

Maggi and Ossa (2023)

Government Objective Function

Maggi and Ossa represent the government's welfare function as:

$$W_i = \sum_{g \in \mathcal{G}} [\pi_{ig}(p_g) + S_{ig}(p_g + \phi_i(e_{ig})) - a_{ig}e_{ig}d_{ig}(p_g + \phi_i(e_{ig}))]$$

where:

- π_{ig} represents the producer surplus in sector g ,
- S_{ig} represents the consumer surplus,
- a_{ig} is a cost parameter,
- e_{ig} and d_{ig} are related to the environmental impact of production.

Including the influence of lobbies, the government's objective function becomes:

$$\Omega_i = W_i + \sum_{g \in \mathcal{G}} \gamma_{ig} \pi_{ig}$$

where γ_{ig} represents the lobbying weight attached to sector g , reflecting the political power of the lobby associated with that sector.

Specific Modeling in Different Contexts

Product Standards

In a noncooperative setting, governments choose product standards to maximize their objective functions while considering world prices and other countries' standards. The influence of lobbying can lead to tighter or looser standards depending on the strength of lobbying pressures.

Tariffs and Trade Policies

The interaction between domestic and foreign lobbies can affect the government's trade policies. For example, the presence of foreign lobbying can lead to lower tariffs than would be chosen in the absence of such lobbying, reflecting the opposing interests of domestic and foreign lobbies.

Maggi (2020)

Government Objective Function

The government's objective function is modeled to include three components:

- **Gross Welfare (Wh):** It represents the overall welfare that the government aims to maximize. It is a function of the policy chosen, denoted as $W_h(t)$.
- **Total Contributions (C):** These are the contributions paid by the lobbies to the government. Contributions are viewed as transfers that do not affect the overall welfare but influence the government's decisions.
- **Domestic Rent-Seeking Cost (ξ_h):** It represents the costs incurred by the domestic lobby to gain access to the government. These costs reduce the net welfare.

The government's payoff function is thus:

$$G_h = \alpha(W_h(t) - A_h\xi_h) + C$$

where:

- α is a parameter that captures the welfare-mindedness of the government.
- A_h is an indicator variable that equals 1 if the domestic lobby seeks access to the government and 0 otherwise.

Influence of Lobbies

Lobbies influence government policies through a bargaining process, modeled through Nash bargaining with the government. Each lobby has a gross payoff from 1) policy, 2) contributions to the government, and 3) the cost of accessing the government.

The payoff for a lobby j is:

$$L_j = \Pi_j(t) - A_j\xi_j - C_j$$

where:

- $\Pi_j(t)$ is the gross payoff from the policy t .
- A_j is a dummy variable indicating whether lobby j incurs the access cost.
- ξ_j is the access cost (rent-seeking cost).
- C_j is the contribution paid to the government.

The model assumes that the domestic lobby's profit is increasing in t , while the foreign lobby's profit is decreasing in t . This indicates that the domestic and foreign lobbies have opposing interests regarding policy decisions.