A Theory of Political Favoritism and Internal Conflicts

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Abstract

Building on evidence from both contemporary and historical contexts, our theoretical analysis shows how favoritism in government policy naturally arises and shapes conflicts in weakly-institutionalized societies, where the government can discriminate among different social groups and the tax extraction is only constrained by groups' violence potential. In equilibrium, the government undermines the subjects' ability to coordinate against taxation by creating a ranking that grants higher status, thus lower taxes, to stronger groups. Such divide-and-conquer strategy (favoritism), which emerges in the shadow of violence, motivates a novel class of conflicts where resource appropriation/destruction is aimed at climbing the government's ranking. Moreover, since the strongest group gains the largest support for the rulership, groups fight to become the strongest. Finally, we study how institutions can foster or hinder internal stability.

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1 Introduction

The practice of organizing social groups into ranks and granting privileges based on relative status, i.e. *political favoritism*, has been a key organizational principle throughout human history. From the Inka to the Chinese Empire, from Medieval Europe to the Swazi society in South Africa, central authorities have typically resorted to political favoritism when dealing with local potentates endowed with political and military power. Despite the relative standing of social groups is much less transparent today, in many areas of the world, rulers are still known to systematically favor some social or ethnic groups at the expense of others, with targeted public spending and taxation. Understanding the dynamics of political favoritism is important not only for the pervasiveness of this practice, but also for its role in shaping internal conflicts. Indeed, many historical accounts see the resentment of the lower ranks of society as a driver of rebellions, and the ambition of social groups to rise in the ranks as a major cause of subjects' infighting and civil wars. Even today, discrimination and political ambitions are observed to fuel internal conflicts.

The objective of our paper is to study the origin of political favoritism and its implications for internal stability. A growing literature studies the political economy of societies where the subjects' violence potential is the only effective constraint on the central authority. However, the current literature cannot account for the pervasiveness of political favoritism, as it focuses on equilibria where the relative standing of subjects does not play any role in the allocation of political rents. Innovating on the existing models, we show that if the ruler is effectively constrained by the ability of subjects to join their forces, then the ruler would optimally assign political rents that depend on how their power ranks with respect to the rest of society. This finding justifies the puzzling yet universal attention devoted to relative standings. Moreover, it enables us to contribute to the literature on internal conflicts, which typically focuses on the incentives of different groups to steal resources from each other or to fight for the rulership. By linking equilibrium payoffs to the subjects' relative powers, political favoritism generates new predictions on conflict behavior that speak to the evidence from both contemporary and historical societies.

The key innovation of our model is that in equilibrium the ruler must discourage the formation of coalitional as well as individual opposition. For this reason, political rents must also reflect the ability of subjects to join with others. This simple logic makes *political favoritism* a robust equilibrium outcome: the equilibrium tax burden on each group depends on its resources and its position (*status*) in a ranking of the subjects endogenously determined by the ruler. In equilibrium, the government would demand lower taxes from higher ranks, implementing a divide-and-conquer strategy: subjects correctly anticipate from the equilibrium offers that, if they were to oppose taxation, they would only find the support of every lower-ranked but no higher-ranked subject. While political favoritism emerges from the government's attempt to impose a provisional social peace and levy taxes without resistance, the dynamics of such strategy crucially shapes the incentives for infighting among subjects. Indeed, under

natural conditions, we show that the ruler's optimal ranking would assign higher status (thus lower tax) to more powerful groups. As a consequence, a second main result of our work is that competition over political rents leads to *status-related conflicts*: when the power of two subjects is sufficiently equal, they have an incentive to start appropriating or destroying each other's resources, anticipating that whoever prevails will then be favored by the government at the expense of the other. Ironically, not even the ruler is immune from the logic of violence that its own policy is generating. Indeed, we show that the ruler's adoption of political favoritism motivates subjects to support (or, at least, not to oppose) any claim that the strongest group in society might have on the rulership. This opens the door to another class of conflict, *hegemonic conflicts*: whenever a rising power is in a position to challenge the hegemony of the ruling group, the two groups would start fighting over resources to come out on top of the other, thus obtaining or cementing the support to be the ruler.

Our model considers a society fragmented in different social groups, the decision units of our framework. Depending on the setting, we can think of such groups as ethnic or identity groups, warlords with their armed sequitur, clans, geopolitical sub-units within empires, kingdoms or principalities, or even organized interest groups such as guilds or corporations within the same geopolitical unit.[1] Each group i is endowed with two types of resources: economic resources (B_i), and military resources (W_i). While only economic resources directly enter the utility functions, military resources are still payoff relevant as they determine the probability of winning any dispute that may arise. The allocation of resources is common knowledge and possibly heterogeneous across different social groups.

Our baseline model consists of two stages: a conflict stage followed by a taxation game. This structure allows us to capture the effect of government policies (optimal taxation) on the pattern of conflicts, without resorting to a more complicated repeated game. In the conflict phase, anticipating the outcome of the taxation game, the different social groups can fight each other to change the distribution of resources and try to secure an higher final payoff. In the taxation game, a group (the government) publicly demands a transfer vector (taxes) from other groups (subjects) who can use their military resources to oppose such demands; a setting that is known as weakly-institutionalized society in the literature on policy-making in the shadow of violence.[2]

In the taxation game, after the government demands taxes, subjects sequentially choose whether to resist or to comply. From the subjects' perspective, resistance is costly but, if successful, it allows involved groups to withhold their portion of taxes. As we allow the success probability of resistance to be increasing in the sum of the military power of all resisting groups, subjects anticipate that their choice to resist may have a *cascade effect*: whenever a subject chooses to resist, it also encourages

[1] We deal with potential membership in multiple groups by assuming that the central authority can target every intersection of groups: not only it can target Italians or merchants, but also the group of all Italian merchants. Limits on the government's ability to discriminate are studied in Section 8.3.

[2] Note that taxes are just an interpretation, our focus is the net effect on each group of all positive and negative implications of government's policies.

others to do so. Moreover, as subjects respond sequentially, the ruler anticipates that it would have to face the opposition of the largest coalition of subjects that individually benefit from resisting. Solving for the optimal tax vector in a setting where subjects are able to form coalitions and there are cascade effects is our main innovation to the framework of weakly-institutionalized societies, and our key contribution to the study of policy-making in the shadow of violence.[3]

Our first main result is that the optimal government policy is characterized by *political favoritism*: the tax burden on each group does not only depend on its resources, but also on its position (*status*) in a ranking endogenously determined by the ruler. First, we show that the optimal policy must not trigger any resistance on path. Thus, not only taxes must make each subject unwilling to resist alone, they must also prevent the formation of resistance cascades, where multiple subjects form a coalition against taxation. One way to achieve this would be to demand a tax so low that no subject would resist even when anticipating that all other subjects would join. However, the government could increase its extraction by offering such low tax only to one group, its favorite. In this way, the government could increase the tax of every other group, as they would anticipate that the favorite subject would never join their resistance. Similarly, the government can single out another subject, its second-favorite, demanding a tax low enough that such group would not join a resistance formed by all other groups but the favorite. Iterating such argument, we show that the optimal way to undermine coordination is to institute a ranking of all subjects, where each position corresponds to a differential taxation treatment.

