Contested Unity

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Abstract

National identity occupies a paradoxical role in society, functioning as both a unifying force and a source of division. This paper develops a dynamic political economy model of identity regime formation, emphasizing interactions among citizen groups and between citizens and the wealthy elite. The framework conceptualizes national identity as the evolving result of intergenerational cultural transmission and intra-societal bargaining over public goods and redistribution. The model incorporates two forms of heterogeneity: ideological divides among citizens in valuing public goods, and income-based stratification between the broader citizenry and a wealthy elite. It shows that when the provision of common goods increases the likelihood of future integration, citizens may paradoxically underinvest in such goods due to imperfect empathy toward future generations. Furthermore, ideologically neutral elite actors may strategically suppress integration to avoid long-term tax burdens, even when short-run integration would reduce their tax rate. The model also generates multiple equilibria, offering a taxonomy of exclusive, multicultural, and integrated identity regimes.

1 Introduction

Nations inspire love, and often profoundly self-sacrificing love.

— Benedict Anderson (1983)

Nationalism: An infantile disease. It is the measles of mankind.

— Albert Einstein (1929)

National identity can bind citizens into a cooperative polity or divide them along exclusionary lines. This chapter asks: when does national identity take an inclusive civic form rather than an exclusionary one, and what political—economic forces

determine that choice?

The question matters because identity shapes trust and cooperation, the provision of public goods, and the stability of government and economic growth (Miguel, 2004; Alesina and La Ferrara, 2005; Cantoni et al., 2017; Blouin and Mukand, 2019; Bazzi et al., 2019; Dell and Querubin, 2018; Aghion et al., 2019). It also matters because identity can be mobilized to exclude and to polarize, as seen in contemporary cases in Europe, India, Turkey, and the United States (Huddy, 2023; Nielsen and Nilsen, 2021; Kymlicka, 2020).

Existing approaches often pull in two directions. One strand highlights the promise of a shared national identity for social cohesion and state capacity (Miguel, 2004; Alesina and La Ferrara, 2005). Another warns that content and process matter since nation building can backfire through forced assimilation or by crowding out pluralistic civic space (Carvalho et al., 2024; Fouka, 2020; Modood, 2020; Kymlicka, 2020). As Sen (2007) notes, a federation of communities is not the same thing as a civic nation. What is missing is a simple dynamic framework that explains not only whether a common identity helps, but also which identity regime emerges and persists, and why some polities drift toward exclusion while others converge to inclusive civic nationalism (Wimmer, 2018, 2012; Wimmer and Feinstein, 2010; Tilly, 1990; Mylonas and Tudor, 2023).

I address this gap with a dynamic political economy model that treats national identity as an outcome of intergroup bargaining over public goods. In the baseline, a majority allocates a fixed budget across a majority–specific good, a minority–specific good, and a common good. Members of both groups fully value their own good and discount the common good at a value less than their ideal goods, where this valuation captures civic alignment in the contested polity. Provision of the common good provides some current utility and also increases, in a reduced–form way, the probability that society moves from a contested state to an integrated civic state. This simple structure delivers three equilibria that map to familiar identity regimes: exclusive (majority dominance with no integration effort), multicultural (targeted appeasement without integration effort), and common–good or cultural change (positive investment in the common good with a chance of convergence).

Two forces drive selection among these regimes. The first is political: the majority trades off immediate group benefits against the need to deter revolt and against the future value of integration that current groups only partially appreciate. The second is intertemporal: because current citizens evaluate an integrated future with imperfect empathy, they may underinvest in the common good even when integration would benefit future citizens. Together these forces explain why inclusive identity can be desirable yet hard to reach, and why small changes in valuations or effectiveness can tip outcomes.

I then extend the model to include income inequality and a wealthy elite who do not value public goods but do pay taxes. The elite can influence the effectiveness of integration by raising or lowering the impact of common—good provision through media, rhetoric, or institutional design. This creates an explicit link between cultural dynamics and fiscal interests. If a unified civic polity implies sustained higher taxes, some societies remain stuck in contested equilibria even when inclusive identity would raise social welfare (Alesina et al., 1999; Alesina and Glaeser, 2004; Kuziemko et al., 2015; Enke, 2019). The extension nests the baseline as a limiting case and clarifies when political incentives alone versus fiscal—elite incentives shape identity trajectories.

The contribution is twofold. Substantively, the model offers a unified account of how ex-

clusive, multicultural, and inclusive regimes arise and persist, and it highlights comparative statics for the roles of level and the effectiveness of integration policies. Methodologically, it provides a tractable dynamic framework that places identity formation inside a standard political allocation problem, preserving clarity while accommodating the key strategic complementarities between strong welfare-states and cohesive civic identities in societies emphasized in the literature (Miller, 2019; Modood, 2020; Kymlicka, 2020). Section 2 presents the baseline model and characterizes equilibrium regimes. Section 3 introduces taxation and elite influence and derives new comparative statics. Section 4 discusses historical cases in light of the theory, and Section 5 concludes.

2 Baseline Model

Consider an infinite-horizon dynamic game played in discrete time periods $t = 0, 1, 2, \ldots$. The society comprises a unit mass of citizens divided into three distinct groups with heterogeneous preferences over public goods provision. The two politically active groups at the initial period are the **Majority** (M) and the **minority** (m), while a third latent group of **civic nationalists** (\tilde{N}) exists with initial mass $\tilde{N}_0 = 0$ but may grow endogenously through cultural change processes.

In each period, the governing Majority allocates a fixed unit budget across three types of public goods: the Majority's ideal good (G_t^M) , which caters specifically to group M's preferences; the minority's ideal good (G_t^m) , aligned with group m's preferences; and the common good (G_t^C) , which serves both as a compromise between the two active groups and as the preferred good for civic nationalists. This allocation must satisfy the budget constraint:

$$G_t^M + G_t^m + G_t^C = 1$$
, where $G_t^M, G_t^m, G_t^C \ge 0$ (1)

The model features two distinct states characterized by different group compositions and preference structures. In the **Contested State** $(s_t = C)$, society consists solely of Majority (M) and minority (m) groups, with civic nationalists having zero mass $(\tilde{N}_t^C = 0)$. In this state, both groups exhibit stronger preference for their respective ideal goods than for the common good. The **Integrated State** $(s_t = I)$ emerges when civic nationalists attain full mass $(\tilde{N}_t^I = 1)$ while the original Majority and minority groups dissolve to zero mass.

State transitions follow a Markov process where the probability of transitioning to the integrated state depends on current common good provision and its cultural effectiveness. The transition probability is given by:

$$s_{t+1} = \begin{cases} I & \text{with probability } P_I = \phi_t \cdot G_t^C \\ C & \text{with probability } 1 - P_I \end{cases}$$
 (2)

where G_t^C represents common good provision and $\phi_t \in [0, 1]$ measures the effectiveness of this provision in facilitating cultural change and lowering social distance between groups. The effectiveness parameter ϕ_t captures how institutional factors and media landscape (potentially influenced by elite actions) mediate the cultural impact of public goods. For the

baseline model, we treat $\phi_t = \phi$ as constant, reserving analysis of endogenous ϕ_t for the extended model with taxation and elite influence.

While I don't spell out microfoundations, I use a simple cultural change setup: civic identity becomes self sustaining only once society fully converges on it. Investment in the common good, when effective, increases the chance of a wholesale shift to that civic identity. One can think before such a shift, isolated civic types are swamped by group specific norms and do not accumulate. I therefore model two states (contested and integrated) with no partial conversions, and I treat integration as absorbing. The stickiness here can reflect sunk institutional investments and network effects (curricula, language use) that make a return to contestation unlikely. This keeps the political allocation problem tractable while capturing the key complementarities in cultural change. ¹

This specification, nonetheless, captures important features of cultural change. First, common good provision serves as the engine of societal transformation. Second, state transitions occur probabilistically rather than deterministically. Third, the pace of cultural evolution depends on both policy choices (G_t^C) and institutional factors (ϕ_t) . The model therefore endogenizes the emergence of civic nationalism while preserving the original strategic tension between Majority and minority groups while in the contested state.

Starting in a contested state, following each allocation decision, the minority observes the provision and chooses whether to accept the outcome or initiate a revolt. A revolt imposes a cost $c \in (0,1)$ on the minority and succeeds with probability $\lambda \in (0,1)$. The Majority's intertemporal optimization problem therefore involves balancing three considerations: the immediate threat of minority revolt, the opportunity cost of diverting resources from their preferred public goods, and the long-term benefits from cultivating civic nationalist sentiment through common good provision.

2.1 Preferences and Payoffs

The model features three distinct groups with heterogeneous preferences over public goods. For group $j \in \{M, m, \tilde{N}\}$, the valuation of public good type $k \in \{M, m, C\}$ is given by parameters v_j^k . The Majority (M) and minority (m) groups derive utility from their own cultural goods and the common good, while civic nationalists (\tilde{N}) value only the common good.

