

# Nation-State Building

[Preliminary]

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## Abstract

We develop a simple dynamic theory of nation-building—i.e. attempts by Elites to ‘homogenize’ a Citizenry—that eschews the possibility of preference manipulation, focuses on the role of internal threats, and draws a connection to state-building. In our approach, the ‘homogenization’ offered by nation-building merely means that Citizens are better able to coordinate in their attempts to extract resources from a rich Elite ala [Acemoglu and Robinson \(2000, 2001\)](#). Nation-building allows the Elite to shift from a situation with infrequent-but-large transfers to one with frequent-but-small transfers. Such a shift is profitable in imperfectly efficient states, and we show how this drives incentives to state-build (in the sense of reducing such inefficiency). The analysis reveals a complementarity between nation- and state-building, helping us understand the emergence of nation-states. It also offers a perspective on the relationship between nation-building and democracy whereby nation-building plays a similar role to franchise extension.

*Key words:* Nation building, State building, Democracy, Social conflict

## 1 Motivation

It is well-appreciated that, for a variety of reasons, economic development is jeopardized by a citizenry that is culturally fractured (e.g. along linguistic, ethnic, or religious lines). For instance, research in economics and political science has shown that a unifying national identity can lower the salience of ethnic identities ([Miguel, 2004](#); [Alesina and La Ferrara, 2005](#); [Depetris-Chauvin et al., 2020](#)), raise trust in institutions and in fellow citizens ([Miguel, 2004](#); [Cantoni et al., 2017](#); [Blouin and Mukand, 2019](#)), decrease fractionalization and polarisation ([Bazzi et al., 2019](#)), provide coordination against external threats ([Dell and Querubin, 2018](#); [Aghion et al., 2019](#)), and bolster political participation and civic activities ([Cinnirella and Schuele, 2018](#)). One way in which a common identity emerges is via an Elite-driven process of *nation-building* ([Mylonas and Tudor \(2021\)](#)).

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Much of the existing research (see literature section below) proposes that nation-building operates by (i) Elite attempts (e.g. via the provision of mass education or the insistence upon an official language) to manipulate the *preferences* of Citizens ([Almagro and Andrés-Cerezo \(2020\)](#); [Hauk and Ortega \(2021\)](#)), (ii) in order to manage external threats (e.g. [Sambanis et al. \(2015\)](#); [Aghion et al. \(2019\)](#); [Alesina et al. \(2021\)](#)). For instance, [Alesina et al. \(2020\)](#) develop a model in which Elites can manipulate the willingness of Citizens to defend the state’s territory via costly investments.

Our goal in this short paper is to complement this work with a perspective that adopts neither of these assumptions. First, we take the more standard approach of fixed preferences. Instead, we view fractures in the Citizenry as placing a limit on how easy it is for the various factions to coordinate to achieve joint objectives. We allow Elites to take actions that lower such barriers (e.g. via a common language, curriculum, or experience).

Second, we focus on a natural consequence of nation-building for *internal* conflict. As noted by [Tilly \(1990\)](#):

“From a ruler’s point of view, a linguistically, religiously, and ideologically homogeneous population presented the risk of a common front against royal demands.”

In our model, nation-building acts precisely to strengthen this ‘common front’. In the spirit of [Acemoglu and Robinson \(2000, 2001\)](#), this in turn allows Citizens to extract greater resources from the Elite via redistributive taxation.

The Elite may be motivated to nation-build, despite the fact that it raises the expected transfer received by Citizens, because of the associated administration costs of redistribution. This creates a natural connection between nation-building and state-building (interpreted here as a costly investment that lowers administration costs). We show how these two dimensions display a two-way complementarity; nation-building is promoted by a strong state, and state-building is promoted by nationhood. This helps us understanding the emergence of *nation states* ([Wimmer \(2018\)](#)).

The analysis draws a new connection between nation-building and ‘democracy’ (in the sense of policy lying closer to the preferences of the majority). To make the contrast with [Acemoglu and Robinson \(2000, 2001\)](#) most clear, we assume that political power always lies with the Elite. Despite this, nation-building mimics the salient features of an extended franchise: transfers become more regular and are higher in expected value. In this way, a shift toward democracy need not involve the introduction of elections or an extended franchise. As in [Acemoglu and Robinson \(2000, 2001\)](#), the Elite shift toward democracy as a result of threats from Citizens, and in particular because of the necessity of Elites occasionally having to make a particularly large transfer. Our approach emphasizes an alternative to handing over de jure political power for Elites: handing over de facto power by removing barriers that

would otherwise prevent Citizens from acting as a coordinated influence on economic policy. Furthermore, the trade-offs facing Elites in our model are transparently fiscal in nature, allowing us to simultaneously analyze incentives for state-building. In this way, the simple framework allows us to jointly consider issues of culture (in the sense of the economic relevance of group boundaries), state capacity, and democracy.

