Nation-State Building

Chris Bidner[*]   Esmaeil Izadi[†]

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Abstract

We develop a simple dynamic theory of Nation-States in which Elites choose investments in both State-building and Nation-building. In our approach nation-building works towards homogenization of citizens by making it easier for them to coordinate and demand for more frequent redistributions. A more coordinated citizenry will accept lower transfers in the current period, making it possible for the Elites to pacify their threats. Our mechanism puts the emphasis on social conflicts rather than external threats in the emergence of nation-building investments. It also highlights the role of nation-building in changing the (coordination) technology rather than altering the preferences and indoctrinating the citizens. We define state capacity with its role in lowering the cost of redistribution and show how investments in nation-building can incentivize the Elite to further invest in state-building. Nation-State building is thus embodiment of this complementarity.

Key words: Nation-Building, Political Economy, Development, State-Building

1 Introduction and 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 Schueler, 2018). One way in which a common identity emerges is via an Elite-driven process of *nation-building* (Mylonas and Tudor, 2021).

Much of the existing research proposes that nation-building operates by (i) elites attempts (e.g. via the provision of mass education or the insistence upon an official language) to manipulate

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[*]Department of Economics, Simon Fraser University. email: `cbidner@sfu.ca`

[†]Department of Economics, Simon Fraser University. email: `eizadi@sfu.ca`

the *preferences* of Citizens (Almagro and Andrés-Cerezo, 2020; Hauk and Ortega, 2021), (ii) in order to manage external threats (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 without relying on preference change or external threats. We keep preferences fixed and let elites use nation-building to change citizen coordination and, with it, the form of conflict they face. In a fragmented polity, challenges are infrequent but severe: when a threat arrives, the concession needed to avert breakdown is large. Lowering coordination barriers through a shared language, curriculum, or common civic experiences makes mobilization more predictable. Demands then can surface more often but are smaller and easier to deliver with standing administrative arrangements rather than emergency set-ups.

State-building in this framework is an investment in tax and delivery capacity that lowers the marginal cost of routine transfers. The payoff depends on expected transfer volume. Nation-building raises expected use by turning rare crises into regular claims, which makes capacity worth paying for. In turn, once capacity is in place and routine transfers are cheap to deliver, elites have stronger incentives to sustain nation-building since predictable, budgetable concessions dominate high-risk, one-off payouts. This complementarity helps explain why nation and state often grow together. Wimmer (2018) argues that modern nation-states are historically recent formations in which administrative capacity and efficient public-good provision develop alongside the consolidation of a cohesive national community.

Our notion of state capacity is closely related to the modern political-economy literature that treats capacity as the outcome of deliberate investment. In particular, Besley and Persson (2009, 2011) distinguish fiscal capacity (raising and administering taxes) and legal capacity (enforcing property rights) and show why these are complementary and are built when the expected value of public funds is high. The capacity we model maps most directly to their fiscal pillar: a reduced-form administrative technology that makes redistribution cheaper. We abstract from a separate legal-capacity stock to keep the focus on internal conflict and redistribution, and we model capacity as a simple, per-period fixed-cost choice so the threshold logic behind when to build is transparent. The link is straightforward: capacity is built when it is expected to be used more. Our contribution is to endogenize that expected use through nation-building as a coordination technology, which explains why investments in state-building and nation-building can move together like fiscal capacity moves with legal capacity in Besley and Persson (2009)'s modeling.

Moreover, a key aspect of our model is where nation-building acts to strengthen the *common front* that Tilly (1990) notes:

> "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 the spirit of Acemoglu and Robinson (2000, 2001), this in turn allows citizens to extract greater resources from the Elite via redistributive taxation.

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

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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.[1]

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[1]Nation-building in our setup is a coordination technology. Once elites lower barriers through shared experiences, citizens inherit focal points that persist across cohorts. These are hard to unwind, so we treat nation-building as effectively irreversible. We also keep it directly costless to make the consequences do the work: the price of nation-building shows up as a higher expected flow of routine redistribution rather than as a separate cost item.