The Majority group's valuations are specified as $v_M^M = 1$ for their ideal good, $v_M^m = 0$ for the minority's good, and $v_M^C = \delta$ for the common good. This yields the per-period utility function:

$$U_t^M = v_M^M G_t^M + v_M^C G_t^C = G_t^M + \delta G_t^C$$
 (3)

Similarly, the minority group has valuations $v_m^m = 1$, $v_m^M = 0$, and $v_m^C = \delta$, generating the utility function:

$$U_t^m = v_m^m G_t^m + v_m^C G_t^C = G_t^m + \delta G_t^C$$
 (4)

¹The tradeoff is that this simplification may hide gradual diffusion and possible backsliding. A natural extension of this model would track the civic share over time and allow reversals, yielding smoother adoption paths while preserving the paper's main insights.

Civic nationalists have the simplest preference structure, with $v_{\tilde{N}}^M=v_{\tilde{N}}^m=0$ and $v_{\tilde{N}}^C=1$, resulting in:

$$U_t^{\tilde{N}} = G_t^C \tag{5}$$

All groups discount future payoffs by a common factor $\beta \in (0,1)$. The civic nationalists' utility specification reflects their exclusive focus on the common good, which drives their emergence when δ_t increases through sufficient common good provision. This preference structure allows the original strategic tension between Majority and minority groups to result in contrasting equilibria while allowing for the possibility of complete societal transformation through the growth of civic nationalist sentiment. A key point in this framework is that civic nationalists provide a potential absorption state for society - once their mass reaches unity, the original inter-group conflict resolves as all citizens share identical preferences for the common good. This creates an endogenous mechanism for conflict resolution through cultural change.

2.2 Timing

Each period proceeds as follows:

- 1. Values of δ , λ and ϕ are revealed to the public.
- 2. The Majority chooses the allocation (G_t^M, G_t^m, G_t^C) .
- 3. The minority observes the allocation and decides whether to accept or revolt.
- 4. If the minority revolts, the outcome is determined by λ .
- 5. Payoffs are realized and the state evolves according to the cultural transmission mechanism.

2.3 Optimization

The Majority seeks to maximize its expected lifetime utility by allocating public goods in each period, accounting for both the immediate threat of revolt and the long-term potential for societal transformation through civic nationalist emergence. The problem is inherently dynamic: the Majority's current allocation choices affect not only present utility but also the probability of transitioning to an integrated society where civic nationalist preferences dominate.

To formalize this, let $V(s_t)$ denote the value function of the Majority in state $s_t \in \{C, I\}$. In the **Contested State** $(s_t = C)$, the value function reflects both the Majority's present utility and the discounted expected value of remaining in the contested state or transitioning to the integrated state.

Assumption 1 (Imperfect Empathy Assumption) The Majority evaluates future outcomes using its own current preferences, even if future citizens—its own descendants—adopt different values. In particular, the Majority values the future common good at $\delta < 1$, even though future civic nationalists will value it fully at 1.

This assumption reflects the idea that cultural identity shapes not just preferences over policies, but also how agents perceive the welfare of future generations. For example, even if a future child fully identifies as a civic nationalist and derives full utility from the common good, a present-day Majority parent may only value that outcome at a discounted rate δ , because it no longer reflects the parent's own cultural ideals.

The Majority's dynamic optimization problem in state C is then given by:

$$\max_{G_t^M, G_t^m, G_t^C} \left\{ G_t^M + \delta G_t^C + \beta \left[(1 - P_I) V(C) + P_I \cdot \delta V(I) \right] \right\}$$
 (6)

subject to the budget constraint:

$$G_t^M + G_t^m + G_t^C = 1, \quad G_t^M, G_t^m, G_t^C \ge 0,$$

The probability of transition to the **Integrated State** ($s_t = I$) is endogenous and given by:

$$P_I = \phi \cdot G_t^C$$
,

where $\phi \in [0,1]$ is an exogenous cultural transmission parameter, and G_t^C is the amount of the common good provided in period t. Greater provision of the common good increases the likelihood of societal integration. In the Integrated State, the entire population shares civic nationalist preferences and values only the common good. Since group identities dissolve, all resources are allocated to G_t^C , yielding a constant utility stream:

$$V(I) = \sum_{t=0}^{\infty} \beta^t \cdot 1 = \frac{1}{1-\beta},$$

under the normalization $G_t^C = 1$. However, because of imperfect empathy, the Majority values this future at $\delta V(I)$ rather than V(I).

This dynamic structure highlights the central strategic dilemma facing the Majority: allocating resources toward common good provision can reduce the risk of revolt and foster long-run societal cohesion through cultural integration. However, such investments come at the cost of forgoing immediate group-specific benefits and advancing a future cultural identity that the current Majority only partially values. The equilibrium analysis in the next section will clarify how this tradeoff shapes policy choices and long-run outcomes.

2.4 Equilibrium Analysis

This section characterizes the strategic outcomes that emerge in the contested state. The core insight is that the Majority's allocation decision over public goods, between its own ideal good, the minority's ideal good, and the common good, determines which type of equilibrium prevails. This choice shapes not only short-run utility but also the probability of societal transformation via civic nationalist emergence. I focus on Markov Perfect Equilibria (MPE), where strategies depend only on the current state $s_t = C$, and not on the history of play. The state evolves endogenously as the share of civic nationalists increases through common good provision. I analyze three equilibrium types.

In an Exclusive Equilibrium, the Majority allocates the entire public budget to its own

group-specific good, fully excluding both the minority and the common good. This outcome emerges when the risk of revolt is negligible, allowing the Majority to prioritize short-term cultural dominance without fear of destabilization.

In contrast, a **Multicultural Equilibrium** arises when the threat of revolt is credible but at least one of the Majority or minority groups places low value on the common good. To prevent rebellion, the Majority strategically divides the budget between its own ideal good and that of the minority, ensuring compliance while maintaining the contested nature of society.

Finally, in a set of **Cultural Change Equilibria**, the Majority actively invests in the common good. In these equilibria, resource allocation is shaped by a dual objective: satisfying the minority's participation constraint and facing the endogenous growth of civic nationalism. The exact form, whether full common-good provision or a hybrid mix with group specific goods, depends on which group's constraint binds and on how highly the Majority values future integration relative to immediate group preferences.

2.4.1 Exclusive Equilibrium

When the probability of a successful revolt is sufficiently low, the Majority has no incentive to compromise or invest in the common good. It chooses:

$$G_t^M = 1, \quad G_t^m = G_t^C = 0,$$

yielding:

$$U_t^M = 1 \quad \& \quad U_t^m = 0,$$

where U_t^M and U_t^m are showing majority and minority's per period utility in this allocation. It then follows that:

$$V_M = \frac{U_t^M}{1 - \beta} = \frac{1}{1 - \beta}, \quad V_m = 0.$$

This allocation can lead to an equilibrium if and only if it is accepted by the minority. Minority can either accept the allocation or initiate a revolt. If they do not accept the allocation, and decide to revolt it will be successful with probability λ . Minority's expected payoff from revolt is

$$V_m(R) = -c + \beta \left[\lambda \frac{1}{1-\beta} + (1-\lambda) \cdot 0 \right] = \frac{\beta \lambda - c(1-\beta)}{1-\beta}.$$
 (7)

Defining

$$\alpha \equiv \beta \lambda - c(1 - \beta),$$

the Minority will not revolt if

$$\lambda < \lambda_R \equiv \frac{c(1-\beta)}{\beta}.\tag{8}$$

The revolt threshold, λ_R , captures the condition under which the minority finds revolt unattractive. When the probability of a successful revolt, λ , falls below this threshold, the minority's expected payoff from challenging the status quo is lower than its current utility, namely, zero under full exclusion. The threshold increases with the cost of revolt (c) and

decreases with the patience of the players (β) . Intuitively, higher costs of rebellion or more myopic agents reduce the likelihood that a revolt will be worthwhile.

This analysis assumes that revolt is a one-time, high-stakes event: if the minority revolts and succeeds, it becomes the uncontested ruler; if it fails, it loses its ability to challenge the Majority in future periods.

If, however, $\lambda \geq \lambda_R$, the minority finds revolt attractive. Two outcomes can then result from the minority's revolt attempt: a Successful Revolt (SR) with probability λ . The minority then takes over and allocates all future resources to its own ideal good ($G^m = 1$ indefinitely), yielding:

$$V_m(SR) = \frac{1}{1-\beta}, \quad V_M(SR) = 0.$$

Or a Failed Revolt (FR) with probability $1 - \lambda$, the revolt fails and the Majority retains control, resulting in:

$$V_M(FR) = \frac{1}{1-\beta}, \quad V_m(FR) = 0.$$

I assume that if a group is defeated in a revolt, it will be dominated and cannot initiate another revolt thereafter (reflecting a one-time secession attempt). Thus, the Majority's expected payoff when revolt occurs is:

$$V_M(R) = \frac{1 - \beta \lambda}{1 - \beta} ,$$

which is strictly less than $V_M(M)$. In other words, the threat of revolt imposes a significant cost on the Majority.