Although we do not consider franchise extension (it would never be profitable in our setting), understanding nation-building is relevant for understanding the emergence of inclusive political institutions. The reason for this, echoing the work of scholars such as [Arendt \(2017\)](#), is explained by [Harari \(2016\)](#):

People feel bound by democratic elections only when they share a basic bond with most other voters. If the experience of other voters is alien to me, and if I believe they don't understand my feelings and don't care about my vital interests, then even if I am outvoted by a hundred to one, I have absolutely no reason to accept the verdict. Democratic elections usually work only within populations that have some prior common bond, such as shared religious beliefs and national myths. They are a method to settle disagreements between people who already agree on the basics.

## 1.1 Related Literature

Building on the work of [Anderson \(2006\)](#), [Gellner \(2008\)](#) and [Hobsbawm \(1992\)](#), economists have conceptualized nation building as a set of policies enacted by the ruler to homogenize citizens with heterogeneous preferences, making them more loyal to Elites ([Alesina et al., 2021, 2020](#); [Almagro and Andrés-Cerezo, 2020](#); [Hauk and Ortega, 2021](#)). [Aghion et al. \(2019\)](#) and [Alesina et al. \(2020\)](#) emphasise the role of foreign threats as the main incentives for nation-building efforts, whereby educating citizens with contents favorable to the elites creates more loyal and productive soldiers. [Paglayan \(2022, 2021\)](#) and [Alesina et al. \(2021\)](#) on the other hand, focus on the threat of civil war and threat of democracy respectively as the main historic reasons for state involvement in mass education. Beyond external threats, another common rationale for Elite-driven nation-building is to push their industrialization agenda ([Gellner \(2008\)](#), [Bowles and Gintis \(2011\)](#), [Hauk and Ortega \(2021\)](#)).

In many instances, the assertion that Elites are able to manipulate the preferences of Citizens via indoctrination is entirely plausible. Yet, this approach raises two concerns. The first is methodological, whereby many economists eschew explanations that lean on changes in preferences out of a worry that such approaches lack sufficient discipline. A second concern is empirical, whereby there appears to be no strong consensus that such attempts at preference manipulation are effective. For instance, [Blanc and Kubo \(2021\)](#) find a positive relationship between public education and decrease in linguistic distance, and [Cantoni et al. \(2017\)](#) find

that making the school curriculum more pro-state in China increased favorable attitudes towards the state and political institutions, but they don't find evidence of an effect on national identity or a change in political behavior beyond the attitudes. [Fouka \(2020\)](#) on the other hand finds a strong backlash effect for assimilation efforts through educational policies. This is also consistent with what [Dehdari and Gehring \(2022\)](#) report on negative effects of a set of assimilation policies by both governments of Germany and France on Alsace-Lorraine region of France. In contrast, the evidence connecting education and civic engagement is stronger. [Glaeser et al. \(2007\)](#) for instance, find a positive relationship between education, civic engagement and support for more inclusive political regimes. [Milligan et al. \(2004\)](#) also show that education results in more political participation and voting in the US. [Dee \(2004\)](#) also find a similar relationship confirming the positive link between educational attainment and voter participation.

[Alesina et al. \(2021\)](#) also consider the relationship between nation-building and democratization. In their setting, nation building works by bringing preferences of citizens closer to that of Elites. As such, Elites engage in nation-building out of a fear of an imminent democratization. We emphasize the opposite direction whereby nation-building leads to (effective) democratization. Both approaches predict that nation-building occurs prior to franchise extension.

Our work also relates to a growing literature on importance of state capacity in economic development. Following the classic work of [Tilly \(1990\)](#), and the work of [Acemoglu \(2005\)](#); [Besley and Persson \(2009, 2011\)](#) in political economy, a growing literature has emerged that shows how higher capacities of governments for enforcing the rule of law, raising taxes, and providing public goods facilitate economic development. In this body of works, lack of fiscal and legal capacities can result in poverty, conflict and underdevelopment.(e.g. [Acemoglu et al. \(2015\)](#), [Dincecco and Katz \(2016\)](#), [Johnson and Koyama \(2017\)](#)). [Besley and Persson \(2011\)](#) emphasize inter-Elite conflict in incentives for state-building, whereas we emphasize Citizen-Elite conflict. They consider exogenous inter-group cleavages, whereas we treat cleavages as endogenous.