State-building, by contrast, is the decision to stand up and run an administrative apparatus that delivers transfers cheaply. That is resource intensive in every period and, in practice, governments can scale it up or down with budgets, so we model it as costly and reversible. The complementarity with nation-building then follows: nation-building raises the expected use of the apparatus, which makes paying for capacity worthwhile. Besley and Persson (2009) treat state capacity as costly, persistent stocks built by investment; our state-building maps to their fiscal pillar but operates at an operational margin. If we also adopted their irreversibility for capacity, the complementarity would likely be even stronger: sunk capacity would raise the payoff to sustaining nation-building so the apparatus is used, and nation-building would raise the returns to the prior investment in capacity.

The Elite at this time also choose state capacity, $S_t \in \{0, 1\}$. The capacity to make transfers entails a set-up cost.[2] 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.[3] 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

$$C(G_t \mid S_t, X_t) \equiv F(X_t) + \kappa(S_t) \cdot G_t \tag{1}$$

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:

$$q(N_t) \equiv \Pr[r_t = 1 | N_t] = (1 - N_t) \cdot q_L + N_t \cdot q_H \tag{2}$$

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.

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 pacify 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

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[2]This is also similar to what Tilly (1990) and more recently Gennaioli and Voth (2015) interpret as fiscal centralization. Dincecco (2009) then argues that fiscal centralization by the national government became possible only after large-scale administrative reforms that established new state bureaucracies. Our theory puts the emphasis on nation-building rather than state consolidation, but shares the need for larger administrative capacities with them.

[3]Such costs include administrative costs but also, for example, deadweight losses.

utility is simply:

$$U \equiv \sum_{t=0}^{\infty} \beta^t c_t \tag{3}$$

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:

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

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

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

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

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

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

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 as $r = 1$ becomes more probable. 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

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

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

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

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

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, setting $N_t = 1$, occurs with probability*

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

State-building promotes nation-building in the sense that σ^* 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 where transferring each unit is cheaper.

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 β, a higher c, and a lower κ. A higher β implies that Elites place greater value on future payoffs. A higher c raises the fixed cost of setting up transfers, which increases the value of avoiding unnecessary redistribution through better coordination. A lower κ, which governs the variable cost of redistribution under low state capacity, reduces the overall cost of transfers making investing in nationhood more appealing to the Elites.

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

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

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.[4]

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*

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

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.

As expected, state-building is promoted by a low ξ and high κ.[5] State-building is also promoted by a lower β.

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[4]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.

[5]For instance, κ 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).
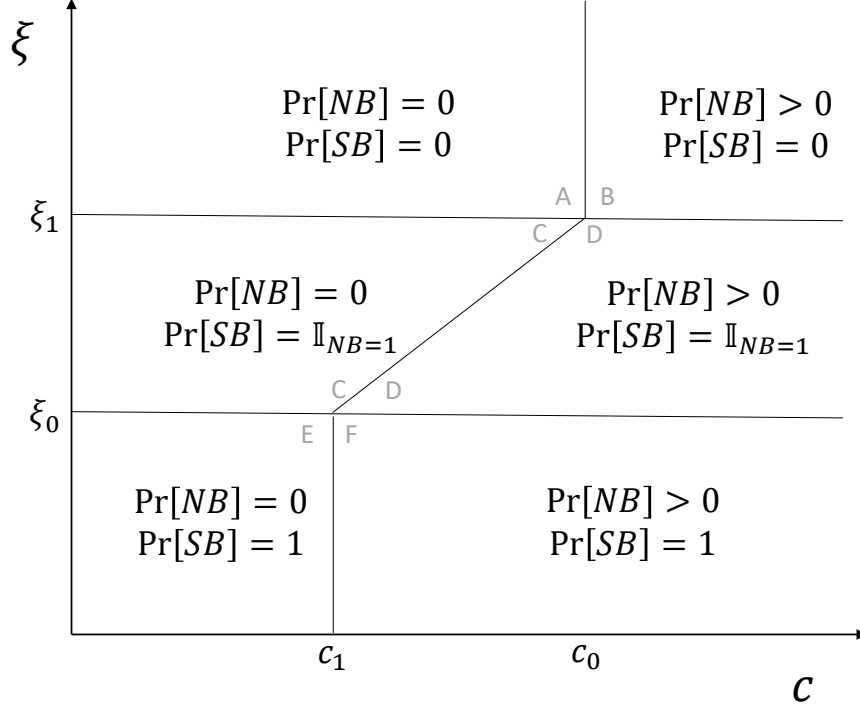
Figure 1: Summary of Equilibrium Outcomes

