambda^* + \zeta < 0$ the second term is non-negative and the first is positive, since $(1-\sigma)\alpha(\epsilon^* - 1)/\epsilon^* < 1$ (and $\lambda > 0$, as $\zeta = 0$ otherwise). Either way f is increasing on $(0, 1]$. The binding participation constraint is $f(\mathcal{E}^{\text{deal}}) - \frac{\epsilon^*-1}{\epsilon^*}\tau(\mathcal{E}^{\text{deal}})^{-\lambda^*} - c_\chi = f(\mathcal{E}^\theta)$, with $c_\chi \geq 0$ the per-period political cost. Hence $f(\mathcal{E}^{\text{deal}}) > f(\mathcal{E}^\theta)$ unless $\chi = 0$ and $\epsilon^* \to 1$, and $\mathcal{E}^{\text{deal}} > \mathcal{E}^\theta$. □