The optimality of political favoritism might explain the universal yet puzzling attention for relative status and rankings that so clearly emerges from the historical evidence. Moreover, the result also speaks to the pattern of collective action of both contemporary and historical societies. Indeed, note that, consistently with the divide-and-conquer logic of the equilibrium, the government charges each subject the maximum tax that does not induce it to start resisting, knowing that all lower-ranked but no higher-ranked subjects would join. In line with the evidence, this logic implies that more discriminated groups (the lower ranks) should be disproportionately more likely to participate in resistance. Finally, it is possible to show that the divide and conquer logic at the heart of this result was well understood by contemporaries. For instance, political favoritism features prominently in an historical episode presented in "the textbook for Kings" of Late Medieval and Early Modern Europe. In 1465, the King of France was besieged into Paris by a coalition of its magnates. In spite of the magnates' oath to stand for each other's requests, the King made sure to deal with them singly, offering separate agreements to each of them. The King granted all the requests that directly involved the strongest magnate. With the strongest on his side, he could then somewhat erode the requests that pertained to the second strongest. With both the strongest and the second-strongest pushing for peace, the King could

[3]We discuss how our taxation result relates to the literature in Section 3.2. In Section 9 we discuss the possibility of other applications beyond the study of taxation in weakly-institutionalized societies.

deal with the remaining magnates from a position of increasing strength. By acting as a solvent on the solidarity of the magnates, the King's policy successfully imposed a treaty that frustrated the expectations of all but the strongest elements of the coalition.

To increase the empirical relevance of the model and to study the implications for internal conflicts, we characterize how the ranking determined by the ruler relates to the distribution of resources. To this end, we specialize the model by assuming that the probability of successful resistance is given by the proportion of the total military power engaged in the resistance, $\frac{W_{resist}}{W_{tot}}$.[4] Under this specification, we show that the government's optimal ranking of subjects is uniquely determined by the militarization index $\frac{W}{B}$, with higher index corresponding to higher status. As a corollary, once we allow for a natural positive dependence between military and economic resources, we show that taxation is regressive: richer (and thus stronger) subjects are optimally granted higher status and thus a preferential taxation treatment. This justifies the strategy of the King of France who, in the words of our model, assigned a higher rank to stronger magnates. More in general, the finding speaks to another broad pattern that emerges from the historical evidence: political favoritism by central authorities has typically been extremely regressive, playing a prominent role in reinforcing social inequality and even *inducing* social stratification.

As we have seen, political favoritism emerges in the shadow of violence as a way for the ruler to extract the most while preserving social stability. However, the evidence suggests that it may trigger internal conflicts. To analyze the impact of political favoritism on the pattern of infighting, we study the conflict phase, where groups can fight to change the distribution of resources (appropriate or destroy each other's resources), anticipating any effect that this would have on equilibrium taxation. Conflicts are modeled as a (possibly) inefficient transfer of resources from the losing to the winning side, and we assume that stronger subjects are more likely to win; in keeping with the literature, we rule out side payments by assuming limited commitment.[5]

Because conflicts cannot directly affect government policy but only the distribution of resources, we must discuss how political favoritism links equilibrium payoffs to the distribution of resources. From this point of view, it is immediate that the payoff of every subject is increasing in the military power of all lower-ranked subjects (the coalition that it is able to mobilize against the ruler) and decreasing in the power of all higher-ranked subjects (which the ruler can mobilize against it). Thus, from each subject's viewpoint, lower-ranked groups are *supporters* and the others are *oppressors*. Specifically, note that moving up in the ranks would transform oppressors into supporters, inducing a discontinuous reduction in the tax burden. In other words, *status has value*. Because status has value and it is assigned based on the subjects' relative endowments, subjects might be willing to fight for it. To the best of our knowl-

[4]This specification, thoroughly discussed in section 3.3, captures the idea that the success probability of a resistance is negatively affected by non-resisting subjects.

[5]Fearon (1995) and Powell (2006) identify two reasons to prefer conflict over bargaining (side payments): asymmetric information and limited commitment. Our model is based on limited commitment, i.e. the impossibility to commit not to attack in the future.

edge, our theory provides the first formal and rational-agent treatment of the notion of status-related conflicts which is commonly used in fields such sociology, criminology, anthropology, biology and international relations.[6]

One of our key results is that political favoritism generates a new driver of internal conflicts: climbing the government's ranking. The peculiar nature of such conflict motive leads to novel predictions. In line with the evidence from contemporary societies, we find a U-shaped relationship between the similarity of the relative endowments of two groups and their likelihood of fighting. On the one hand, as it is standard in the conflict literature, the incentive to fight is always greater against a weaker subject (an easier prey), thus inequality of powers should motivate infighting. On the other hand, when two groups are sufficiently close in terms of resources, they have an extra-incentive to fight: even a small change in their relative endowments might lead to a change in status, thus a large change in their equilibrium payoff.

Moreover, because competition over status has to do with relative rather than absolute changes in endowments, the objective to climb the ranks can rationalize conflicts where costs are disproportionate to any possible direct material gain. As it turns out, such prediction is not only a theoretical possibility. Studying the endemic infighting among the nobility of Early Modern Germany, Zmora identifies such disproportion as one of their most salient features. In line with our mechanism, the same historian notes that the gap between direct gains and costs can be accounted for once we consider that "many feuders were appointed to high princely offices during or immediately following their feuds," concluding that such conflicts "brought them to the fore and then closer to the prince (..) [and] [t]heir status rose concordantly" (Zmora 2003, pp.116-117). The role of central authorities in indirectly instigating the infighting of their subjects is a bit surprising, considering that they played a prominent historical role in attempting to curb such practice. However, our model shows that, after the conflict, regardless of their ex ante preferences, rulers would optimally react to any change in the distribution of resources, rising up in the ranks and thus increasing the equilibrium payoff of any successful challenger of the social order.

Finally, even when conflicts cannot improve a group's status, the optimal taxation shapes the attitudes of society towards the exercise of violence: as the equilibrium payoffs are a function of the whole distribution of resources, internal conflicts do not only affect the parties directly involved, but everyone else as well. As subjects are hurt by the weakening of their supporters (lower-ranked groups) and benefit from that of their oppressors (higher-ranked groups), they should be expected to provoke, fuel or escalate any conflict that affects their respective elites, while push for a mediated

[6]The concept is used by anthropologists and biologists to describe conflicts within street gangs, youth gangs or social groups of animals, see e.g. Wrangham and Wilson (2004) or Papachristos (2009). It is also widely used by sociologists and historians to discuss internal conflicts and both the pattern of interstate wars or specific episodes such as WWI, see f.i. Renshon (2017), or Chapter 8 in Tortella (2010). Philosophers and political scientists who have discussed these types of conflicts ascribed them to preferences for relative status, in Nietzchean terms "will to power" (Nietzsche, 1967) or "animus dominandi" according to Morgenthau (1948).

solution to any conflict that involves social groups who are ranked below them. More in general, if groups have the chance to interfere or participate in conflicts, we should expect subjects to protect the lower-ranks of society against any predatory behavior of elite groups or the ruler. On the other hand, the interdependence identified by our model rationalizes anti-rich or anti-elite sentiments, and provides an additional reason to expect the lower-ranks of society to be disproportionately like to participate in episodes of collective violence, as they benefit from any event that destroys the resources of better off groups (and not necessarily the ruler).