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.[6] Here there are two possibilities: nation building eventually occurs or it does not.

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[6]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.

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*

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

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 $\xi \in (\xi_0, \overline{\xi}(c))$, a society starting with a low state capacity will transition to nationhood eventually but *only* because of the endogenous response of state capacity.

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 (ξ) can induce nation-building (even though, by construction, ξ 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 outlines how our model aligns with existing empirical studies and historical experiences. We organize the discussion around two key themes of our propositions: the relationship between nation-building and citizen coordination, and the complementarity between state-building and nation-building.

Arendt (2017) was one of the first scholars to point out the empowering effects of nation-states. She conjectured that "it is thanks to the nation-state that even the lower strata of the population were emancipated, ..., although there was still a ruling class, which took care of the nation's public affairs on its behalf." For Arendt (2017) nation-states and democracies were very similar in the sense that they both gave citizens a more active role in politics. She goes even further when defining the nation as the product of the nation-states: "the nation, that is, the people who owed their political emancipation to the nation-state." This aligns with the mechanism in our model where investments in nation-building increase the probability that citizens are coordinated and capable of demanding redistribution.

Discussing Western European countries, Tilly (1990) shows how transitioning from city-states and empires to national-states in Europe became possible only with intense struggles and bargaining between rulers and 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 our framework, this reflects the idea that citizen threats become more frequent under strong nationhood, making transfers more common and increasing the need for institutional responses.

The case of France, for instance, reflects a trajectory in which increasing national identification and redistribution pressures moved together. In his classic study *Peasants into Frenchmen*, Weber (1976) provides further evidence on how increasing participation of local groups in national politics was an important channel of nation-building efforts in France. He asserts that "the transition from traditional local politics to modern national politics took place when individuals and groups shifted from indifference to participation because they perceived that they were involved in the nation." As Weber puts it, this involvement in the form of more "political dispute, even rebellion, on the national level played its part in diminishing the significance of local solidarities". Investments in education and infrastructure were key to this process, functioning as levers of coordination that raise the need for elite responses.

The emphasis on the political participation aspect of national identity is also what convinces Tamir (2019) that the origins of modern democratic states and their respective nations are interconnected. This reflects the notion that political integration and national identity emerge simultaneously and reinforce each other through institutionalized exchanges between rulers and ruled. It is also consistent with the argument provided by Acemoglu and Robinson (2020), who argue that a stable path to economic development needs inclusive institutions and that these institutions in turn need a balance of power between society and state to flourish. Our model shows that such balance can arise from the collective action capacity of citizens, which is itself shaped by nation-building efforts of the state.

An important point here is that our arguments can be valid in the context of nations that are not recognized as formal nation-states. Hauk and Ortega (2021) provide an example of people in Catalonia in their relation to elites in both Spain and Catalonia. They argue that the presence of a rather strong sense of nationhood among the Catalans is 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.

Besides the motivations behind these processes, the tools of nation-building also matter. Public education is widely recognized as the main tool of nation-building in the literature. Via the lens of our model, education and shared experience of learning can increase citizens' sense of political belonging and cohesion.

In his historical work on the relationship between education and state formation, Green (2013) examines the case of England, asserting that educational reform was a reaction to political conflict. He emphasises that while the working-class organizations were demanding public education and pushing from below, it was also important for the elites who implemented that, to keep the working-classes in check and to avoid their advances.