Proposition 1 (Exclusive Equilibrium) If $\lambda < \lambda_R$, then there is a unique MPE wherein Majority sets $G_t^M = 1$, $G_t^m = G_t^C = 0$, and the minority does not revolt.

When $\lambda \geq \lambda_R$, the minority finds revolt attractive. This leads to a probabilistic terminal outcome where either the minority succeeds and governs permanently, or fails and loses its strategic role. While the Exclusive Equilibrium is sustainable under low revolt risk, it is straightforward to show that when revolt becomes likely ($\lambda \geq \lambda_R$), the Majority's expected payoff under this arrangement declines. In such cases, alternative allocations such as those that appears the minority or promote integration may yield higher long-term returns. We therefore turn to analyze other possible equilibria under these strategic conditions.

2.4.2 Multicultural Equilibrium

When revolt is credible ($\lambda \geq \lambda_R$), any feasible allocation must satisfy the participation constraint of the minority: they must weakly prefer the status quo to initiating a costly rebellion. As the Majority anticipates this constraint, it solves its dynamic optimization problem (Eq 6) knowing that the minority must receive a minimum level of utility. Given the fixed valuation of the common good at δ , this constraint pins down the required allocation to the minority's ideal good as a function of the amount allocated to the common good:

$$G_t^m \ge \hat{G}^m(G_t^C) \equiv \frac{\alpha \left[1 - \beta + \beta \phi G_t^C\right] - \delta \left[1 - \beta + \beta \phi\right] G_t^C}{1 - \beta}.$$

The Majority weighs the long-run benefits of promoting civic nationalism through G_t^C against the opportunity cost of diverting resources from its own preferred good. The key insight is that providing common goods only becomes attractive if doing so improves the Majority's expected continuation value. This requires that the marginal benefit from future civic nationalist utility exceeds the marginal loss from reducing G_t^M . This is governed by the preference parameter δ . It is straightforward to show that the marginal value of G_t^C in the Majority's problem is increasing in δ , and in particular, the incentive to invest in common goods becomes strictly positive if and only if:

$$\delta \geq \frac{1}{2}$$
.

When $\delta < \frac{1}{2}$, the Majority strictly prefers to avoid investing in the common good. Instead, it satisfies the minority's no-revolt condition by allocating the minimum necessary share to G_t^m , and devotes the remaining budget to its own ideal good. The resulting allocation is:

$$G_t^m = \alpha, \quad G_t^M = 1 - \alpha, \quad G_t^C = 0,$$

yielding:

$$V_M = \frac{1-\alpha}{1-\beta}, \quad V_m = \frac{\alpha}{1-\beta}.$$

Proposition 2 (Multicultural Equilibrium) If $\lambda \geq \lambda_R$ and $\delta < \frac{1}{2}$, then the unique MPE is the Multicultural Equilibrium in which the Majority sets $G_t^m = \alpha$, $G_t^M = 1 - \alpha$, and $G_t^C = 0$. The game remains in the contested state indefinitely, with no investment in integration.

2.4.3 Cultural Change Equilibria

When the Majority's valuation of the common good is sufficiently high, that is when $\delta \geq \frac{1}{2}$, the incentive to invest in integration emerges. In this range, the marginal value of common good provision outweighs the marginal cost of diverting resources away from group-specific goods. However, for such an investment to be sustained in equilibrium, the resulting allocation must also satisfy the minority's no-revolt constraint.

This leads to a class of equilibria in which the common good is used strategically to preserve political stability, but it also alters the long-run cultural composition of society. I refer to these as cultural change equilibria. They take two forms depending on whether both groups are willing to fully substitute the common good for their ideal goods.

When both the Majority and the minority find the common good sufficiently rewarding relative to their outside options, the optimal allocation involves full provision of the common good and no allocation to group-specific goods: $G_t^C = 1$, $G_t^M = G_t^m = 0$. This allocation satisfies both groups, provided that their valuations of the common good exceed what they would receive from a revolt or a multicultural arrangement. That is, full provision becomes sustainable if:

$$\delta \ge \max\{\alpha, 1 - \alpha\}.$$

In this case, both groups receive:

$$V_j = \frac{\delta}{1-\beta}, \text{ for } j \in \{M, m\},$$

and the state transitions to integration with probability ϕ each period.

If, however, $\delta \in \left[\frac{1}{2}, \max\{\alpha, 1 - \alpha\}\right)$, full provision is no longer acceptable to one of the groups. The resulting equilibrium then features partial allocation to the common good, combined with provision of one group's ideal good depending on which group resists integration more. When $\delta < 1 - \alpha$, the Majority prefers to retain some of its own group-specific benefit, and the optimal allocation consists of a mix of G_t^C and G_t^M , with $G_t^m = 0$. In this case, the equilibrium levels are given by:

$$G_t^C = \hat{G}^C = \frac{\alpha(1-\beta)}{\delta(1-\beta+\beta\phi)-\alpha\beta\phi}, \quad G_t^M = \hat{G}^M = \frac{(1-\beta+\beta\phi)(\delta-\alpha)}{\delta(1-\beta+\beta\phi)-\alpha\beta\phi}.$$
 (9)

Conversely, when $\delta < \alpha$, it is the minority that finds the common good insufficient. The Majority then sets $G_t^M = 0$ and provides a mix of G_t^C and G_t^m to deter revolt. The equilibrium allocation in this case is given by:

$$G_t^C = \hat{G}^C = \frac{(1-\beta)(1-\alpha)}{(1-\beta)(1-\delta) + \beta\phi(\alpha-\delta)}, \quad G_t^m = \hat{G}^m = \frac{(\alpha-\delta)(1-\beta+\beta\phi)}{(1-\beta)(1-\delta) + \beta\phi(\alpha-\delta)}.$$
(10)

Proposition 3 (Cultural Change Equilibria) Suppose $\lambda \geq \lambda_R$ and $\delta \geq \frac{1}{2}$. Then the Markov Perfect Equilibrium involves positive provision of the common good, and takes one of the following forms:

(i) Full Common-Good Equilibrium: If $\delta \ge \max\{\alpha, 1 - \alpha\}$, then the unique equilibrium features full allocation to the common good:

$$G_t^C = 1, \quad G_t^M = G_t^m = 0.$$

The society transitions to the integrated state with probability ϕ in each period.

- (ii) Partial Common-Good Equilibria: If $\delta \in \left[\frac{1}{2}, \max\{\alpha, 1 \alpha\}\right)$, then the equilibrium features a mix of common and group-specific goods. The specific form depends on which group's constraint binds:
 - If $\delta < 1 \alpha$, the Majority supplements $G_t^C = \hat{G}^C$ with $G_t^M = \hat{G}^M$, setting $G_t^m = 0$. The minority is willing to accept only the common good.
 - If $\delta < \alpha$, the minority must receive additional group-specific provision. The Majority sets $G_t^M = 0$ and allocates a mix of $G_t^C = \hat{G}^C$ and $G_t^m = \hat{G}^m$.

In this case, the society transitions to the integrated state with probability $\phi G_t^C(\phi)$ each period.

2.4.4 Comparative Statics: Transition Speed

The parameter ϕ governs how effectively public good provision fosters cultural integration. A higher ϕ increases the probability that a given level of common good provision will transition society to the integrated state, defined each period by $P_I(\phi) = \phi \cdot G_t^C(\phi)$. Once integration

occurs, the game remains there permanently. I refer to this per-period probability $P_I(\phi)$ as the *speed of transition* where a higher probability implies faster convergence to civic nationalism.

However, ϕ also shapes the strategic environment. When ϕ is high, each unit of the common good is more potent, but the perceived risk of rapid cultural change is greater. The group that expects to lose its influence in the integrated state may demand more group-specific provision to remain politically compliant. As a result, the Majority may reduce G_t^C to avoid revolt. This tradeoff generates a key tension: although $G_t^C(\phi)$ falls with ϕ , the net effect on $P_I(\phi)$ remains positive because the marginal impact of each unit rises.

Proposition 4 (Speed of Transition) The speed of transition to the integrated state, $P_I(\phi)$, weakly increases in ϕ . In partial common-good equilibria, higher ϕ reduces G_t^C but still increases $P_I(\phi)$ due to greater marginal effectiveness. In the full common-good equilibrium, where $G_t^C = 1$, $P_I(\phi)$ rises linearly with ϕ .

This dynamic implies that governments facing political resistance to integration-promoting policies may find it more viable to enhance the effectiveness rather than the quantity of common-good provision. Instead of maximizing budgetary allocation, a smaller but strategically potent intervention such as a targeted civic curriculum or symbolic reform can generate substantial identity convergence. This insight is reflected in Cantoni et al. (2017), who show that a revised political curriculum in China shifted students' views on governance and national identity in ways aligned with the state's integrative aims, even as it had countervailing effects on attitudes toward public goods seen as costly or growth-inhibiting. A pattern that is broadly consistent with the logic of Proposition 3, where more effective policies reduce the political need for extensive spending on the common good.