As a first extension, we study how conflicts may be motivated by or lead to a change in the identity of the central authority by introducing a ruler selection phase between the conflict phase and the taxation game. As we assume that the candidates to the rulership cannot commit to any specific government policy, the groups' preferences over the identity of the ruling group are fully determined by the structure of the optimal taxation. Of course, given the purely extractive role of the central authority, every subject strictly prefers any ruler to be as weak as possible. Surprisingly enough, however, we show that it is the strongest group who is able to gain the largest consensus and become the ruler, whenever subjects aim at minimizing their taxation burden. Indeed, groups who are stronger than the current ruling group would strictly benefit from a take-over of the strongest group: such rulership change would lead them to gain status, transforming an oppressor (the current ruler) into a supporter (a lower-ranked subject). Moreover, as the strongest group would be ranked above (thus oppress) any other subject anyway, no subject would oppose such change. This result generates an additional motive for internal conflicts: appropriating or destroying resources to become the strongest group and gain the rulership (*hegemonic conflicts*). Not only this extension speaks to the evidence that rulers in post-colonial Africa are typically drawn from the largest ethnic groups, but it also proposes a novel rationalization as to why a condition of relative parity between the two largest groups in society (polarization of resources) should be expected to correlate with civil wars.

Our second extension aims at studying the effect that the rise of a new cross-group identity or the creation of a representative institution can have on the distribution of political rents. To keep the analysis simple and still capture the possible frailty of such new-born partnership among different subjects, we assume that its members are *in solidarity*, i.e. they militarily support each other, only with some probability $p \in [0, 1]$. We first show that when the subjects' solidarity is sufficiently likely, i.e. when p is sufficiently high, the government optimally abandons its original divide-and-conquer strategy, treating the involved subjects as a single bargaining block backed by the threat of their collective action. As a result, the members of the newborn partnership receive a better taxation treatment at the expense of the government and the excluded subjects. [7] On the other hand, if the probability of solidarity is sufficiently low, then

[7]Such "unity makes strength" finding is surprisingly absent from the literature. While historically representative institutions are associated with higher taxes, recall that taxes are just an example of our focus on the net effect on groups' payoffs of all government policies.

the ruler's optimal strategy would be to treat every group as separate (employing political favoritism), and be ready to deal with resistance whenever subjects actually turn out to be in solidarity. This result might explain why the emergence of new identity groups has historically lead to widespread political instability. For instance, the Protestant Reformation in XVI Century Europe is widely credited for the endemic conflicts and revolts of that century. Similarly, British officers attributed the Indian Mutiny of the XIX Century to an insufficient attention on part of the British in avoiding the development of nationalistic feelings between the various ethnic and social groups residing in the Indian subcontinent. Differently from the previous case, when the probability of solidarity is low, the excluded groups are at least indifferent, whereas the included groups might even be worse off. Indeed, the ruler might reduce the status of the included groups, to limit the size of resistance if the patnership actually holds. Finally, the analysis highlights the strong incentives of the central authority to fight any form of inter-group solidarity. This finding might explain the various episodes of repression against new identity groups and/or the segregationist policies that have been employed universally, from Ancient Rome to China, to the European colonial empires.

To conclude, we take advantage of the tractability of our framework to study how political institutions affect government policy and the pattern of internal conflicts. For instance, we show how the exogenous introduction/transplant of egalitarian institutions may backfire: the government's optimal strategy might deliberately trigger wasteful social unrest that splits the society in two, the coalition of the poorest subjects against the government who is in turn supported by the richest subjects.[8] On the other hand, we show how institutions that successfully foster solidarity among all subjects could eradicate any rational basis for anti-elite sentiments, status-related or hegemonic conflicts. This finding highlights a new mechanism whereby representative institutions might be an important step towards a country's peace and development: not only they may act as checks on the government's ability to expropriate its subjects, but also they may reduce the incentives for in-fighting among subjects, and thus the incidence of internal conflicts.

1.1 Contribution to the Literature

Given the obvious relevance of the topic, there is a large body of literature studying societies where the only effective constraint on the central authority is the subjects' violence potential. A review of this growing body of literature can be found in Gehlbach, Sonin and Svolik (2016); contributions that specifically address the distribution of political rents include North, Wallis and Weingast (2009), Bueno De Mesquita et al. (2005), Acemoglu, Egorov and Sonin (2008), Diermeier, Egorov and Sonin (2017), Padró i Miquel (2007), Acemoglu, Robinson and Verdier (2004) and Francois, Rainer and Trebbi (2015). However, to the best of our knowledge, such literature did not

[8]Note that this result is independent of the distribution of military resources. Moreover, note that, beyond an institutional constraint, such constraint could also reflect a technological one; e.g. limited ability of the government to discriminate among groups when demanding taxes.

yet account for the practice of political favoritism. Indeed, the models that allow for multiple social groups focus on equilibria in which the relative standing of subjects does not play any role in the allocation of political rents. For instance, Acemoglu, Robinson and Verdier (2004) proposes a divide-and-conquer strategy where the central authority exploits off-path threats to effectively isolate subjects from each other. Following this logic, a ruler would offer political rents that only depend on each subjects' individual power and the ruler's. Our contribution to this literature is to solve for the optimal taxation when the subjects' ability to form coalitions directly affects the equilibrium distribution of political rents, which adds to the literature a theory of political favoritism.

Another large literature has focused on internal conflicts, both from a theoretical and empirical perspective (see Jackson and Morelli 2009, Blattman and Miguel 2010, and Ray and Esteban 2017 for reviews). Most of the theoretical contributions that embed conflicts within a political framework models them as a way to change the identity of the ruler (Besley and Persson, 2009, 2011, 2010; Morelli and Rohner, 2015; Esteban and Ray, 2011). Unlike this literature, we view conflicts only as a way to alter the distribution of resources in the society: conflicts can at most lead to the destruction or appropriation of resources. This approach, which is in line with the literature that views conflicts as a way to appropriate resources (e.g. Dal Bó and Dal Bó 2011, Bates, Greif and Singh 2002) or with the literature studying "conflict motives" (see Baliga and Sjöström (2013) for a review),[9] allows us to consider, in a single framework, also conflicts not directly aimed at a rulership change, which are often observed but did not yet receive much attention (Sundberg, Eck and Kreutz, 2012). Such conflicts, for instance the Hindu-Muslim conflicts studied in both Mitra and Ray (2014) and Mitra and Ray (2019), are less likely to make the headlines than outright civil wars. Nonetheless, they are potentially very harmful for a country's social fabric and its local development.

While we model conflicts as only a way to change the distribution of resources, the pattern of conflict emerging from our model is crucially shaped by the political framework. From this point of view, our model contributes to understanding the interrelation between political institutions and internal conflicts. While the literature that studies the impact of (potential) conflicts on political institutions is well developed,[10] our paper is one of the first to focus on the opposite direction: how political institutions (and thus policy) shapes the pattern of internal conflicts. Other papers taking a similar approach are Besley and Persson (2011) and Esteban, Morelli and Rohner (2015). Besley and Persson (2011) studies how the incidence of coups and repression depends on the ruler's decision between public good provision and pork barrel

[9]Such literature, also reviewed in Blattman and Miguel (2010) and Jackson and Morelli (2009), mostly studies why groups fight rather than bargain and does not specifically address internal conflicts.

[10]A literature that is entirely complementary to our work, studies how political institutions emerge as a consequence of (potential) conflicts (Weingast, 1997; Greif, 1998; Acemoglu and Robinson, 2000; Bates, Greif and Singh, 2002; Myerson, 2008; Besley and Persson, 2009, 2010; Ticchi and Vindigni, 2008; Fearon, 2011; Dincecco, Federico and Vindigni, 2011; Gennaioli and Voth, 2015).

spending. Esteban, Morelli and Rohner (2015) studies how institutional constraints to unfairness in surplus sharing may create the incentives for the ruling group to engage in mass-killings. Our main results are entirely complementary to these findings, as we simply highlight a different mechanism: political favoritism. With respect to Besley and Persson (2011) and Esteban, Morelli and Rohner (2015), which focus on societies made up of two groups (government and opposition), our model allows for multiple, possibly heterogeneous groups. This enables us to express our conflict predictions as a function of the whole distribution of resources in society, a research direction advocated by Alesina, Michalopoulos and Papaioannou (2016).