Finally, our portrayal of nation-building as a mechanism through which ruling elites and citizens enter an exchange over power and rights resonates with the work of sociologists and political scientists like [Weber \(1976\)](#), [Tilly \(1990\)](#), [Brown \(2002\)](#), [Anderson \(2006\)](#), and [Berman \(2019\)](#) who have discussed the role of popular movements and civic engagements in politics in emergence of national-states.

## 2 Model

### 2.1 Fundamentals

We consider a discrete time, infinite horizon economy. The economy is populated by a unit mass of agents, divided in two groups; Elites and Citizens. Citizens are more numerous. At  $t = 0$  the Elite is endowed with a unit mass of assets. In each period each asset produces  $Y$  units of output. In addition to this economic value, assets have a political value because policy is set by those with assets. To best highlight the model's implication for democratization, we assume that assets are only productive in the hands of the Elite, and thus the Elites *always* choose policy. Citizens, when sufficiently coordinated, are numerous enough to mount a revolution against Elites.

Each period starts with the state of nationhood predetermined from the preceding period,  $N_{t-1} \in \{0, 1\}$ . The Elite then choose  $N_t \in \{N_{t-1}, 1\}$ : i.e. the Elite can at any time choose to permanently shift to a high state of nationhood. For notational simplicity, and to best highlight the mechanism, we assume nation-building is costless.<sup>1</sup>

The Elite at this time also choose state capacity,  $S_t \in \{0, 1\}$ . The capacity to make transfers entails a set-up cost. In order to transfer up to  $X_t$  units of output during the period requires a set-up cost of  $F(X_t)$ . This is a fixed cost in the sense that it must be paid whether or not any transfers end up being made. For simplicity we assume that  $F$  is linear:  $F(x) = c \cdot X$  with  $c \geq 0$ . There are also variable costs of raising tax revenue, and state capacity refers to how low these variable costs are. In particular, actually transferring  $G_t$  units of output costs  $\kappa(S_t) \cdot G_t$  with  $\kappa(S) \equiv S + (1 - S) \cdot \kappa$  where  $\kappa > 1$ . Choosing low state capacity ( $S_t = 0$ ) is costless, but high state capacity ( $S_t = 1$ ) costs  $\xi > 0$ . In summary then, if the Elite choose  $X_t$  and transfer  $G_t \in [0, X_t]$ , then they incur a cost of

$$C(G_t \mid S_t, X_t) \equiv c \cdot F(X_t) + \kappa(S_t) \cdot G_t \quad (1)$$

Following this, the degree of coordination among Citizens is realized, denoted  $r_t \in \{0, 1\}$ . The probability that Citizens are sufficiently coordinated at date  $t$  (i.e.  $r_t = 1$ ) depends on the strength of nationhood:

$$q(N_t) \equiv \Pr[r_t = 1 \mid N_t] = (1 - N_t) \cdot q_L + N_t \cdot q_H \quad (2)$$

where  $0 \leq q_L < q_H \leq 1$ . That is, Citizens pose a threat to the Elite ( $r_t = 1$ ) with probability  $q_L$  if nationhood is weak ( $N_t = 0$ ) and with probability  $q_H$  if nationhood is strong ( $N_t = 1$ ).

Having observed the Citizen threat, the Elites choose redistribution policy. This involves taxing output from the Elite and transferring  $G_t$  units of output to Citizens. Importantly, as described above, redistribution is costly.

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<sup>1</sup>For instance, it helps clarify that our claim that a strong state promotes nation-building does not rely on the costs of nation-building being lower under stronger states.

Following the redistribution policy, Citizens decide whether to revolt. Doing so allows Citizens to use their superior numbers to violently take  $y$  units of output, but destroys assets in the process. For simplicity, we assume that assets are entirely and permanently destroyed and that the violence is severe in the sense that the Elites get a violence disutility of  $-\infty$  so that they always prefer to avoid the possibility of revolution. Thus, the game essentially ends once a revolution occurs, with Citizens getting a continuation payoff of  $y$  and Elites getting a continuation payoff of  $-\infty$ . Thus, our model focuses on the incentives of the Elite to avoid Citizen threats via output redistribution and investments in state capacity and nation-building.

If there has been no revolt and the Elite transfer  $G_t$  then Citizens consume  $G_t$  and the Elite consume  $Y - C(G_t|S_t, X_t)$ . If an agent, Elite or Citizen, consumes  $c_t$  in period  $t$  then their utility is simply:

$$U \equiv \sum_{t=0}^{\infty} \beta^t c_t \quad (3)$$

where  $\beta \in [0, 1)$  is the discount factor.

The timing is summarized as follows.