However, as Carvalho et al. (2024) emphasize, the success of such interventions depends critically on how the cultural content is received by marginalized groups. Their model shows that when education is perceived as culturally assimilative, it may provoke various forms of resistance like dropout or disengagement, strategic investment in alternative socialization, or collective mobilization. In such contexts, highly effective programs can result in higher demand for group-specific goods if they are perceived as threatening group identity.

Importantly, the effectiveness parameter ϕ need not be exogenous. In many real-world contexts, institutional design, elite rhetoric, or media interventions can shape how public goods translate into identity formation. In the next section, I enrich the model by introducing a wealthy Elite actor who can influence the value of ϕ through targeted political effort.

3 Model with Taxation and the Elite Influence

So far I have assumed that a constant unit of resource is available to the decision maker in each period. This assumption allowed me to focus on cultural conflicts as drivers of heterogeneity in this model. However, this also limited the number of potential stakeholders and striped away from the research the interaction of tax policies and cultural policies.

In what follows I relax the assumption of unit resource. This implies some changes in the structure of the model. Now I add a new player, the rich Elite, and introduce another source of heterogeneity which is income inequality between citizens (similar income members of minority and majority) and the elite. For simplicity purposes in this section I also assume that Common good can only be provided alone and not alongside group-specific goods. Dropping the partial common good cases does not alter the novelty of this addition.

3.1 Setup and Timing

Let the population mass be normalized to one. A fraction $n \in (0.5, 1)$ consists of poor citizens split between Majority and Minority as before and the remaining mass 1-n consists of wealthy Elite. Here, an **Integrated State** $(s_t = I)$ emerges when civic nationalists attain full mass of citizens $(\tilde{N}_t^I = n)$ while Elite remain the same and the original Majority and minority groups dissolve to zero mass.

Each citizen has income y_{ℓ} , while each Elite has higher income y_h . I normalize average income so that

$$\overline{y} = n y_{\ell} + (1-n) y_h = 1.$$

The government levies a tax at rate $\tau \in [0,1]$ on all incomes and redistributes revenue as public goods. Elite Do not have a preference for and don't benefit from any type of public good. Assuming a quadratic cost of collection $C(\tau) = \frac{1}{2}\tau_t^2$, the total tax revenue available each period is

$$TR_t = \left(\tau_t - \frac{\tau_t^2}{2}\right) \overline{y}.$$

The baseline can be viewed as a limiting case of the extended framework. Suppose income inequality is complete so that citizens have $y_{\ell} = 0$ and only the Elite earn income, with a positive collection cost $C(\tau) = \frac{1}{2}\tau^2$. With the Majority choosing policy, citizens bear no private cost of taxation and revenues fund public goods. In this limit the preferred tax rate reaches its upper bound in all equilibria, reproducing the baseline's fixed unit resource as a normalized high-revenue case.

In a new a decision stage, the Elite now can invest resources to influence the effectiveness of common-good provision for cultural change, ϕ_t . Given this addition, the new timing within each period t is as follows:

- 1. The Elite collectively choose an investment level $e_t \in [0, 1]$. This investment determines the integration effectiveness ϕ_t .
- 2. Nature publicly reveals the revolt parameters λ and c, the current cultural valuation δ_t , and the effectiveness parameter ϕ_t .
- 3. The Majority sets the tax rate τ_t and invests in public goods.
- 4. The Minority observes τ_t and public goods allocation and decides whether to revolt,
- 5. Revolt succeeds with probability λ .
- 6. If a common good is provided and the Minority does not revolt (or revolt fails), the cultural valuation evolves according to

$$s_{t+1} = \begin{cases} I & \text{with probability } P_I = \phi_t \cdot G_t^C \\ C & \text{with probability } 1 - P_I \end{cases}$$

and payoffs are realized.

3.2 Equilibrium Analysis

Once the Elite set the integration effectiveness ϕ_t , the Majority and minority play exactly as in the benchmark scenario, except that the fixed resource is replaced by tax revenue, TR_t . Three equilibrium regimes emerge under taxation, structurally analogous to the baseline model: an **Exclusive Equilibrium** under weak revolt threat, a **Multicultural Equilibrium** when revolt is credible but identity divergence persists, and a **Cultural Change Equilibrium** when both political constraint and common-good valuation are strong. In this extension, each regime is characterized not only by allocation choices but also by the optimal tax rate τ_t , which internalizes both political resistance and fiscal efficiency.

3.2.1 Exclusive Equilibrium under Taxation

When the revolt threat is weak ($\lambda < \lambda_R$), the Majority disregards the minority's constraint and selects the tax rate τ_t to maximize its own utility:

$$\max_{\tau \in [0,1]} (1-\tau)y_{\ell} + TR(\tau), \quad \text{where} \quad TR(\tau) = \tau - \frac{\tau^2}{2}.$$

The optimal tax rate is $\tau_h = 1 - y_\ell$, and all tax revenue is allocated to the Majority's ideal good. The Minority and Elite receive no transfers, and the game remains in a contested state.

Proposition 5 (Exclusive Equilibrium with Taxation) If $\lambda < \lambda_R$, there exists a unique Markov Perfect Equilibrium in which the Majority sets $\tau_t = 1 - y_\ell$ and allocates all public revenue to G^M , with $G^m = G^C = 0$. The revolt threshold λ_R is given by:

$$\lambda_R \equiv \frac{(1-\beta)\left[(1-\tau_h)y_\ell + c\right]}{\beta\left(\tau_h - \frac{\tau_h^2}{2}\right)}, \quad where \quad \tau_h = 1 - y_\ell.$$

3.2.2 Multicultural Equilibrium under Taxation

If $\lambda \geq \lambda_R$ but the valuation of the common good remains low $(\delta < \max\{\underline{\delta}^m, \underline{\delta}^M\})$, then allocating all revenue to the common good would provoke opposition. Instead, the Majority offers a targeted transfer to the Minority's group-specific good to satisfy the no-revolt constraint:

$$V_m(S) = V_m(R),$$

and chooses the tax rate and allocation that maximizes its own payoff, accounting for the fiscal cost of appearement.

This yields an interior tax rate $\tau_s = 1 - 2y_\ell$, strictly lower than under exclusion, and an allocation in which the Minority receives $G^m > 0$ but $G^C = 0$.

Proposition 6 (Multicultural Equilibrium with Taxation) If $\lambda \geq \lambda_R$ and $\delta < \max\{\underline{\delta}^m, \underline{\delta}^M\}$, then the unique equilibrium involves a tax rate $\tau_s = 1 - 2y_\ell$, and an allocation $G^m > 0$, $G^M = TR - G^m$, $G^C = 0$.

3.2.3 Cultural Change Equilibrium under Taxation

When both the threat of revolt is credible $(\lambda \geq \lambda_R)$ and the valuation of the common good is sufficiently high $(\delta \geq \max\{\underline{\delta}^m(\phi), \underline{\delta}^M(\phi)\})$, the Majority finds it optimal to invest in integration through exclusive provision of the common good. In this regime, the entire tax revenue is allocated to G^C , and the allocation becomes:

$$G^{C} = TR = \tau - \frac{\tau^{2}}{2}, \quad G^{M} = G^{m} = 0.$$

Unlike the multicultural or exclusive regimes, the tax rate τ_t is chosen not just to balance current tradeoffs but to influence the speed of cultural transformation. The Majority anticipates that society may transition into a fully integrated state in future periods. Let this probability be:

$$P_I = \phi_t \cdot G^C = \phi_t \cdot \left(\tau - \frac{\tau^2}{2}\right).$$

The value of integration for future citizens is high, as it entails universal provision of the common good. However, due to imperfect empathy, current parents value this outcome less than their descendants will. Specifically, once integration occurs, the common good becomes the sole good provided, and the tax rate returns to its exclusive-level maximum of $\tau_h = 1 - y_\ell$ to finance full provision. Yet this burden is discounted by current parents, who evaluate the future integrated utility stream at $\delta V(I)$ rather than V(I).

Formally, the Majority solves the dynamic problem:

$$\max_{\tau \in [0,1]} (1-\tau)y_{\ell} + \delta \cdot TR(\tau) + \beta \left[P_I \cdot \delta V(I) + (1-P_I) \cdot V_M(\delta) \right],$$

subject to:

$$G^{C} = TR = \tau - \frac{\tau^{2}}{2}, \quad P_{I} = \phi_{t} \cdot G^{C},$$

$$V(I) = \frac{(1 - \tau_{h})y_{\ell} + \tau_{h} - \frac{\tau_{h}^{2}}{2}}{1 - \beta}, \quad \tau_{h} = 1 - y_{\ell}.$$

Proposition 7 (Cultural Change Equilibrium with Taxation) If $\lambda \geq \lambda_R$ and $\delta \geq \max\{\underline{\delta}^m(\phi),\underline{\delta}^M(\phi)\}$, then the unique equilibrium features a tax rate $\tau_c(\phi,\delta) \in (0,\tau_h)$ such that all revenue is spent on the common good: $G^C = TR$, with $G^M = G^m = 0$.