The literature that documents the link between favoritism (in particular ethnic-biased policies) and internal conflicts typically proposes a behavioral interpretation. According to this view, ethnic-biased policies exacerbate ethnic hatred and thus lead to conflicts.[11] Just as this literature, we show that favoritism does indeed create the incentives to start conflicts. However, we show that the motivation to fight may come from the expectation to gain a more favorable ethnic-biased policy in the future, at the expense of the defeated ethnic group. Unlike grievances based on past policies, such forward-looking motive is linked to expectations about future policies and institutions. As a result, our theory enables us to show how a society can move beyond a period of ethnic-biased policies without internal conflicts, or go through internal conflicts without an history of ethnic-biased policies.[12]

1.2 Structure of the Paper

The paper is structured in the following way. Section 2 presents the set-up of our baseline model, optimal taxation is studied in Section 3 and conflicts in Section 4. In Section 5 we introduce our discussion of the evidence. Section 6 discusses general patterns from a wide array of societies, and Section 7 focuses on the evidence from Medieval and Early Modern Europe. We then present our extensions in Section 8. In Section 8.1 we endogenize the identity of the ruling group and study the implications for internal conflicts. Section 8.2 extends the formal analysis by considering the impact of a new identity group or a representative institution. Section 8.3 considers the introduction of an egalitarian institution that does not allow the ruler to discriminate among the various social groups. In Section 9 we discuss the possibility of applying our main results to different contexts and highlight some other directions for future research. Section 10 concludes. Proofs can be found in the Appendix.

[11] See, for instance, Boucekkine, Desbordes and Melindi-ghidi. A classic example in the context of post-colonial Africa is that the Rwandan genocide was caused by hatred created by colonial policies that escalated tensions between Hutu and Tutsi (King, 2013). Collier and Sambanis (2005*b*) makes a similar statement for Nigeria and Cyprus.

[12] For instance, our theory may help explain why ethnic conflicts broke out after the collapse of the USSR even if ethnicity was not an important dimensions of Soviet policy-making, as Marxist ideology emphasizes class struggle.

2 Model Set-Up

We consider a society made up of $n+1$ decision-makers (groups), n subjects and one ruler. Each group i is endowed with possibly heterogeneous economic resources B_i and military resources W_i, which are public information. Groups derive their utility from economic resources; military ones only determine a group's odds in any dispute.

Our baseline model is a dynamic game where the identity of the ruler is fixed and strategic interaction develops along two phases with the following timing:

1. Groups receive their initial endowment of military and economic resources $\boldsymbol{\theta}^0 = (\mathbf{B}^0, \mathbf{W}^0)$

2. *Conflict phase*: given the initial distribution $\boldsymbol{\theta}^0$,

   2a) One group, the attacker, is randomly assigned the possibility to attack anyone of the other groups.

   2b) If such group chooses to attack another one, the conflict generates a stochastic change in the resources of the attacker and its victim, resulting in $\boldsymbol{\theta}^1 = (\mathbf{B}^1, \mathbf{W}^1)$. If the attacker chooses not to attack, then the resource distribution is unaffected $\boldsymbol{\theta}^1 = \boldsymbol{\theta}^0$.

3. *Taxation game*: given the distribution resulting from the conflict phase $\boldsymbol{\theta}^1$,

   3a) The ruler demands taxes from each group aiming at maximizing total tax extraction.

   3b) Groups observe the vector of tax demands $\boldsymbol{T}$ and sequentially choose whether to comply or to resist taxation.

   3c) Compliant groups pay their taxes. Resisting groups join their forces against taxation and receive a tax break, if successful, and a a fine (e.g. loose everything) otherwise.

4) Payoffs are realized.

As we analyze the game by backward induction, we first characterize the equilibrium of the taxation game for any fixed resource distribution, analyzing the specific interdependence among subjects that arises from the optimal taxation structure. We then use such result to study the incentives of groups to fight each other and possibly change the initial distribution of resources.

2.1 Discussion of the game structure

The structure of the game is aimed at capturing, in the simplest possible way, the taxation dynamics that arise in a weakly-institutionalized society and how they shape the incentives for in-fighting. For example, having the conflict phase before the taxation

game allows us to analyze the effect of the political system, in particular of the optimal taxation, on the pattern of conflicts, without resorting to a more complicated repeated game. In the same spirit, the assumption that only one group can actually start a conflict (in the conflict phase) allows us to highlight the main drivers of conflicts that arise from the political framework, abstracting from conflicts among coalitions or dynamic considerations that would significantly complicate the analysis.[13] Some key forces that would shape coalition-formation and dynamic considerations in the conflict phase are discussed in Section 4.5 and 4.4, respectively.

On the other hand, the assumption that subjects sequentially choose to resist taxation delivers a unique SPE outcome in the taxation game. As we discuss in Section 3.2, the outcome of our taxation game is also an outcome of a game where subjects respond simultaneously. In particular, it corresponds to the equilibrium that arises when the ruler expects the subjects to form the largest possible resisting coalition consistent with the tax demands, i.e. the one implemented by a wary ruler who selects the worst-case optimal policy (max-min).[14] Finally, in Lemma 2 we show that the order in which subjects respond is irrelevant for the equilibrium outcome. From this point of view, our SPE is protocol-free: it is robust to changes in the specification of the order of moves, in the spirit of the equilibria analyzed in Diermeier, Egorov and Sonin (2017).

3 Taxation Game

Proceeding by backward induction, we start by analyzing the taxation game. At this stage, resources are distributed according to a vector $\boldsymbol{\theta} = (\mathbf{B}, \mathbf{W})$ about which all groups have complete information.

The ruler publicly demands from each subject $i \in I$ a tax $T_i \in \mathbb{R}$. Upon observing the required tax vector $\mathbf{T}$, groups sequentially choose whether or not to resist $a_i \in \{R, NR\}$; we denote by *resist* the set of all subjects that do so,

$$resist := \{i \in I : a_i = R\},$$

and by *loyal* the set of subjects who instead choose to comply, $loyal := I \backslash resist$.[15] The choice of one group to resist is irreversible, public, and it entails a cost $c > 0$. By choosing to comply, group i obtains utility

$$u\left(B_i - T_i, NP, W_i\right) = B_i - T_i.$$

On the other hand, if group i chooses to resist then it would either end up obtaining a tax break $\beta(T_i, B_i)$ or paying $\lambda(T_i, B_i)$ on top of T_i, depending on whether the resistance succeeds or fail. To capture the idea that richer groups are less willing to resort to violent action, we make the following assumption:

[13] This assumption is better discussed when we formally analyze conflicts.

[14] Similarly, in spirit, to the equilibrium concept proposed by Dworczak and Pavan (2020), the ruler chooses its strategy under the assumption that subjects would select the ruler's worst equilibrium.

[15] As shown by Lemma 2 the actual order in which subjects are called into action is irrelevant.

Assumption 1 (Higher income discourages resisting) *The functions $\beta(T_i, B_i)$ and $-\lambda(T_i, B_i)$ are weakly decreasing in B_i and at least one is strictly so.*

A natural case in which such assumption holds is when rebels completely avoid taxation in case of success, i.e. $\beta(T_i, B_i) = T_i$, and lose everything otherwise, i.e. $\lambda(T_i, B_i) = B_i - T_i$. Consistently, we assume that when group i resists, the ruler recovers from it $0 \leq R_i \leq B_i$ if resistance fails, and 0 otherwise.