1. Given  $N_{t-1}$ , the Elite choose  $X_t \geq 0$ ,  $S_t \in \{0, 1\}$  and  $N_t \in \{N_{t-1}, 1\}$ .
2. Citizen coordination capacity,  $r_t \in \{0, 1\}$ , is realized.
3. Elite choose redistribution amount,  $G_t \in [0, X_t]$ .
4. Citizens decide whether to mount a revolt.
5. Consumption occurs, and if Citizens do not revolt then the same sequence is repeated in the following period.

Our equilibrium concept is Markov Perfect Equilibrium, with  $N_{t-1}$  as the relevant state variable.

To save on notation in the analysis that follows, we impose an obvious outcome from the start. The Markov structure implies that, given  $\{S_t, N_t\}$ , the Elite will make one of two possible transfers within the period, depending on whether Citizens are a threat. To avoid a revolt, the Elite will clearly set  $X_t$  equal to the larger of the two possible transfers.

## 2.2 Analysis: Exogenous Nation- and State-Building

We begin by deriving equilibria under exogenous state capacity and nationhood,  $S$  and  $N$  respectively. An equilibrium is characterized by a transfer function,  $G^*(r_t)$ , whereby Citizens receive a transfer of  $G^*(r_t)$  whenever the Citizen threat is  $r_t$ , and this costs the Elite  $C^*(r_t) \equiv C(G^*(r_t)|S)$ .

For a given threat level,  $r_t$ , the equilibrium transfer is the minimal value of  $G$  such that Citizens are dissuaded from revolution. That is,  $G^*(r_t|N)$  is the minimal value of  $G$  such that:

$$G + \beta \cdot [q(N) \cdot V_C^{(1)}(N) + (1 - q(N)) \cdot V_C^{(0)}(N)] \geq r_t \cdot y \quad (4)$$

where  $V_C^{(r)}(N)$  is equilibrium value for Citizens when  $r \in \{0, 1\}$ .

**Proposition 1.** *Fix  $\{N, S\}$ . The unique Markov equilibrium involves transfers*

$$G^*(r_t|N) \equiv r_t \cdot G(N), \text{ where } G(N) \equiv \frac{1}{1 + \frac{\beta}{1-\beta} \cdot q(N)} \cdot y. \quad (5)$$

The ex ante (before citizen threat is realized) welfare to Citizens is

$$V_C(N) \equiv q(N) \cdot V_C^{(1)} + (1 - q(N)) \cdot V_C^{(0)} = \frac{q(N) \cdot G(N)}{1 - \beta}. \quad (6)$$

**Corollary 1.** *Nationhood raises the probability of making a transfer but lowers the magnitude of the transfer. Nationhood raises the expected transfer and thus Citizen welfare.*

The first part follows from the fact that  $G(N)$  is decreasing in  $N$ . The second part follows from the fact that  $q(N) \cdot G(N)$  is increasing in  $N$ .

Consistent with the intuition from [Acemoglu and Robinson \(2000, 2001\)](#), an investment in nation-building, higher  $N$ , means a higher chance of posing a threat, ensuring transfers will be more common in future, thereby requiring a lowering current transfer to dissuade rebellion.

The effect of nationhood on Elites depends on the relative *costs* of the transfers. The expected cost facing Elites can be written

$$\mathcal{C}(N, S) \equiv S \cdot \xi + F(G(N)) + q(N) \cdot \kappa(S) \cdot G(N) \quad (7)$$

$$= S \cdot \xi + [c + q(N) \cdot \kappa(S)] \cdot G(N). \quad (8)$$

The ex ante (before citizen threat is realized) welfare for Elites is

$$V_E(N, S) \equiv q(N) \cdot V_E^{(1)}(S, N) + (1 - q(N)) \cdot V_E^{(0)}(S, N) = \frac{Y - \mathcal{C}(N, S)}{1 - \beta}, \quad (9)$$

where  $V_E^{(r)}(S, N)$  denotes the equilibrium payoff to Elites when  $r \in \{0, 1\}$ . In short, the Elites' incentive for nation-building and state-building depend on the properties of  $\mathcal{C}(N, S)$ . We now turn to this issue.

### 2.3 Analysis: Endogenous Nation-Building

We now analyze the case in which nation-building is endogenous but state-building remains exogenous. The first result here demonstrates that *state-building promotes nation-building*.

**Proposition 2.** *Nation-building occurs with probability*

$$\sigma^* \equiv \max \left\{ 1 - \frac{\kappa(S)}{\beta \cdot [c + \kappa(S)]}, 0 \right\}. \quad (10)$$

State-building promotes nation-building in the sense that  $\sigma^*$  is weakly increasing in  $S$  (strictly when  $\sigma^* > 0$ ). Intuitively, nation-building is costly insofar as the expected transfer is larger, but this is less costly under high state capacity.