The optimal tax rate $\tau_c(\phi, \delta)$ is decreasing in ϕ . A more effective integration technology allows the Majority to achieve the same expected convergence with lower taxation. Nonetheless, this decision is tempered by two factors: (i) the long-run integrated state imposes the highest tax burden on all citizens (including the Elite), and (ii) due to imperfect empathy, current agents underappreciate the value of this transition. As a result, the optimal path to integration may involve slower, cheaper, but less politically costly transitions, even when faster convergence is feasible.

This extension reveals how fiscal capacity and political constraints jointly determine equilibrium outcomes. The exclusive regime entails the highest tax rate but allocates nothing

to integration. The multicultural regime balances appearement with fiscal restraint, resulting in the lowest tax rate. Cultural change equilibria require moderate taxation but yield long-run convergence toward civic nationalism. Elite preferences vary accordingly: since they bear the cost of taxation without receiving targeted goods, the Elite prefer multiculturalism over integration or exclusion. This political economy logic helps explain why some unequal societies resist integration even when social cohesion is desirable in the long run.

3.2.4 Elite Problem

The Elite, who bear a disproportionately large share of the tax burden, have a vested interest in shaping the trajectory of integration. Although they have no direct preference over public goods, they are affected by changes in the equilibrium tax rate, which rises with commongood provision and peaks in the fully integrated state. To capture their political influence, I assume that the Elite can invest in either promoting or suppressing the cultural effectiveness of public goods. Let their action e shift the baseline effectiveness ϕ_0 additively:

$$\phi = \phi_0 + e, \qquad e \in [-\phi_0, 1 - \phi_0].$$

Here, e > 0 increases the effectiveness of integration efforts (e.g., through elite-supported reforms, messaging, or media); e < 0 suppresses them (e.g., via funding counter-narratives or identity-based mobilization). The Elite incur a linear, absolute-value cost:

$$C_E(e) = c_E |e|, \quad c_E > 0.$$

Once e is chosen and ϕ realized, the citizens play the tax allocation subgame. The Elite's per-period utility is given by:

$$U_t^E = (1 - \tau_c(\phi)) y_h - c_E |e|,$$

where $\tau_c(\phi)$ is the equilibrium tax rate under the prevailing cultural change equilibrium. Since integration implies a transition to a permanently higher tax rate $(\tau_h = 1 - y_\ell)$, the Elite anticipate both current and future costs from a rise in ϕ . Their lifetime value is:

$$V_E(\phi) = (1 - \tau_c(\phi)) y_h - c_E |e| + \beta \left[P_I(\phi) \cdot V_E(I) + (1 - P_I(\phi)) \cdot V_E(C) \right]$$

where $V_E(I)$ and $V_E(C)$ denote the Elite's expected continuation values in the integrated and contested states, respectively. Since the integrated state yields the highest sustainable tax rate, we have:

$$V_E(I) = \frac{(1 - \tau_h)y_h}{1 - \beta}, \text{ where } \tau_h = 1 - y_\ell.$$

Let the marginal net benefit of increasing ϕ be:

$$M(\phi) = -y_h \tau'_c(\phi) + \beta \frac{d}{d\phi} \left[P_I(\phi) \cdot V_E(I) + (1 - P_I(\phi)) \cdot V_E(C) \right].$$

This expression captures the Elite's tradeoff: a higher ϕ lowers the current tax rate $\tau_c(\phi)$, but speeds up the transition to a future high-tax regime. The Elite's optimal investment is:

$$e^* = \begin{cases} \min\{1 - \phi_0, \ M(\phi_0)/c_E\}, & \text{if } M(\phi_0) > c_E, \\ 0, & \text{if } |M(\phi_0)| \le c_E, \\ \max\{-\phi_0, \ M(\phi_0)/c_E\}, & \text{if } M(\phi_0) < -c_E. \end{cases}$$

Proposition 8 (Elite's Optimal Investment in Cultural Integration) Anticipating a cultural change equilibrium, if the marginal net benefit satisfies $M(\phi_0) < -c_E$, the Elite invest in suppressing integration effectiveness by choosing

$$e^* = \max\{-\phi_0, M(\phi_0)/c_E\}.$$

In all other equilibrium regimes (exclusive or multicultural), where the tax rate τ is independent of ϕ , the Elite make no investment in cultural effectiveness.

The Elite oppose integration not because they object to cohesion per se, but because the integrated state implies a permanently higher tax burden, $\tau_h = 1 - y_\ell$, with no direct benefit to them. Crucially, imperfect empathy among current citizens delays this transition: since parents undervalue the common-good utility their children would enjoy under integration, they set only moderate tax rates $\tau_c(\phi)$, specially when ϕ is low. This delay serves Elite interests by keeping long-run taxes low.

However, if ϕ becomes too high, the expected arrival of the high-tax integrated regime accelerates. At this point, the Elite may actively intervene to lower ϕ and delay convergence. Conversely, if future benefits of integration (e.g., fiscal stability or reduced revolt risk) are large enough and realized quickly, then the Elite may support integration even at the cost of higher taxes provided the marginal gain exceeds the cost c_E .

This political economy tension helps explain why elites in some contexts support civic nationalism and in others fund identity-based division. Their choice depends on how cultural convergence affects fiscal burdens over time.

4 Discussion of Historical Evidence

This paper develops a two-tier model of national identity formation. The benchmark model centers on cultural heterogeneity between otherwise homogeneous citizens, where majority decision makers allocate resources toward either a common or group-specific cultural good. The resulting identity regime emerges from the political balance of power and the endogenous formation of preferences across generations. A key result is that although common goods support identity convergence, their integration effect reduces present demand for them. Due to imperfect empathy, citizens underweight the benefits of integration for future generations, leading to stable multicultural equilibria even when integration could be welfare enhancing in the eyes of future generations.

The expanded model introduces income inequality and an Elite actor whose tax obligations vary with the extent of integration. Because the marginal tax rate is tied to the common-good preference of a unified citizenry, the Elite face a strategic tradeoff: they may invest in decreasing the integration effectiveness of common goods to lower probability of integration, yet this very investment raises their current tax rates. Thus, the Elite's incentives produce a second-layer intertemporal conflict: raising short-run contributions vs. avoiding long-run redistribution.

These dynamics manifest across real-world contexts, which I now briefly discuss to highlight how the model helps reinterpret each. In the benchmark model, the identity regime is shaped by group-level preferences and the intertemporal externalities of integration. Societies with low common good valuation (more social divisions) (δ_t) or low integration effectiveness (ϕ) settle into fragmented equilibria despite the possible long-run benefits of common identity.

India exemplifies the intertemporal and political tradeoffs at the heart of identity formation in a heterogeneous society. At independence in 1947, India inherited not only the trauma of Partition but also a staggering diversity of languages, religions, and regional identities. Its founding leaders particularly Jawaharlal Nehru and B.R. Ambedkar recognized the dangers of forced homogenization and chose instead a constitutional model of pluralist federalism and civic nationalism with the hope of forming a more harmonious society in the long run (Chatterjee, 1993; Khilnani, 1998). The 1950 Constitution embedded principles of secularism, minority protection, and linguistic autonomy, reflecting a strategic choice to build a national identity through inclusion rather than forced assimilation (Guha, 2007). In a more specific example of common and group-oriented provisions simultaneously, King (1997) argues that while Hindi was designated the "official language" southern states like Tamil Nadu opposed any imposition. This pressure led to the continued use of English and the passage of the 1956 States Reorganisation Act, which restructured state boundaries along linguistic lines.

However, this pluralist foundation is now under strain. Since the early 2000s—and especially after 2014 under the leadership of the Bharatiya Janata Party (BJP) and Prime Minister Narendra Modi, India has witnessed a shift toward majoritarian and exclusionary nationalism rooted in Hindu cultural identity (Nielsen and Nilsen, 2021). Policies such as the Citizenship Amendment Act (2019), which grants fast-track citizenship to non-Muslim immigrants, and the revocation of Article 370, which ended Jammu and Kashmir's special status, mark significant departures from the Nehruvian model of integration.

This trajectory maps directly onto the model's dynamics. Initially, the Indian state maintained a multicultural equilibrium by allocating resources (symbolic and material) to minority identities at the same time as sustaining investment in common goods such as promoting secularism and teaching of English language alongside regional languages hoping for a rise in civic nationalism. The current shift, however, illustrates how the majority's preference for cultural dominance can reallocate the identity budget toward its own goods, undermining empathy and fragmenting national solidarity. As institutional agreements over common good weaken, the inclusive equilibrium can collapse into a more divided and even exclusive regimes.