The probability that resistance is successful depends on its size; in particular it is determined by a general contest success function

$$\Pr(\text{resistance success}) := f(W_{resist}, W_{ruler}, W_{tot})$$

where $W_{resist} := \sum_{j \in resist} W_j$ is the sum of the military resources controlled by the resistance, and $W_{tot} := \sum_{j \in I} W_j + W_{ruler}$. The contest success function f is strictly increasing in W_{resist}, strictly decreasing in W_{ruler} and weakly decreasing in W_{tot}. The expected utility of a resisting group i is thus

$$E[u(B_i, W_{resist}, W_{ruler}, W_{tot})] = f(W_{resist}, W_{ruler}, W_{tot}) \times B_i - c.$$

The ruler's objective is to maximize the expected sum of collected transfers.

Figure 2 in the Appendix presents the game tree of the taxation game.

3.1 Preliminary Results

Since the taxation game is dynamic and agent's information is complete, we focus on subgame perfect equilibria (SPE). In this section we establish three preliminary results.

When a tax vector is demanded, subjects sequentially choose whether or not to join the resistance. The following lemma establishes that, for any tax demand $\mathbf{T}$ there is at most one set of resisting subjects that, paired with $\mathbf{T}$, can be part of a SPE.

Lemma 1 *Any tax vector $\mathbf{T}$ can be at most part of one SPE outcome. Furthermore, in any SPE all subjects comply when indifferent.*

As we show in Appendix B, in a SPE no subject joins the resistance unless it has strict incentive to do so; otherwise the ruler could profitably deviate by demanding a slightly lower T_i.[16] Together with the complete information assumption, this observation allows us to determine, for any fixed $\mathbf{T}$, a unique candidate SPE. In light of Lemma 1, we can show that the order in which the subjects choose whether or not to join the resistance is irrelevant.

Lemma 2 *The set of equilibrium outcomes of the taxation game does not depend on the subjects' order of play.*

[16] As we show in the proof, once we allow $resist_{-i}$ to also be affected by i's decision to resist, the argument is strengthened. i's decision to resist might lead to an even worse payoff for the ruler, as it increases the willingness to resist of every other player, and it increases the likelihood of success of any group who might be resisting.

Given the perfect information assumption, when subject i chooses whether or not to comply, it can perfectly anticipate what the following subjects will choose in response to its decision. Clearly this is not enough to show that the order of play does not matter. However, the results follows by noting that the decisions to resist are strategic complements (i.e. each subject's incentives to resist is increasing in the resistance size).

Finally, our last preliminary result establishes a "no resistance" result which is key for the construction of the equilibrium.

Lemma 3 *There exists no SPE of the taxation game that involves resistance.*

The interaction between the ruler and a compliant subject is zero sum. Instead, resistance is less than zero-sum, as it entails a loss (the dis-utility c) that the ruler cannot appropriate. Together with the complete information assumption and the fact that the ruler can perfectly target groups when demanding taxes T_i, this observation might seem to trivially imply the result. The subtlety lays on the fact that, in our setting, there are externalities: i's decision to resist might impact the set $resist_{-i}$. In principle, the ruler might be willing to incur in an inefficiency when dealing with i, if that enables it to avoid incurring in an even greater inefficiency when dealing with the rest of society. However, because the decisions to resist are strategic complements, discouraging i from resisting could only further discourage other groups from resisting, implying an even greater incentive for the ruler to avoid any inefficient outcome.

3.2 The Optimality of Favoritism

In this section we show the optimality of favoritism in any SPE of the taxation game. With favoritism, we mean the act of treating subjects differently, beyond what can be explained by their intrinsic characteristics. In particular, a taxation system is favoristic if the tax on each subject does not only depend on the subject's resources but also on some order superimposed by the ruler.

To gain intuition, we start by considering a ruler dealing with two identical subjects. A naïve intuition could suggest that as these subjects are identical, we should look for an equilibrium where the ruler treats them symmetrically, demanding the same tax T. By Lemma 3, we know that an optimal T must not trigger any resistance, thus it cannot be greater than $\bar{T}^{Alone}$, which satisfies the no-resistance-alone constraint:

$$B \times f\left(W, W_{Ruler}, W_{tot}\right) - c = B - \bar{T}^{Alone}$$

However, note that if the ruler were to offer $\bar{T}^{Alone}$ to both subjects, then the first subject who is called to respond would anticipate that if it were to start resisting taxation, then the other subject would join, as its expected value of resisting would increase to

$$B \times f\left(W + W, W_{Ruler}, W_{tot}\right) - c > B \times f\left(W, W_{Ruler}, W_{tot}\right) - c.$$

Anticipating that the other subject would join, the first subject would optimally resist if demanded $\bar{T}^{Alone}$. Thus, offering a tax equal to $\bar{T}^{Alone}$ to both players would lead to resistance, which by Lemma 3 cannot be optimal.

As a result of such coordination between subjects, in order not to trigger resistance and still demand the same tax to both subjects, the ruler could only demand $\tilde{T}$ equal to $\bar{T}^{Together}$, the tax that makes subjects indifferent between complying and resisting taxation together:

$$B \times f\left(W + W, W_{Ruler}, W_{tot}\right) - c = B - \bar{T}^{Together}.$$

However, the ruler is better off by resorting to non-symmetric offers, and thus favoritism. In particular, the ruler could collect more taxes and still avoid resistance by favoring one subject over the other, demanding $T_i = \bar{T}^{Together}$ and $T_j = \bar{T}^{Alone}$ respectively. Given that subjects are identical, we can think of the difference between the tax paid by the favored group, $\bar{T}^{Together}$, and the one paid by the oppressed group, $\bar{T}^{Alone}$, as "the value of social status", where "status", a seemingly arbitrary preferential treatment, is an equilibrium object that emerges from the ruler's optimal divide-and-conquer strategy.

To see how such result generalizes to multiple subjects, note that by Lemma 3 the optimal policy must not only make each subject unwilling to resist alone, it must also prevent the formation of resistance cascades that would lead to multiple groups coordinating against taxation. This could be obtained by demanding every subject $\bar{T}^{n-1}$, a tax so low that no subject would resist even when anticipating that all other $n-1$ subjects would join (the equivalent of $\bar{T}^{Together}$ above, but for n subjects). However, the government could increase its extraction by offering such low tax only to one group, its favorite. In this way, the government could increase the tax of every other group from $\bar{T}^{n-1}$ to $\bar{T}^{n-2}$, as they would anticipate that the favorite subject would never join their resistance. Similarly, the government can single out another subject, its second-favorite, demanding a tax $\bar{T}^{n-2}$ and increase the tax on every other subject but the favorite to $\bar{T}^{n-3}$. Iterating such argument, we show that the optimal way to undermine coordination is to institute a ranking of all subjects, each corresponding to a differential taxation treatment. The next Theorem shows that such favoritism is a key feature of the optimal policy, as taxes depend on the government's ranking $O^\star$. Moreover, the Theorem also characterizes the optimal tax corresponding to each status, i.e. each group's position in the government's ranking.