In economics, Alesina et al. (2021) provide a set of historical examples on the relationship between the threat of democracy and state investment in public education. They provide evidence for various countries in Europe, Latin America, Asia, and the Middle East and North Africa. In their account of France, Italy, England, and Prussia, they show how the 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 their premise regarding the threat from below, we also believe the evidence they provide could 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 governments that also contributes to those citizens becoming more decisive in politics. This is consistent with the case of Chile discussed by Paglayan (2022). In Chile, the government started its investments in public primary schooling in response to domestic uprisings. Paglayan (2022) believes these interventions were designed to indoctrinate citizens in regions where opposition was strongest. Here too, however, the presence of strong opposition implies coordinated and assertive citizen groups rather than passive subordinates. These investments, while defensive, nonetheless enhanced political engagement.

Bandiera et al. (2019) cite Kaestle (1983) on public education in the early United States, where leaders proposed educating new residents to "teach them to express discontent through elections instead of anarchy." This example is particularly enlightening. Bandiera et al. (2019) present this as a case of nation-building for new migrants. Teaching a group to participate in formal politics instead of rioting is likely cost-saving for the rulers, but for the new residents their political incorporation can have real empowering effects. It is noteworthy that these interventions followed episodes of violent rebellion.

Taken together, these cases illustrate how rising coordination capacity, often built through public education or shared political experiences, can push elites to respond with institutional concessions and redistribution. But as our model shows, these dynamics unfold very differently depending on the costs and constraints facing the state. When the conditions for efficient redistribution are not in place, coordination pressures alone may not trigger nation-building or inclusive reform. This brings us to the second key implication of the model: the complementarity between nation-building and state-building.

When it comes to the relationship between state-building and nation-building, for Tilly et al. (1975), these two concepts were not distinct processes but part of a unified historical trans-

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formation, often referred to collectively as the formation of national states. The two are used interchangeably in his account. In line with this perspective, empirical studies by Johnson (2015), Johnson and Koyama (2017), and Blanc and Kubo (2021) provide evidence of a close relationship between state capacity and national identification. They show that underdevelopment and limited state capacity were associated with weaker nationhood, prompting rulers to pursue both agendas simultaneously. Our model departs from this unified treatment by analytically distinguishing between state-building and nation-building, allowing their interaction to emerge endogenously. This distinction helps uncover the conditions under which progress in one domain becomes a catalyst for the other, rather than assuming they always evolve together.

The other side of our complementarity conjecture is the story of those countries that, lacking state capacity, chose not to invest in nation-building soon enough. Tilly (1990) notes how rulers of the Russian Empire initially chose coercion over bargaining with their citizens. These choices resulted in an increasingly extractive and repressive empire, which failed to transition into a *national-state* like its Western and Northern European counterparts. In our model, this corresponds to a situation where both the fixed costs of redistribution and the costs of building state capacity lie outside the range that makes either investment individually optimal. This pattern only changed later in the 19th century when threats of revolution became so severe that the empire could no longer suppress them.

Wimmer (2012) compares the successful nation-building campaign in France to moves beyond ethnic and regional identification with the path that led to the collapse of the Ottoman Empire and asserts that the rise in public good provision and political participation of citizens in France were the key differences.

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.

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

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

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

$\square$

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

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

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

Proof of Proposition 2.

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

$$V_E(1, S) \leq V_E(0, S) \tag{18}$$

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:

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

which can be written as

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

$$= c \cdot \frac{\beta}{1 - \beta}. \tag{21}$$

This is equivalent to

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

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

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

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

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

This gives

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

which is a decreasing function of σ. 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:

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

That is, σ^* satisfies:

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

It must be that $\sigma < 1$; the left side is less than unity whereas the right side is increasing in σ 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 σ (and is independent of S) whereas the left side increases in S (and is independent of σ), we have that σ is increasing in S when $\sigma > 0$.

Explicitly, we have

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

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

$\square$

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

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

$$\xi_0 \leq \xi \leq \xi_1. \tag{29}$$

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:

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

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

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

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

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

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

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

It is straightforward to verify that this simplifies to the expression in the statement of the proposition. □

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