Canada offers a more stable case of what appears to be a multicultural equilibrium. The 1971 adoption of official multiculturalism and earlier recognition of French as a co-official language reflect a political settlement in which the majority supports group-specific goods to maintain social cohesion across linguistic and ethnic lines. Yet this equilibrium also exhibits key features of a long-run cultural change equilibrium. As Kymlicka (2020) emphasizes, Canadian multiculturalism is not simply a posture of tolerance, but a strategic investment in shared civic values such as secularism, democratic participation, and rule of law that foster a common identity over time. This dual strategy is particularly salient in a migrant-receiving federation, where stable diversity requires both short-run recognition of cultural pluralism and long-run efforts to build a unified civic identity. Recent policy shifts (Government of Canada, 2025) further support this interpretation: the federal government's emphasis on large-scale public good investments and initiatives to reduce inter-provincial

regulatory barriers signal a renewed commitment to forging a more integrated, civic-minded Canadian nationhood that complements its multicultural tenets.

On the other hand, United States illustrates the consequences of low δ_t in a racially diverse society. Scholars have long linked America's limited welfare state to ethnic fragmentation (Alesina and La Ferrara, 2005). Putnam (2007) finds that in more diverse communities, interpersonal trust and public goods provision decline, reflecting our model's prediction that when the majority does not identify with minorities, demand for common goods suffers. The model also suggests that higher ϕ when demand for integration is higher among the minorities (e.g., from migration or supranational integration) can provoke majority backlash if δ_t is low, pushing societies toward more contested identity regimes. Europe vividly illustrates this. From the perspective of native majorities in some European countries, EU policies on integration and Immigration have raised ϕ , increasing the salience of shared European identity. Yet, where common valuation and intergroup empathy has not kept pace, the majority has reacted defensively. Bell (2022) traces the roots of Brexit to fears of identity loss, driven by anxiety over immigration and EU authority. This can be interpreted as a preference of a majority for preserving cultural distinctiveness over pursuing integration benefits.

In more transparent cases of state-driven nation-buildings, Sub-Saharan Africa provides striking contrasts. In Tanzania, post-independence leaders like Julius Nyerere promoted Swahili and pan-African socialism as unifying tools. These deliberate investments raised δ_t and built a stronger national identity, enabling more effective public goods provision (Miguel, 2004). By contrast, in Kenya and Nigeria, elite competition over state resources along ethnic lines perpetuated fragmentation and undermined common-good investments (Easterly and Levine, 1997).

Indonesia's transmigration program, which relocated citizens across regions to increase interethnic contact, is another case where state-led investment raised δ_t . Bazzi et al. (2019) find the policy increased cross-group trust and national identification, shifting the equilibrium toward integration or what these authors call "unity in diversity".

To go beyond the taxonomy of possible identity regimes, in the extended model the Elite strategically choose whether to campaign against integration by investing in ϕ , balancing short-term tax relief against long-run redistribution risks. This produces a sabotage dynamic, where elites may suppress investments in civic nation-building to maintain low fiscal burdens. Yugoslavia provides an additional case where elite strategy and economic shocks interacted. Under Tito, redistributive socialism and federal power-sharing fostered unity among diverse ethnic groups, encouraging youth to identify as Yugoslavs rather than with their ethnic origin (Scarcelli, 2024). But the economic downturn of the late 1970s and the Elite involvements in promoting regional identities eroded this equilibrium. Scarcelli (2024) argues that as austerity spread and perceived common benefits declined, groups reverted to ethnic loyalties, leading to intensified competition, fragmentation, and eventual collapse. This aligns with the model's prediction that a fall in the perceived value of shared goods can destabilize identity convergence.

5 Conclusion

This paper develops a dynamic political economy framework to explain how national identity regimes emerge, persist, and evolve through intergroup bargaining and elite influence. By embedding cultural transmission within a formal model of public good allocation, the analysis offers a taxonomy of identity equilibria—exclusive, multicultural, and commongood—each shaped by the interplay between cultural preferences, intergenerational empathy, and political-economic constraints. The baseline model highlights a key paradox: while common goods foster civic identity, the expectation of integration can reduce present-day incentives to invest in them, especially when empathy for future generations is imperfect. The extension introduces a wealthy Elite class whose fiscal interests may diverge from broader societal goals, revealing how elites can act as political bottlenecks to identity convergence by strategically undermining integration efforts to avoid long-term redistribution.

These findings speak to ongoing debates in social sciences about the viability of civic nationalism, the role of multiculturalism, and the dynamics of identity-based conflict. The model underscores that national identity is not merely a cultural artifact but a contested and strategic outcome, shaped by forward-looking calculations, fiscal tradeoffs, and institutional mediators of cultural change. The comparative evidence discussed also illustrates how different societies navigate this terrain, and how both policy design and elite behavior critically shape identity trajectories. These insights indicates the dynamic tension at the heart of modern nation-states: between unity and diversity, redistribution and resistance. This was an attempt in telling the story of a "contested unity".

A Appendix

A.1 Proofs

Proof of Proposition 1 (Exclusive Equilibrium)

In the contested state s = C, if the Majority devotes the entire unit resource to its own good, $(G^M, G^m, G^C) = (1, 0, 0)$, then its per-period payoff is $U^M = 1$, so

$$V^{M}(E) = \sum_{t=0}^{\infty} \beta^{t} \cdot 1 = \frac{1}{1-\beta}.$$

The Minority's payoff is $V^m(E) = 0$. If the Minority revolts, its expected payoff is

$$V^{m}(R) = -c + \beta \left[\lambda \frac{1}{1-\beta} + (1-\lambda) \cdot 0 \right] = \frac{\beta \lambda - c(1-\beta)}{1-\beta}.$$

This payoff comes from the assumptions about the terminal states after the revolt and the fact that revolt either succeeds or not. Revolt is unprofitable whenever

$$\beta \lambda - c(1 - \beta) < 0 \iff \lambda < \frac{c(1 - \beta)}{\beta} \equiv \lambda_R.$$

Hence for $\lambda < \lambda_R$ the Minority stays put, and the unique Markov-perfect continuation is (1,0,0) every period.

Proof of Proposition 2 (Multicultural Equilibrium)

Suppose the revolt threat is credible, $\lambda \geq \lambda_R \equiv \frac{c(1-\beta)}{\beta}$, and the common good is not highly valued, $\delta < \frac{1}{2}$. Then the unique stationary Markov Perfect Equilibrium in the contested state has

$$G_t^C = 0, \qquad G_t^m = \alpha, \qquad G_t^M = 1 - \alpha,$$

where $\alpha \equiv \beta \lambda - c(1 - \beta)$.

Consider any stationary allocation (G^M, G^m, G^C) in the contested state. Given the perperiod integration probability ϕG^C , the minority's stationary value in the contested state is

$$V_m(C) = \frac{G^m + \delta G^C + \beta \phi G^C \cdot \delta V(I)}{1 - \beta + \beta \phi G^C}, \text{ with } V(I) = \frac{1}{1 - \beta}.$$

The minority's value from revolt is $V_m(R) = \frac{\alpha}{1-\beta}$, where $\alpha = \beta \lambda - c(1-\beta)$. Hence the no-revolt condition $V_m(C) \geq V_m(R)$ is equivalent to a lower bound on transfers to the minority,

$$G^{m} \geq \widehat{G}^{m}(G^{C}) \equiv \frac{\alpha \left[1 - \beta + \beta \phi G^{C}\right] - \delta \left[1 - \beta + \beta \phi\right] G^{C}}{1 - \beta}.$$
 (PC)

In any optimum with a credible revolt, this participation constraint binds; otherwise the Majority could reduce G^m and increase G^M .

Substituting $G^m = \widehat{G}^m(G^C)$ and using the budget $G^M = 1 - G^m - G^C$, the Majority's stationary value in the contested state can be written as a function of G^C :

$$V_M(C; G^C) = \frac{1 - \widehat{G}^m(G^C) + \left[(\delta - 1) + \beta \phi \delta V(I) \right] G^C}{1 - \beta + \beta \phi G^C}.$$

Evaluating the marginal effect of a small increase in G^C at $G^C = 0$ yields

$$\left. \frac{dV_M(C; G^C)}{dG^C} \right|_{G^C = 0} = \frac{(2\delta - 1)(1 - \beta + \beta\phi)}{(1 - \beta)^2}.$$

Since $1 - \beta + \beta \phi > 0$, the sign is the sign of $(2\delta - 1)$. When $\delta < \frac{1}{2}$, the derivative is negative, so any positive G^C strictly lowers the Majority's value. It follows that in equilibrium $G^C = 0$.

With $G^C = 0$, the participation constraint reduces to $G^m \ge \alpha$. The Majority's payoff is strictly increasing in G^M and strictly decreasing in G^m , so it sets the minimal feasible transfer $G^m = \alpha$ and allocates the remainder to its own good, $G^M = 1 - \alpha$. This allocation deters revolt because $V_m(C) = \alpha/(1-\beta) = V_m(R)$. Any deviation either violates feasibility or lowers the Majority's payoff, which establishes uniqueness.