It also demonstrates that there is no equilibrium in which nation-building occurs with probability 1. Intuitively, if such an equilibrium did exist then Elites would always have a strictly profitable deviation to not nation-build: Citizen expectations are unchanged (the future will unfold under nationhood) so transfers are unchanged, but the deviation reduces the probability that the Citizens are a threat and thus the probability that the transfer is required.

Furthermore, the result demonstrates that nation-building is promoted by a higher  $\beta$ , a higher  $c$ , and a lower  $\kappa$ .

**Corollary 2.** *Nation-building with positive probability requires  $c > 0$ . In particular, nationhood will emerge (eventually) if and only if*

$$c > c_S \equiv \frac{1 - \beta}{\beta} \cdot \kappa(S). \quad (11)$$

The general lesson here is that nation-building requires that the Elite suffer additional (negative) consequences from needing to make a particularly large transfer. Here it is because of set-up costs.<sup>2</sup>

## 2.4 Analysis: Endogenous State-Building

We now analyze the opposite case in which state-building is endogenous but nation-building remains exogenous.

State-building is essentially a static problem, concerned with minimizing expected costs. Given  $N$ , state building is preferred if  $\mathcal{C}(1, N) \leq \mathcal{C}(0, N)$ . Simple manipulation of (8) gives us the following.

**Proposition 3.** *Given  $N$ , state-building is optimal if and only if*

$$\xi \leq \xi_N \equiv (\kappa - 1) \cdot q(N) \cdot G(N). \quad (12)$$

That is, *nation-building promotes state-building*:  $\xi_0 < \xi_1$ . Intuitively, the benefit of state-building is increasing in the expected transfer, and this is larger under nationhood.

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<sup>2</sup>Alternatives include convex transfer costs or risk aversion. Another possibility is to assume that the probability of an elite surviving to the next period depends on the Elite's after-tax income.



As expected, state-building is promoted by a low  $\xi$  and high  $\kappa$ .<sup>3</sup> State-building is also promoted by a lower  $\beta$ .

## 2.5 Analysis: Endogenous Nation- and State-Building

We now analyze the case where both nation-building and state-building are endogenous. The results from the previous sections can be readily applied to derive conditions under which state-building does not respond to nation-building. These are summarized in Figure 1. That is:

- If  $\xi \geq \xi_1$  and  $c \leq c_0$  [i.e. region A], then equilibrium involves no state building and no nation building.
- If  $\xi \geq \xi_1$  and  $c \geq c_0$  [i.e. region B], then equilibrium involves no state building and eventual nation building.
- If  $\xi \leq \xi_0$  and  $c \leq c_1$  [i.e. region E], then equilibrium involves state building and no nation building.
- If  $\xi \leq \xi_0$  and  $c \geq c_1$  [i.e. region F], then equilibrium involves state building and eventual nation building.

This leaves only the cases where  $\xi \in (\xi_0, \xi_1)$ . Such cases display the complementarity emphasized above: state-building occurs if and only if nation-building occurs.<sup>4</sup> Here there are two possibilities: nation building eventually occurs or it does not.

**Proposition 4.** *Suppose  $\xi \in (\xi_0, \xi_1)$ . Then equilibrium involves state building if and only if nation building has occurred. Nation building eventually occurs if and only if*

$$\xi < \bar{\xi}(c) \equiv \frac{c - c_1}{c_0 - c_1} \cdot \xi_1 + \left(1 - \frac{c - c_1}{c_0 - c_1}\right) \cdot \xi_0. \quad (13)$$

In terms of Figure 1, this result describes regions C and D. In both cases state-building occurs if and only if nation-building occurs. The difference is that nation-building only occurs in region D.

One implication of this is that, for values of  $c \in (c_1, c_0)$  and  $\xi \in (\bar{\xi}(c), \xi_0)$ , a society starting with a low state capacity will transition to nationhood eventually but *only* because of the endogenous response of state capacity.

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<sup>3</sup>For instance,  $\kappa$  is high when the state is busy fighting wars (it is even more difficult for a weak state to raise taxes in the middle of conflict), and thus wars promote state building (for reasons distinct from those emphasized by Tilly).

<sup>4</sup>There will never exist an equilibrium in which state- and nation-building act as substitutes in the sense that state-building occurs if and only if nation-building has not occurred.

