Why does Paraguay recognize Taiwan and not China?
A game theory model

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2025

Abstract

This note formalizes, in a simple sequential game, why Paraguay may rationally maintain diplomatic recognition of *Taiwan* (TWN) instead of recognizing the *People's Republic of China* (PRC), despite the economic opportunity cost. The key ingredients are: (i) a material package from PRC (L) with sizable macro potential, (ii) a TWN package composed of status/attention (S), aid (A), and targeted rents (R), and (iii) the political weight of a cohesive domestic elite. We derive a simple equilibrium condition and discuss comparative statics and observable predictions.

Context and intuition

The literature suggests that *recognizing China* grants access to investment, loans, and trade (L), whereas *maintaining ties with Taiwan* provides relational status (S), aid/contributions (A), and *targeted benefits* (R) with high domestic visibility. The opportunity cost of sticking with Taiwan can be substantive, but its political incidence depends on the weight of the elite that captures S and R.

What we capture from the literature

- **The "Taiwan cost."** By not recognizing China, Paraguay forgoes investment, loans, and part of Chinese financing that peer countries receive. *Long & Urdínez (2019)* document, with data for 2005–2017, sizable gaps in Chinese OFDI and loans between countries that recognize PRC and those that stick with Taiwan.

- **Status and targeted rents.** Taiwan offers *relational status* (attention, high-level visits, preferential treatment) and discrete benefits (donations, visible projects, scholarships, symbolic buildings) that a cohesive politico-economic elite can capture with strong loss aversion, reinforcing the preference to maintain the tie.

- **Composition of Chinese finance.** When the package is *concessional aid* (ODA), several studies find short-run growth effects (≈ 0.7 pp two years after per project); in contrast, more commercial official flows (OOF) display no such effect. Hence, the "Taiwan cost" is economically relevant especially if foregone items are ODA-type projects.

Useful definitions. ODA = concessional finance with a grant element and development objectives; OOF = other official flows closer to market terms. In the model, we can decompose $L = L_{\mathrm{ODA}} + L_{\mathrm{OOF}}$ to analyze differentiated impacts.

Players and sequence

- **PRC (China)** chooses the size of the material package L.

- **TWN (Taiwan)** chooses a vector (S, A, R).

- **Domestic elite (E)** observes offers and lobbies/recommends.

- **Government of Paraguay (G)** decides to recognize *Taiwan* (T) or *China* (C).

Payoffs

Let $\lambda \in [0, 1]$ be the political weight of the elite in G's objective; $\alpha, \beta > 0$ the valuation parameters for status and rents; and $\kappa > 0$ the political penalty from breaking with Taiwan.

Government (G). If G recognizes Taiwan (T):

$$U_G(T) \,=\, \lambda(\alpha S + \beta R) \,+\, (1-\lambda)(A - C_{\mathrm{TW}}), \tag{1}$$

where C_{TW} denotes the *opportunity cost* (the "Taiwan cost") of not accessing L.

If G recognizes China (C):

$$U_G(C) \,=\, \lambda(\beta' R_{\mathrm{PRC}} - \kappa B) \,+\, (1-\lambda)L, \tag{2}$$

where R_{PRC} summarizes targeted benefits PRC can offer to domestic actors, and B is the loss of status/relationship with TWN.

Elite (E). The elite directly values status and targeted rents:

$$U_E(T) = \alpha S + \beta R, \qquad U_E(C) = \beta' R_{\mathrm{PRC}} - \kappa B. \tag{3}$$

Solution and equilibrium condition

By direct comparison of G's payoffs:

Proposition 1 (Recognition choice)**.** *The government maintains recognition of Taiwan (T) if and only if*

$$\underbrace{\lambda(\alpha S + \beta R)}_{satisfied\ elite} + \underbrace{(1-\lambda)A}_{TWN\ aid} \geq \underbrace{(1-\lambda)L}_{macro\ gain\ with\ PRC} + \underbrace{\lambda(\kappa B - \beta' R_{PRC})}_{political\ cost\ of\ breaking}. \tag{4}$$

Remark 1 (Interpretation)**.** *The left-hand side aggregates political benefits for the elite (status and rents) plus TWN aid; the right-hand side aggregates the macro material gain from PRC and the saving in political costs from breaking (if negative). When the elite is cohesive (high λ) and S and R are large, inequality* (4) *favors T even with sizable L.*

Comparative statics

- **Increase in L.** Shifts the threshold toward C. The effect is larger if part of L is visible concessional aid.