Proof of Proposition 3 (Cultural Change Equilibria)

Similar to the case of Multicultural equilibrium, the minority's stationary value in the contested state under a stationary allocation (G^M, G^m, G^C) is

$$V_m(C) = \frac{G^m + \delta G^C + \beta \phi G^C \cdot \delta V(I)}{1 - \beta + \beta \phi G^C}, \text{ with } V(I) = \frac{1}{1 - \beta},$$

whereas revolt yields $V_m(R) = \frac{\alpha}{1-\beta}$. Thus the no-revolt constraint is equivalent to

$$G^m \geq \widehat{G}^m(G^C) \equiv \frac{\alpha[1-\beta+\beta\phi G^C] - \delta[1-\beta+\beta\phi]G^C}{1-\beta}.$$
 (PC)

Since $\lambda \geq \lambda_R$, the constraint binds at any optimum. Substituting $G^m = \widehat{G}^m(G^C)$ and using $G^M = 1 - G^m - G^C$, the Majority's stationary value can be written as a function $V_M(C; G^C)$ that is differentiable at $G^C = 0$. A direct calculation yields

$$\frac{dV_M(C; G^C)}{dG^C} \bigg|_{G^C = 0} = \frac{(2\delta - 1) [1 - \beta + \beta \phi]}{(1 - \beta)^2},$$

which is nonnegative if and only if $\delta \geq \frac{1}{2}$. Hence whenever $\delta \geq \frac{1}{2}$, the Majority strictly prefers some positive G^C to $G^C = 0$, establishing that cultural change (positive common–good provision) must occur in equilibrium.

For part (i), take any allocation with $G^C=1$ and $G^M=G^m=0$. Iterating the Bellman equation shows that $V_m(C)=\delta/(1-\beta)$ under full common–good provision, so the minority does not revolt whenever $\delta \geq \alpha$. The Majority's value under the multicultural allocation with $G^C=0$ is $(1-\alpha)/(1-\beta)$, whereas under $G^C=1$ it is $\delta/(1-\beta)$. Thus if $\delta \geq 1-\alpha$ the Majority weakly prefers full common–good provision to any allocation that leaves $G^C=0$.

Under $\delta \geq \max\{\alpha, 1 - \alpha\}$ the participation constraint is slack at $G^C = 1$ (so $G^m = 0$ is feasible), and any deviation that reduces G^C either wastes resources on group–specific goods that the Majority values weakly less (given $\delta \geq 1 - \alpha$) or lowers the continuation value by reducing the chance of integration. It follows that $G^C = 1$ is the unique stationary equilibrium in this region.

For part (ii), full common–good provision fails due to one side's preference: if $\delta < 1 - \alpha$, the Majority would strictly prefer the multicultural value $(1 - \alpha)/(1 - \beta)$ to $\delta/(1 - \beta)$ and thus will not set $G^C = 1$; if $\delta < \alpha$, the minority would revolt under $G^C = 1$ since $\delta/(1-\beta) < \alpha/(1-\beta)$. In the first subcase $(\delta < 1 - \alpha)$ the Majority minimizes transfers to the minority by setting $G^m = 0$ and chooses the smallest G^C that exactly satisfies the participation constraint, which is obtained by solving $\widehat{G}^m(G^C) = 0$ for G^C . This yields the stated expression for \widehat{G}^C , and the budget identity then gives $G^M = 1 - \widehat{G}^C > 0$. Since $\delta \geq \frac{1}{2}$, the Majority's value is strictly increasing in G^C at zero, and any G^C below \widehat{G}^C would violate (PC), while any G^C above \widehat{G}^C would reduce G^M without relaxing any constraint, strictly lowering the Majority's payoff. Hence the interior allocation with $G^m = 0$ is uniquely optimal.

In the second subcase $(\delta < \alpha)$ the minority requires a positive transfer even when $G^C > 0$. The Majority therefore sets $G^M = 0$ and chooses (G^C, G^m) to maximize its payoff subject to the binding participation constraint and the budget identity. Solving the system consisting of (PC) at equality and $G^M = 0$ delivers the stated closed forms for G^C and G^m . Feasibility follows from $\delta \geq \frac{1}{2}$ and $\delta < \alpha$, which ensure both numerators and denominators are positive and yield $G^C \in (0,1)$. Any deviation that reduces G^C violates (PC); any deviation that increases G^C forces G^m above its minimal level and strictly lowers the Majority's payoff. Hence the allocation is uniquely optimal.

In all cases, the transition probability to the integrated state in any period equals ϕG^C , which is ϕ in part (i) and belongs to $(0, \phi)$ in part (ii). This completes the proof.

Proof of Proposition 4 (Speed of Transition)

The per-period probability of transitioning to the integrated state is given by:

$$P_I(\phi) = \phi \cdot G_t^C(\phi),$$

where $G_t^C(\phi)$ is the equilibrium level of common good provision in a cultural change equilibrium. We analyze the behavior of $P_I(\phi)$ with respect to ϕ in the two subcases:

(i) Full Common-Good Equilibrium. When $\delta \ge \max\{\alpha, 1 - \alpha\}$, the equilibrium allocation is:

$$G_t^C = 1$$
, so $P_I(\phi) = \phi$.

Since this is a linear function in ϕ , it is strictly increasing. Hence, the result holds in this case.

(ii) Partial Common-Good Equilibria. In this regime, the common good level $G_t^C(\phi)$ is strictly less than 1 and depends negatively on ϕ , but the transition probability is:

$$P_I(\phi) = \phi \cdot G_t^C(\phi).$$

We now show that $P_I(\phi)$ is weakly increasing in ϕ . We take the derivative:

$$\frac{dP_I}{d\phi} = G_t^C(\phi) + \phi \cdot \frac{dG_t^C(\phi)}{d\phi}.$$

By construction of the equilibrium (see expressions for \hat{G}^{C}), we know that:

$$\frac{dG_t^C(\phi)}{d\phi} < 0.$$

That is, as ϕ increases, the Majority reduces G_t^C to delay integration and appears the group that resists rapid cultural change. However, since $G_t^C(\phi) > 0$ and $\frac{dG_t^C}{d\phi}$ is bounded, the positive first term dominates in magnitude. Specifically, $G_t^C(\phi)$ is decreasing in ϕ , but not so steeply that $P'_I(\phi)$ turns negative.

To verify this formally, observe that in both partial equilibrium expressions (whether $G_t^M > 0$ or $G_t^m > 0$), the denominator of $G_t^C(\phi)$ increases in ϕ while the numerator is independent of ϕ , so:

$$\frac{dG_t^C(\phi)}{d\phi} = \frac{-(\text{positive})}{(\text{positive})^2} < 0,$$

but in both cases, $|\phi \cdot \frac{dG_t^C}{d\phi}|$ is less than $G_t^C(\phi)$ for all $\phi \in [0,1]$. Therefore,

$$\frac{dP_I}{d\phi} = G_t^C + \phi \cdot \frac{dG_t^C}{d\phi} > 0,$$

which proves that $P_I(\phi)$ is strictly increasing in ϕ in the partial equilibrium range as well.

Proof of Proposition 5 (Exclusive Equilibrium with Taxation)

When the revolt threat is weak ($\lambda < \lambda_R$), the Majority can ignore the Minority's participation constraint and maximizes its utility:

$$\max_{\tau \in [0,1]} (1-\tau)y_{\ell} + \left(\tau - \frac{\tau^2}{2}\right).$$

Taking the first-order condition:

$$-y_{\ell}+1-\tau=0 \quad \Rightarrow \quad \tau_h=1-y_{\ell}.$$

This tax rate maximizes the Majority's per-period payoff. The total revenue is then:

$$TR = \tau_h - \frac{\tau_h^2}{2} = (1 - y_\ell) - \frac{(1 - y_\ell)^2}{2}.$$

The Majority allocates all revenue to its own good: $G^M = TR$, $G^m = G^C = 0$. The value functions are:

$$V_M(E) = \frac{(1 - \tau_h)y_{\ell} + TR}{1 - \beta},$$

$$V_m(E) = \frac{(1 - \tau_h)y_{\ell}}{1 - \beta},$$

$$V_E(E) = \frac{(1 - \tau_h)y_h}{1 - \beta}.$$

The minority compares this with the expected value of revolt:

$$V_m(R) = -c + \beta \left[\lambda V_m(SR) + (1 - \lambda) V_m(FR) \right],$$

where:

$$V_m(SR) = \frac{(1 - \tau_h)y_\ell + \lambda TR}{1 - \beta},$$
$$V_m(FR) = \frac{(1 - \tau_h)y_\ell}{1 - \beta}.$$

Equating $V_m(E)$ and $V_m(R)$ gives the revolt threshold:

$$\lambda_R = \frac{(1-\beta)[(1-\tau_h)y_\ell + c]}{\beta T R}.$$

Hence, if $\lambda < \lambda_R$, revolt does not occur and the exclusive equilibrium holds.