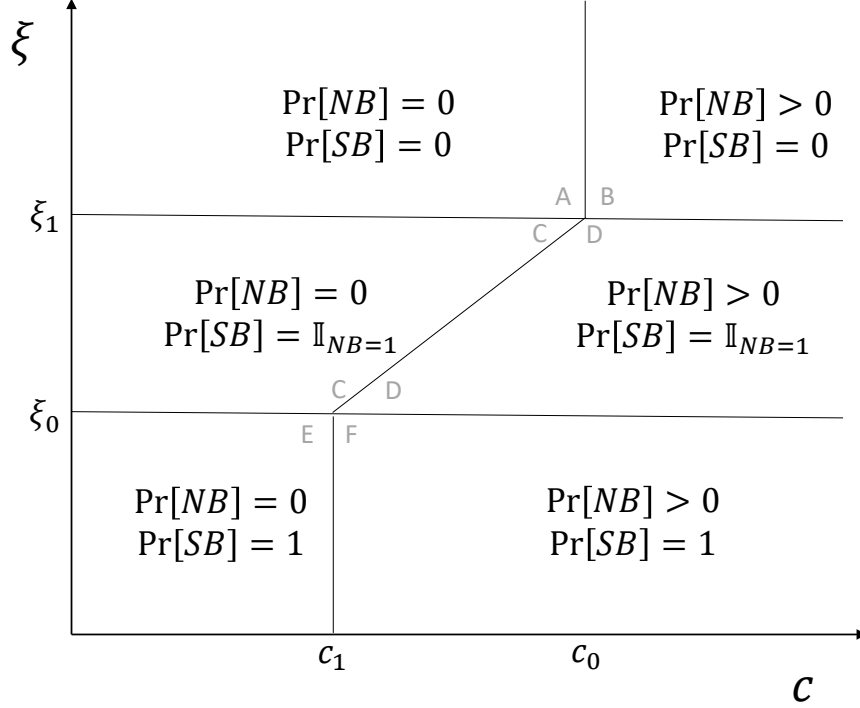


Figure 1: Summary of Equilibrium Outcomes

Another related implication is that an exogenous increase in  $c$  can induce state-building (even though, by construction,  $c$  has no direct effect on state-building incentives). For instance, a shift from region C to region D.

Similarly, an exogenously lower cost of state building ( $\xi$ ) can induce nation-building (even though, by construction,  $\xi$  has no direct effect on nation-building incentives). For instance, a shift from region C to region D or F.

### 3 A Discussion of Empirical Evidence

This section briefly outlines how our model aligns with existing empirical evidence. Historical examples in support of our theory could be divided in two groups. First are those studies that find a connection between rise of nation-states and more autonomy and political voice for citizens.

[Arendt \(2017\)](#) believes that nation-states were precursors of democracy and “the nation-state comes into being when the nation takes possession of the state and the apparatus of government.” She conjectures that the equality of citizens against the law regardless of their ethnic or religious background was quite an achievement for Western European countries. For [Tilly \(1990\)](#) transitioning from the city-states and empires to national-states in Europe became possible only with the intense struggles and bargaining between rulers and their citizens. He argues that nation building campaigns of the ruling elite could not go forward

without making frequent concessions against the demands of the citizenry.

In their empirical work, [Johnson \(2015\)](#), [Johnson and Koyama \(2017\)](#), and [Blanc and Kubo \(2021\)](#) also provide support for the relationship between state-building and nation-building. They show how underdevelopment and lack of state capacity were also associated with weaker national identification and rulers had to push their nation-building and state-building agenda at the same time. In his famous work *Peasants into Frenchmen* [Weber \(1976\)](#) provides more evidence on how increasing participation of local groups into national politics were an important channel of nation building efforts in France. He shows how in the aftermath of nation building campaigns in France, investments in education and infrastructures also enabled peasants to get more involved with politics at national level for the first time in history.

A similar argument is provided in [Acemoglu and Robinson \(2020\)](#). They argue that a stable path to economic development needs inclusive institutions and these institutions in-turn need a balance of power between society and state to flourish.

The flip side of our theory is story of those countries that lacking in state capacity chose not to invest in nation-building soon enough. [Tilly \(1990\)](#) notes how rulers of Russian Empire first chose the path of coercion over bargaining with their citizens. These choices resulted in them evolving more and more as coercive and extractive empires instead of transitioning to national-state as their counterparts did in Western and Northern Europe. This pattern only changed later in 19th century when threats of revolutions were so severe that the empire could not suppress them anymore. They had to take some actions to become more representative and started to launch their nation-building campaigns too.

An important point here is the story of those stateless nations across the world. [Hauk and Ortega \(2021\)](#) provide an example of people in Catalonia in their relation to the elites in Spain and in Catalonia. They argue that the presence of a rather strong sense of nationhood among the Catalans could be related to the more developed economy and higher regional state capacity in Catalonia. This in-turn allowed for establishing an exchange relationship between citizens and the bourgeois elites in Catalonia. They provide evidence of a faster rise in literacy rates in Catalonia compared to other parts of Spain, asserting that the Catalan industrial elites were more keen on investing in public education while the broader, more agrarian, political elites in Spain were resisting these investments.