- **Increase in S or R.** Strengthens T by raising G's political utility via λ.

- **Increase in λ.** More elite weight (capture/cohesion) tilts toward T.

- **Reduction in B.** If the political cost of breaking falls (e.g., status substitutes), the probability of C rises.
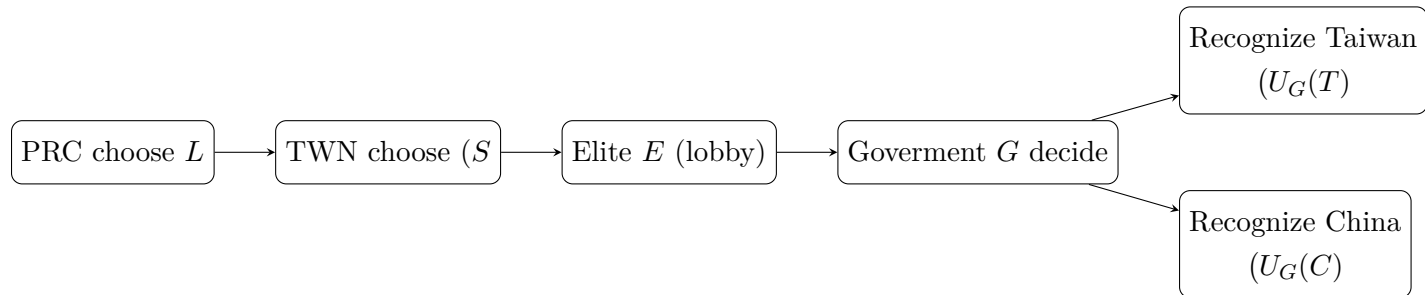
Observable predictions

1. The hazard of a recognition switch increases when the *Taiwan cost* (gaps in investment/loans vs. peers) becomes salient and elite cohesion declines.

2. More high-level visits, scholarships, and discrete donations from TWN (proxies for S and R) stabilize recognition.

3. If PRC converts commercial flows into visible concessional projects (roads, hospitals) and aligns incentives with key actors, the switch threshold toward C falls.

Practical conclusions

- China typically offers larger material packages; not recognizing PRC carries a real economic cost.

- Taiwan competes on status, attention, and targeted benefits that matter politically for a cohesive elite.

- As long as that elite retains power and Taiwan maintains *status+perks*, Paraguay may prefer to stick with Taiwan despite the material cost. This would change if China designed visible and politically attractive packages, or if the cohesion/benefit of the Taiwan-linked elite diminished.

Figure: Game tree (extensive form)

PRC choose L → TWN choose (S → Elite E (lobby) → Goverment G decide

Recognize Taiwan ($U_G(T)$

Recognize China ($U_G(C)$

Notes and minimal references

This sketch draws on empirical findings about: (i) differences in Chinese investment/loans between countries recognizing PRC and those staying with Taiwan; (ii) the role of *relational status* and targeted benefits in alliances with Taiwan; and (iii) heterogeneous growth effects of concessional aid.

Indicative references (adjust to your bibliography):

- Long, T. & Urdínez, F. (2019). *Status at the Margins: Why Paraguay Recognizes Taiwan and Shuns China.* University of Warwick (WRAP working paper).

- *Aid, China and Growth* (Working Paper Series No. 46). Evidence on growth effects of Chinese aid projects and their difference vis-à-vis OOF.

- Data sources on Chinese finance in LAC (OFDI, loans, aid) to estimate the Taiwan cost relative to regional peers.