Theorem 1 (Optimality of Favoritism) *Tax demand* $\mathbf{T}^\star$ *is part of a subgame perfect equilibrium of the taxation game if and only if for all* i

$$T_i^\star = c + B_i \times \underbrace{\left(1 - f\left(\sum_{j:O^\star(j)\leq O^\star(i)} W_j, W_{ruler}, W_{tot}\right)\right)}_{\text{decreasing in } O^\star(i)} \tag{1}$$

where $O^\star : \{1, ..., n\} \longrightarrow \{1, ..., n\}$ *is a re-ordering of the subjects such that*

$$O^\star = \arg \max_{order\ O} \sum_i T_i^\star.$$

The above theorem shows that the optimal policy for the government is to set up a favoristic taxation system. The ruler establishes a ranking $O^\star$ among the subjects and demands transfers accordingly, imposing relatively higher taxes on lower-ranked subjects. In equilibrium, the ruler demands from each subject the maximum tax that does not induce it to resist when all (and only) the groups with lower status do. Differently from Acemoglu, Robinson and Verdier (2004), in our model the ruler is unable to fully shut down every coordination among subjects and cannot induce them to believe that no one would follow if they were to start resisting.[17] Consistently with a divide-and-conquer logic, however, the government taxation policy is still able to induce subjects to (correctly) anticipate that those with higher status would not join, if they were to start resisting.

Furthermore, notice that the sequentiality in the subjects' resistance decision allows us to have a unique equilibrium outcome. If we modeled these choices as simultaneous, we would have, as usual, a multiplicity of equilibria. The equilibrium outcome, in our model, would also be an equilibrium outcome of this different game. In particular, it would correspond to the equilibrium that arises when the ruler expects the subjects to form the largest possible resisting coalition consistent with the tax demands, i.e. the one implemented by a wary ruler who selects the worst-case optimal policy (max-min).[18] On the other hand, the level of extraction found in Acemoglu, Robinson and Verdier (2004) corresponds to one where the ruler uses the max-max criterion. In that case, the ruler chooses its tax demands assuming that subjects will form the smallest coalition that is compatible with $\mathbf{T}$, which corresponds to the case where coordination between subjects is impossible.

Finally, note that, while the heterogeneity among groups guides the ruler's decision of who to favor, the favoristic structure of the taxation system has nothing to do with such heterogeneity. In fact, as shown in the example with two identical subjects, Theorem 1 prescribes to treat all subjects differently even when they are identical, assigning them to different positions in the ranking $O^\star$. The divide-and-conquer logic is the main driver of favoritism, not groups' heterogeneity.

3.3 Determinants of Social Status

Theorem 1 has established that the optimal taxation is favoristic: it is a function of the government's ranking. In this Section we show the determinants of status, how a group's relative endowment determines its position in the optimal social order.

[17] In Acemoglu, Robinson and Verdier (2004) all coordination among subjects is shut down as their timing allows the ruler to change tax demands after one group replies, but before the other does.

[18] Similarly, in spirit, to the equilibrium concept proposed by Dworczak and Pavan (2020), the ruler chooses its strategy under the assumption that subjects would select the ruler's worst equilibrium.

In light of Theorem 1, given group i's status $O_i^\star$, the optimal tax $T_i^\star$ satisfies

$$T_i^\star = B_i \times \left(1 - f\left(\sum_{\ell: O_\ell^\star \leq O_i^\star} W_\ell, W_{Ruler}, W_{tot}\right)\right) + c$$

Note that such tax is higher when group i is richer and when i and all subjects who are ranked below i are weaker from the military viewpoint. If all groups had equal military power, then the government's ranking would assign a higher status to poorer groups. Indeed, a lower status corresponds to a higher tax rate, thus it is better to assign lower status to richer groups. On the other hand, if every group had the same economic resources, then groups with more military resources would be assigned a higher rank. Indeed, groups with more military resources have a greater externality on the other groups' willingness to resist and thus on the government's ability to raise taxes. By the properties of the equilibrium, only subjects who are ranked above a particular group benefit from that group's military resources. As a consequence, by assigning a higher status to stronger groups, the ruler minimizes the overall extent of the externalities that limit its ability to extract taxes, thus maximizing tax extraction.

Note that, given any specific distribution of resources $(\mathbf{B}, \mathbf{W})$ and contest success function $f(\cdot)$, it is possible to compute the optimal ranking. On the other hand, in order to derive some general properties over the link between social status and distribution of resources, we need to specialize the contest success function.

Assumption 2 *The probability that resistance against taxation of subjects $j \in \{1, 2, \ldots, i\}$ is successful is given by:*

$$f\left(\sum_{j \leq i} W, W_{ruler}, W_{tot}\right) = \frac{\sum_{j \leq i} W_j}{W_{tot}}$$

While this is a standard contest success function, it is important to notice that the odds of a successful resistance is negatively affected by the resources of subjects who are not joining the resistance. This would be the case if neutrality works against the resistance as much as siding with the ruler, or if neutrality is not an option (at least not an optimal one).[19]

In modern contexts, the above assumption captures a situation where the generals of the State's army are drawn from the same group (e.g. ethnicity) as the dictator, but some of the lower ranks are members of other ethnic groups: an ethnic structure corresponding to many African armies today (Harkness, 2016). In such a situation,

[19]Note that neutrality would be a dominated action for the subjects in any micro-foundation where, when resistance fails, the ruler punishes (e.g. substitute) the leadership of the various groups as if they participated in the resistance. This would be the case, for example, if we assume that some group members have the behavioral type of "loyalty", i.e. they are not strategic and always side with the ruler; whenever a leader fails to join the ruler, the ruler optimally substitute her, appointing a member of the same group at random which would have higher chance of being a loyal type.

deserting the army is typically treated as treason, i.e. it is the same as directly attacking it. Similarly, in what are known as feudal societies subjects had an obligation to respond to a call to arms made by their monarchs: deserting any such call was no different than directly siding with the enemy. Finally, this assumption can also capture other forms of resistance that do not directly involve an army. For instance, if resistance takes the form of a strike, then not directly participating in it is the same as working against its success.

Given this specification, we can pin down the determinants of the government's optimal ranking for any distribution of $\mathbf{W}$ and $\mathbf{B}$:

Theorem 2 (Determinants of Status) *Under Assumption 2, the optimal government's ranking is determined by the militarization index* $\frac{W_i}{B_i}$. *In particular, re-ordering the subjects so that* $\frac{W_1}{B_1} \leq ... \leq \frac{W_i}{B_i} \leq ... \leq \frac{W_n}{B_n}$, *the equilibrium tax would be determined by*

$$T_i = c + B_i \times \left(1 - \frac{\sum_{j \leq i} W_j}{W_{tot}}\right)$$

for all i. Thus, relatively more militarized subjects are assigned a higher status.

The theorem shows that with this specific contest success function we are able to find an index that determines the status of every subject for any possible distribution of $\mathbf{W}$ and $\mathbf{B}$. In particular, every subject's position in the government's optimal ranking is determined by the relative militarization ratio $\frac{W}{B}$: subjects with a greater militarization index pay a lower tax rate.

While the militarization index is inversely related to economic resources, this does not mean that richer groups will be necessarily taxed more. In fact, typically economic and military resources are not independent. In particular, we may expect richer groups to hold a larger share of their economic resources as military resources, which would translate into $\frac{W_i}{B_i}$ being larger for richer groups. Since the investment in military power is not the focus of this paper and explicitly allowing for that would significantly complicate the model, we adopt the reduced-form approach of allowing for a relation between each B_i and W_i. In particular, for the rest of the paper we assume that there exists a function $g(\cdot)$ mapping economic resources into military resources and that such mapping reflects the idea that richer groups can commit a larger share of their economic resources to military power.

Assumption 3 *Military resources of each group i satisfy* $W_i = g(B_i)$, *for some continuous function* $g(\cdot)$ *such that* $\frac{g(B_i)}{B_i}$ *is increasing in* B_i.