We have already discussed how public education is considered to be the main tool of nation-building in the literature. Via the lens of our model, education is more a tool for teaching civic values as opposed to raw indoctrination. The togetherness and shared experience of learning can also raise citizens connectedness and result in a more coordinated citizenry. [Alesina et al. \(2021\)](#) provides a great set of historical examples on the relationship between

threat of democracy and investments of states in public education. They provide historical evidence on this relationship for various countries in Europe, Latin America, Asia and Middle East and North Africa. In their account of France, Italy, England and Prussia in Europe, they show how specter of democracy forced the ruling elites to start educating citizens to be more loyal to their elites and their country. For [Alesina et al. \(2021\)](#), however, education is still mainly about indoctrinating citizens. While we share the premise of threat of citizens with their study, we also believe most of the evidence provided by these authors could also be interpreted differently. In our interpretation, nation-building is not entirely separate from citizens gaining more power and authority. Public education is a long-term investment by the governments that also contributes to those citizens becoming more decisive in politics. This is also consistent with the case of Chile discussed by [Paglayan \(2022\)](#). In Chile government started its investments in public primary schooling in response to domestic uprisings. [Paglayan \(2022\)](#) believes these interventions were designed to indoctrinate citizens of those regions where its opposition had the strongest support. Here too existence of a strong opposition implies stronger resistance rather than subordination.

[Bandiera et al. \(2019\)](#) give an example from [Kaestle \(1983\)](#) on public education in the Early Republic in the US. They show how leaders of the republic proposed educating the new residents of the country to “teach them to express discontent through elections instead of anarchy.” This example is particularly enlightening. [Bandiera et al. \(2019\)](#) present this case as evidence of nation-building plans of rulers for new migrants. This is true that teaching a group of people to participate in formal politics instead of rioting is probably cost-saving for the rulers, but for those new migrants their involvement in politics can have empowering effects too. It is noteworthy that these interventions also came about after violent rebellions in the preceding years.

## 4 Conclusion

We develop a simple dynamic theory of nation-building with three key features that complement existing approaches. First, nation-building affects the coordination *technology*, rather than preferences, of Citizens. Second, Elites engage in nation-building because of an internal threat of social conflict with the poorer but more numerous Citizens. Third, incentives to nation-build are tightly bound to issues of state capacity, allowing for a joint analysis of nation- and state-building. We demonstrate a natural complementarity between the two, providing insight into the emergence of *nation-states*. The analysis also reveals how nation-building acts as a substitute for franchise extension in the sense that it grants Citizens power over economic policy despite the absence of de jure political power.

Although we believe these model ingredients are attractive, a more compelling case requires a more detailed engagement with the empirical evidence. We leave this to future work.

## APPENDIX

### A Proofs

**Proof of Proposition 1.** The result follows by finding the  $G$  such that (4) holds with an equality, using the fact that the values are those that satisfy

$$V_C^{(1)}(N) = G^*(1) + \beta \cdot [q(N) \cdot V_C^{(1)} + (1 - q(N)) \cdot V_C^{(0)}] \quad (14)$$

$$V_C^{(0)}(N) = G^*(0) + \beta \cdot [q(N) \cdot V_C^{(1)} + (1 - q(N)) \cdot V_C^{(0)}]. \quad (15)$$

□

Equation (9) arises from the fact that the values satisfy

$$V_E^{(1)}(S, N) = Y - C^*(1|N, S) + \beta \cdot [q(N) \cdot V_E^{(1)}(S, N) + (1 - q(N)) \cdot V_E^{(0)}(S, N)] \quad (16)$$

$$V_E^{(0)}(S, N) = Y - C^*(0|N, S) + \beta \cdot [q(N) \cdot V_E^{(1)}(S, N) + (1 - q(N)) \cdot V_E^{(0)}(S, N)]. \quad (17)$$