Proof of Proposition 6 (Multicultural Equilibrium with Taxation)

When $\lambda \geq \lambda_R$ and δ is low, the Majority must satisfy the Minority's participation constraint without relying on common good provision. The Majority solves:

$$\max_{\tau,G^m}(1-\tau)y_\ell + TR - G^m,$$

subject to:

$$V_m(S) = V_m(R),$$

where G^m is the transfer needed to prevent revolt. To minimize cost, the Majority gives just enough G^m such that the constraint binds. As in the exclusive case, the Majority's optimal tax rate (under concavity) is:

$$\tau_s = 1 - 2y_{\ell}.$$

This leads to:

$$TR = \tau_s - \frac{\tau_s^2}{2}, \quad G^m = V_m(S) - (1 - \tau_s)y_\ell,$$

 $G^M = TR - G^m, \quad G^C = 0.$

This is the unique equilibrium allocation.

Proof of Proposition 7 (Cultural Change Equilibrium with Taxation)

Under the assumption that $\lambda \geq \lambda_R$ and $\delta \geq \max\{\underline{\delta}^m(\phi), \underline{\delta}^M(\phi)\}$, the Majority chooses to allocate all tax revenue to the common good:

$$G_t^C = TR(\tau_t) = \tau_t - \frac{1}{2}\tau_t^2,$$

with $G_t^M = G_t^m = 0$. The utility for the Majority in period t is:

$$U_t^M = (1 - \tau_t)y_\ell + \delta_t TR(\tau_t),$$

and with probability $P_I = \phi_t TR(\tau_t)$, the society transitions to the integrated state in the next period.

The Majority's dynamic value function in the contested state is:

$$\mathcal{L}(\tau,\phi) = (1-\tau)y_{\ell} + \delta(\tau - \frac{\tau^2}{2}) + \beta[\phi T R(\tau)V_M(I) + (1-\phi T R(\tau))V_M(\delta)],$$

where
$$V_M(I) = \frac{(1-\tau_h)y_{\ell} + \tau_h - \frac{\tau_h^2}{2}}{1-\beta}$$
 with $\tau_h = 1 - y_{\ell}$.

The first-order condition is:

$$F(\tau, \phi) = -y_{\ell} + \delta(1 - \tau) + \beta \phi(1 - \tau)[V_M(I) - V_M(\delta)] = 0.$$

Implicit differentiation yields:

$$\frac{d\tau_c}{d\phi} = -\frac{F_\phi}{F_\tau}, \quad \text{where} \quad F_\phi = \beta(1-\tau)[V_M(I) - V_M(\delta)] < 0,$$
$$F_\tau = -\delta - \beta\phi[V_M(I) - V_M(\delta)] < 0,$$

thus $\frac{d\tau_c}{d\phi} < 0$, confirming that the optimal tax rate decreases in integration effectiveness ϕ . To ensure this common-good allocation is an equilibrium, both groups must prefer it over secessionist or multicultural alternatives:

$$V_M(C) \ge V_M(S), \quad V_m(C) \ge V_m(S).$$

These constraints define the threshold values:

 $\underline{\delta}^{M}(\phi) = \text{Minimum } \delta \text{ such that Majority prefers common-good regime,}$ $\underline{\delta}^{m}(\phi) = \text{Minimum } \delta \text{ such that Minority prefers common-good regime.}$

Using the compact forms:

$$\underline{\delta}^{M}(\phi) = \frac{A_{M}(\phi) - B_{M}(\phi)}{C_{M}(\phi)},$$

$$\underline{\delta}^{m}(\phi) = \frac{A_{m}(\phi) - B_{m}(\phi) - C_{m}(\phi)}{D_{m}(\phi)},$$

where:

$$A_{M}(\phi) = [(1-\beta) + \beta\phi TR(\tau_{c})] \left[\frac{1}{2} + 2y_{\ell}^{2} - \beta y_{\ell}^{2} - \frac{\beta\lambda}{2} + \frac{\beta\lambda y_{\ell}^{2}}{2} + c(1-\beta) \right],$$

$$B_{M}(\phi) = (1-\beta)(1-\tau_{c})y_{\ell} + \beta\phi TR(\tau_{c})y_{\ell}^{2},$$

$$C_{M}(\phi) = TR(\tau_{c})[(1-\beta) + \beta\phi \frac{1-y_{\ell}^{2}}{2}],$$

$$A_{m}(\phi) = \beta[(1-\beta) + \beta\phi TR(\tau_{c})](y_{\ell} + \lambda \frac{1-y_{\ell}^{2}}{2}),$$

$$B_{m}(\phi) = (1-\beta)[(1-\tau_{c})y_{\ell} + \frac{\beta\phi TR(\tau_{c})}{1-\beta}y_{\ell}],$$

$$C_{m}(\phi) = c[(1-\beta) + \beta\phi TR(\tau_{c})](1-\beta),$$

$$D_{m}(\phi) = (1-\beta)[TR(\tau_{c}) + \frac{\beta\phi TR(\tau_{c})}{1-\beta} \cdot \frac{1-y_{\ell}^{2}}{2}].$$

Finally, the optimal tax rate is:

$$\tau_c(\phi) = \frac{A(\phi) + \frac{1}{2}\sqrt{B(\phi)C(\phi)}}{y_{\ell}\beta\phi},$$

where:

$$A(\phi) = y_{\ell}\beta\tau_{h}\phi + \frac{1}{2}\beta\delta\tau_{h}^{2}\phi - \beta\delta\tau_{h}\phi + \beta\delta - \delta,$$

$$B(\phi) = \beta\tau_{h}^{2}\phi - 2\beta\tau_{h}\phi + 2\beta - 2,$$

$$C(\phi) = 4y_{\ell}^{2}\beta\phi + 4y_{\ell}\beta\delta\tau_{h}\phi - 4y_{\ell}\beta\delta\phi + \beta\delta^{2}\tau_{h}^{2}\phi - 2\beta\delta^{2}\tau_{h}\phi + 2\beta\delta^{2} - 2\delta^{2}.$$

This completes the proof.

Proof of Proposition 8 (Elite's Optimal Investment in Cultural Integration)

In a cultural change equilibrium, the Elite's per-period utility is:

$$U_t^E = (1 - \tau_c(\phi))y_h - c_E|e|,$$

where $\phi = \phi_0 + e$ and $\tau_c(\phi)$ is decreasing in ϕ . The value function is:

$$V^{E}(\phi) = U_{t}^{E} + \beta [\phi T R(\phi) V^{E}(I) + (1 - \phi T R(\phi)) V^{E}(C)],$$

where:

$$TR(\phi) = \tau_c(\phi) - \frac{1}{2}\tau_c(\phi)^2, \quad V^E(I) = \frac{(1 - \tau_h)y_h}{1 - \beta}.$$

Rewriting in closed form:

$$V^{E}(\phi) = \frac{\Pi(\phi) + \beta \phi T R(\phi) V^{E}(1)}{1 - \beta (1 - \phi T R(\phi))},$$

where $\Pi(\phi) = (1 - \tau_c(\phi))y_h - c_E|e|$. Differentiating,

$$\frac{dV^E}{d\phi} = \frac{N'(\phi)D(\phi) - N(\phi)D'(\phi)}{D(\phi)^2},$$

with

$$N'(\phi) = -y_h \tau'_c(\phi) + \beta [TR(\phi) + \phi TR'(\phi)] V^E(1), \quad D'(\phi) = \beta [TR(\phi) + \phi TR'(\phi)] > 0,$$

and
$$D(\phi) = 1 - \beta [1 - \phi TR(\phi)] > 0.$$

The term $-y_h\tau'_c(\phi) > 0$, but the second term $\beta[TR(\phi) + \phi TR'(\phi)](V^E(1) - V^E(\phi)) < 0$, dominates due to $V^E(\phi) < V^E(1)$. Thus,

$$\frac{dV^E}{d\phi} < 0,$$

implying that increasing ϕ reduces the Elite's expected utility.

The marginal net benefit of increasing ϕ is:

$$M(\phi) = -y_h \tau_c'(\phi) + \beta \frac{d}{d\phi} \left[P_I(\phi) V^E(I) + (1 - P_I(\phi)) V^E(C) \right].$$

The Elite choose e^* such that:

$$e^* = \begin{cases} \min\{1 - \phi_0, \ M(\phi_0)/c_E\}, & \text{if } M(\phi_0) > c_E, \\ 0, & \text{if } |M(\phi_0)| \le c_E, \\ \max\{-\phi_0, \ M(\phi_0)/c_E\}, & \text{if } M(\phi_0) < -c_E. \end{cases}$$

In exclusive or multicultural regimes, where τ is fixed, $M(\phi_0) = 0$, hence $e^* = 0$.

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