Notice that the assumption above would be satisfied by any convex function $g(\cdot)$, reflecting the idea that with double the economic resources a group can do better than just duplicate the number of soldier it hires, a natural condition if we consider a

setting in which military power can be hired (e.g. there are mercenaries).[20] Another function satisfying the assumption above is $g(B_i) = B_i - s$, reflecting the idea that, if needed, groups can transform into military resources only economic resources in excess to a certain subsistence level s, assumed to be the same across groups. The following corollary establish the government's optimal taxation when $\frac{g(B_i)}{B_i}$ is increasing in B_i.

Corollary 1 *Under Assumption 3, subjects with greater economic resources have higher status. In particular,*

$$T_i(\mathbf{B}) = c + B_i \times \left(1 - \frac{\sum_{\ell:B_\ell \leq B_i} W_\ell}{W_{tot}}\right)$$

The corollary shows that when the function that maps economic into military resources satisfies Assumption 3, then we have a clear social order where status is pinned down by the relative endowments of the subjects. This is particularly useful when studying the conflict phase, as it makes it easy to identify changes in the distribution of resources that lead to changes in status. In addition, by assuming an explicit mapping $g(\cdot)$ between economic and military resources we can simplify our analysis of conflicts by reducing its dimensionality: any change in economic resources directly reflects into a change in military resources.

4 Conflict Phase

In this section we turn to the conflict phase, the stage preceding the taxation game. Conflicts are modeled as a costly way to induce a redistribution of resources. As we solve the game by backward induction, we use the results of the previous section to conclude that for a given distribution $\mathbf{B}$, every player anticipates the following continuation payoff:

$$V_i(\mathbf{B}) = B_i \times \frac{\sum_{\ell:B_\ell \leq B_i} W_\ell}{W_{tot}} - c$$

To simplify the analysis and focus on how the political framework contributes to the pattern of conflict, in this section we abstract away from the complexity generated by multiple and possibly interrelated conflicts. In particular, we assume that, when choosing whether or not to start a conflict, each group does not internalize the possibility of other conflicts. Such assumption would be consistent with groups being naïve in their conflict decisions as well as with a model in which at most one group has the opportunity to start a conflict.

A conflict occurs when a group, the attacker A, unilaterally chooses to attack another group, D. We allow for the attacker to choose the stakes (size) of the conflict:

[20] A richer group could invest in better equipment and/or generals. Also, it is easy to imagine that if one group can hire more soldiers, then it will be cheaper for it to hire even more soldiers, as fighting for the stronger party involves less risks and thus requires a smaller payment.

a real number b which determines how much resources can be affected by the conflict. We assume that participating in a conflict implies a cost in terms of utility that is a function of the conflict's size, $\kappa(b)$, where $\kappa(\cdot)$ is a continuous, differentiable and increasing function for $b \geq 0$.

Every conflict induces a (possibly inefficient) transfer of resources from the losing to the winning side.[21] We assume that the probability that the attacker wins is a function increasing in the attacker's power and decreasing in the defender's power, $\Pr(A \text{ Wins}) = p(W_A, W_D)$. Similarly, the gain/loss in resources for a group $\ell \in \{A, D\}$ when group $s \in \{A, D\}$ wins the conflict is given by $B_\ell^s - B_\ell = \Delta B_\ell^s(W_A, W_D, b)$, where ΔB_ℓ^s is increasing in W_ℓ and decreasing $W_{-\ell}$ and continuous in all arguments. The size of the conflict b only affects the magnitude of such change in resources: $|\Delta B_\ell^s(W_A, W_D, b)|$ is increasing in b and is 0 when $b = 0$. We call conflict technology C the couple $\left(p^C, \Delta^C B\right)$ of winning probability and change in resources that is available to the attacker.

Note that these specifications allow for an offender or defender advantage to reflect in the probability of victory and in the gain/loss in resources. For instance, we may have that a defender has a higher chance of winning, but when it loses it loses more resources. Also, while we are assuming that a stronger group has a greater chance of winning, the specification allows that, when the weaker group wins, then more resources of the defeated party are lost, or vice versa.

To capture the idea that conflicts are a prominent example of negative production (Cipolla 2009, p.150), we assume that fighting cannot create new resources, i.e. for any winner $s \in \{A, D\}$, $B_A^s + B_D^s \leq B_A + B_D$. Note that we do not require conflicts to be necessarily destructive, they can be purely redistributive. Finally, we impose restrictions on how gains and losses are distributed among the winner and loser, and how winning and losing impacts a group's resources:

Assumption 4 *The gains/losses in resources are such that:*

- *The conflict favors the winner, $\Delta B_s^s \geq \Delta B_{-s}^s$, strictly so when $s = A$.*
- *Winning and not fighting are better than losing, i.e. $\min\{\Delta B_s^s, 0\} \geq \Delta B_s^{-s}$.*

Note that the previous assumption does not imply that the winner ends up with more resources than the loser, nor that it ends up with more resources than it previously owned. As it will become clear in the next sections, conflicts will arise in equilibrium, even when non-profitable, i.e. even when the winner is not able to appropriate enough of the loser's resources to cover his own losses.

Definition 1 *A conflict technology C is non-profitable if $B_s^s \leq B_s$, otherwise it is profitable.*

[21] Figure 3 in the Appendix depicts the reduced-tree corresponding to the conflict phase.

Arguably, this class of conflicts captures most modern and historical internal conflicts.[22] Examples of such conflicts include also those that do not involve resource appropriation at all, such as bombings, sabotages, killings, terrorist attacks.

4.1 Incentive decomposition

In our model conflicts can only affect the distribution of resources and have no direct impact on institutions (or taxes). However, the optimal taxation policy shapes the incentives to start a conflict because it is a function of the distribution of resources. Recall that, for a given distribution of resources $\mathbf{B}$, subject i's tax burden is $\hat{T}_i(\mathbf{B}) = c + \hat{\tau}_i(\mathbf{B})B_i$. Specifically, letting $O_i(\mathbf{B})$ be i's rank as determined by the ruler's optimal policy given distribution $\mathbf{B}$, we have:

$$\hat{\tau}_i(\mathbf{B}, O_i(\mathbf{B})) = 1 - \frac{\sum_{\ell \in I: O_\ell(\mathbf{B}) \leq O_i(\mathbf{B})} W_\ell}{W_{tot}}. \tag{2}$$

Note that the optimal taxation policy is such that i's equilibrium tax rate is decreasing in the resources of lower-ranked subjects and increasing in the resources of elite groups, i.e. higher-ranked subjects and the ruler. As a result, the incentives of subject i to start a conflict crucially depends on whether the counterpart has higher or lower status than i, which motivates the following definition:

Definition 2 (Anti-elite and Predatory Conflicts) *If $i \in I$ attacks group j, we call the resulting conflict:*

- *Anti-elite if the victim j is either the ruler or has greater status than i.*
- *Predatory if the victim j has lower status than i.*

In addition to this, in order to better understand the incentives for subject i to start a conflict against group j, it is useful to decompose the impact on subject i's payoff of a change in the distribution of resources from status quo $\mathbf{B}^0$ to $\mathbf{B}^1$, where only the resources of i and j are modified, i.e. $B_r^1 = B_r^0$ for all $r \notin \{i, j\}$:

$$V(\mathbf{B}^1) - V(\mathbf{B}^0) = \Delta B_i \times (1 - \hat{\tau}_i^0) + B_i^1 \times \Delta\hat{\tau}_i,$$

The term $\Delta B_i \times (1 - \hat{\tau}_i^0)$ captures the effect on i's payoff of the potential gain (or loss) in resources, when the tax rate is fixed at its initial level $\hat{\tau}_i^0 = \hat{\tau}_i(\mathbf{B}^0, O_i(\mathbf{B}^0))$. The other term, $B_i^1 \times \Delta\hat{\tau}_i$, captures the potential adjustment in the tax rate induced by the change from $\mathbf{B}^0$ to $\mathbf{B}^1$. Note, from Equation 2, that the tax rate adjustment,

[22] Collier and Sambanis (2005*b*) concludes that resource appropriation is at most a mechanism to finance a conflict, but not a motive. Berman et al. (2017) uses the commodity super-cycle to show that natural resources can explain between 14% and 24% of conflicts in modern Africa. Finally, note that civil conflicts typically last long and entail high costs, estimated by Collier and Sambanis (2005*b*) at 105% of GDP. Historians "firmly believe that medieval warfare was not an economically profitable activity" (Grillo and Settia, 2018, p. 222).