### Proof of Proposition 2.

Nation-building with probability zero is optimal if and only if:

$$V_E(1, S) \leq V_E(0, S) \quad (18)$$

This boils down to a simple comparison of expected costs and holds when  $\mathcal{C}(0, S) \leq \mathcal{C}(1, S)$ . Using (8), this condition is:

$$[c + q_L \cdot \kappa(S)] \cdot G(0) \leq [c + q_H \cdot \kappa(S)] \cdot G(1), \quad (19)$$

which can be written as

$$\kappa(S) \geq c \cdot \frac{G(0) - G(1)}{q_H \cdot G(1) - q_L \cdot G(0)} \quad (20)$$

$$= c \cdot \frac{\beta}{1 - \beta}. \quad (21)$$

This is equivalent to

$$1 - \frac{\kappa(S)}{\beta \cdot [c + \kappa(S)]} \leq 0. \quad (22)$$

Now we search for an equilibrium in which Elites engage in nation-building with an interior probability. Prior to nation-building occurring, Citizens get a transfer  $\hat{G}$  that makes them indifferent to rebelling. Thus  $\hat{G}$  satisfies

$$\hat{G} + \beta \cdot [\sigma \cdot V_C(1) + (1 - \sigma) \cdot \hat{V}_C] = y, \quad (23)$$

where  $\sigma \in (0, 1)$  is the probability that Elites will nation-build and where  $\hat{V}_C$  is the Citizens' equilibrium value in this phase and therefore satisfies

$$\hat{V}_C = q_L \cdot \hat{G} + \beta \cdot [\sigma \cdot V_C(1) + (1 - \sigma) \cdot \hat{V}_C]. \quad (24)$$

This gives

$$\hat{G}(\sigma) \equiv \frac{1 - \beta}{1 - \beta \cdot (1 - q_H)} \cdot \frac{1 - \beta \cdot (1 - q_H) \cdot (1 - \sigma)}{1 - \beta \cdot (1 - q_L) \cdot (1 - \sigma)}, \quad (25)$$

which is a decreasing function of  $\sigma$ . That is, Citizens require a lower transfer as the probability of nation-building in the future increases.

In order to mix, Elites must be indifferent:

$$[c + q_L \cdot \kappa(S)] \cdot \hat{G}(\sigma) = [c + q_H \cdot \kappa(S)] \cdot G(1), \quad (26)$$

That is,  $\sigma^*$  satisfies:

$$\frac{c + q_L \cdot \kappa(S)}{c + q_H \cdot \kappa(S)} = \frac{1 - \beta \cdot (1 - q_L) \cdot (1 - \sigma^*)}{1 - \beta \cdot (1 - q_H) \cdot (1 - \sigma^*)}. \quad (27)$$

It must be that  $\sigma < 1$ ; the left side is less than unity whereas the right side is increasing in  $\sigma$  achieving unity at  $\sigma = 1$ . This implies that there is no equilibrium in which nation-building occurs with probability 1.

We therefore only need find the condition under which  $\sigma > 0$ , but this is equivalent to  $S > S^*$ .

Since the right side of (27) increases in  $\sigma$  (and is independent of  $S$ ) whereas the left side increases in  $S$  (and is independent of  $\sigma$ ), we have that  $\sigma$  is increasing in  $S$  when  $\sigma > 0$ .

Explicitly, we have

$$\sigma^* = 1 - \frac{\kappa(S)}{\beta \cdot [c + \kappa(S)]}. \quad (28)$$

The expression in the statement of the proposition summarizes (22) and (28). □

**Proof of Corollary 2.** From (10) we see that  $\sigma^* > 0$  only if  $c > \frac{1-\beta}{\beta} \cdot \kappa(S) > 0$ . □

**Proof of Proposition 4.**

In order for the Elite to switch to state-building only once nation-building has occurred, from equation (12), we require

$$\xi_0 \leq \xi \leq \xi_1. \quad (29)$$

The more involved condition is the one under which the Elite want to nation-build with a positive probability given that state-building will not occur until nation-building occurs. Indifference requires:

$$[c + q_L \cdot \kappa] \cdot \hat{G}(\sigma) = [c + q_H] \cdot G(1) + \xi \quad (30)$$

where  $\hat{G}(\sigma)$  is as defined previously. This is

$$\xi = c \cdot [\hat{G}(\sigma) - G(1)] + [\kappa \cdot q_L \cdot \hat{G}(\sigma) - q_H \cdot G(1)]. \quad (31)$$

In order for  $\sigma^* < 1$  we require  $\hat{G} > G(1)$ , which is

$$\xi > \underline{\xi} \equiv \kappa \cdot q_L \cdot \hat{G}(\sigma) - q_H \cdot G(1). \quad (32)$$

But, since  $\underline{\xi} < \xi_0$ , this is implied by (29). Thus, as before, there is no equilibrium with  $\sigma^* = 1$ .

In order for  $\sigma^* > 0$ , we require  $\hat{G} < G(0)$ , which is

$$\xi < \bar{\xi} \equiv c \cdot [G(0) - G(1)] + [\kappa \cdot q_L \cdot G(0) - q_H \cdot G(1)]. \quad (33)$$

It is straightforward to verify that this simplifies to the expression in the statement of the proposition.  $\square$

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