$\Delta\hat{\tau}_i = \hat{\tau}_i^1 - \hat{\tau}_i^0$, is crucially affected by any change in the status of subject i. To highlight such impact we further decompose the fiscal adjustment as follows:

$$\Delta\hat{\tau}_i = \underbrace{\hat{\tau}_i(\mathbf{B}^1, O_i(\mathbf{B}^1)) - \hat{\tau}_i(\mathbf{B}^1, O_i(\mathbf{B}^0))}_{\text{status adjustment: } \Delta\hat{\tau}_i^{SA}} + \underbrace{\hat{\tau}_i(\mathbf{B}^1, O_i(\mathbf{B}^0)) - \hat{\tau}_i(\mathbf{B}^0, O_i(\mathbf{B}^0))}_{\text{resource adjustment: } \Delta\hat{\tau}_i^{RA}}.$$

The first term, $\Delta\hat{\tau}_i^{SA}$, captures the impact on the tax rate of an adjustment in the status of group i for fixed resources. Instead, $\Delta\hat{\tau}_i^{RA}$ is the adjustment in the tax rate due to the change in the distribution of resources for a fixed position in the government's ranking.

Turning to conflicts, while resource appropriation (related to $\mathbb{E}[\Delta B_i^s] > 0$) is extensively studied in the strand of the conflict literature referred to as "greed", status motives (related to $\mathbb{E}[\Delta\hat{\tau}_i^{SA} B_i^s] < 0$) and the particular pattern of conflict triggered by (proper) fiscal motives (related to $\mathbb{E}[\Delta\hat{\tau}_i^{RA} B_i^s] < 0$) are specific to the favoristic structure of the optimal taxation policy. Of course, in a conflict the three motives often overlap. For clarity, we study conflicts by separating status and fiscal motives. We do so by first considering conflicts under an exogenously fixed government's ranking and then we reintroduce status motives by assuming that all aspects of taxation can be freely adjusted by the ruler.

4.2 Conflicts with Exogenous Social Order

In this section we abstract away from status motives by exogenously fixing the government's ranking, so that the status of each group i is given by $\bar{O}_i$. The analysis may be relevant for the many societies of the past where fiscal privileges (the social order) were somewhat rigidly determined, for instance by birthright. As we switch off status motives, the main focus is on fiscal gains or losses. A group i has an expected fiscal gain when

$$\mathbb{E}[-\Delta\hat{\tau}_i^{RA} B_i^s] = \mathbb{E}\left[\sum_{\ell:\bar{O}_\ell \leq \bar{O}_i} \left(\frac{W_\ell^s}{W_{tot}^s} - \frac{W_\ell}{W_{tot}}\right) B_i^s\right] > 0.$$

From the formula, each subject has a fiscal gain whenever an higher ranked subject is weakened and a fiscal loss whenever a lower ranked subject is weakened. As a consequence, it is possible to show that when the conflict technology is non-profitable (i.e. when even the winner ends up with less resources than it previously owned), then anti-elite conflicts are the only possible ones. This finding would also hold when the government's ranking is not exogenously fixed. In fact, a predatory conflict with a non-profitable conflict technology is a dominated action: it induces a fiscal loss and it can neither trigger a status nor a resource gain. Building on this idea we can establish the following proposition.

Proposition 1 (Shadow cost of Status) *A subject is more exposed to non-profitable conflicts when assigned a higher rank. In particular, the incentives for a group to start a non-profitable conflict are increasing in the rank exogenously assigned to the defendant.*

In particular, the incentive for a potential attacker to start a non-profitable conflict is a step-function of the rank of the potential opponent, with a jump up when the other group switches from being lower- to higher-ranked. The proposition highlights a shadow cost in being assigned to a higher status. In Section 9, we discuss the impact of this finding on the incentives of groups to join in a society. From an historical perspective, another important implication of this finding is that institutions that attempt to create a rigid (fixed) social order are unlikely to be a long-term solution to the problem of internal conflicts. In the short-run, such arrangements may successfully reduce conflicts by shutting down status motives (see next Section). However, in the long-run, the rigidity in status assignment may lead to an elite that is weak compared to the rest of society. As this section shows, and in line with the historical evidence, such occurrence would be particularly likely to spark violence in the form of anti-elite conflicts.[23]

More in general, the way in which the attacker internalizes the destruction of the opponent's resources crucially depends on whether the conflict is anti-elite or predatory. In particular, for fixed resource appropriation, it can be shown that anti-elite conflicts are encouraged by a more destructive conflict technology, whereas predatory conflicts are discouraged by destruction. To formally state this, we say that a change in the conflict technology from C to C' preserves a conflict if, whenever such conflict occurs under C, then it occurs also under C' and we establish the following proposition:

Proposition 2 (Impact of destruction) *Consider two conflict technology C and C' whose only difference lays in the fact that C' imposes higher losses to the defendant. Then a change from C to C' preserves all anti-elite conflicts. Conversely, a change from C' to C preserves all predatory conflicts.*

Since conflicts typically destroy some of the opponent's resources, there is a strong reason to say that fiscal considerations (via fiscal gains and losses) encourage conflicts against an higher-ranked subject (anti-elite conflict) and discourage conflicts against lower-ranked subjects (predatory conflict).

[23] As discussed in Ray and Esteban (2017), this interpretation is similar to de Tocqueville (1955)'s understanding of the French Revolution against the Ancien Régime, one of the most famous examples of "rigid" social order, assigning fiscal privileges based (partly) on birthright. "It was precisely because the middle classes were becoming richer that they were more conscious of where they felt they should stand. In that new light, the privileges of aristocracy were unacceptable. And so it was that '[t]he French found their position insupportable, just where it had become better' [de Tocqueville (1955), p. 186]." (Ray and Esteban, 2017, p.279). While de Tocqueville's interpretation is "behavioral" as it explains conflicts as an outcome of resentment, our model provides a rational-agent foundation for the same pattern.

4.3 Conflicts with Endogenous Social Order

In this section we relax the previous simplifying assumption of an exogenously fixed social order and go back to consider an optimal, endogenously determined, government's ranking. Since the optimal ranking depends on the distribution of resources, the ruler would find optimal to adjust it so to reflect the post-conflict distribution. As a consequence, status considerations will play a crucial role in determining the pattern of conflict. In particular, subject i has an expected status gain if

$$\mathbb{E}[-\Delta\hat{\tau}_i^{SA}B_i^s] = \mathbb{E}\left[\sum_{\ell\in I}\left(\underbrace{\mathbb{1}_{\{B_i^s>B_\ell^s\}}\mathbb{1}_{\{B_\ell>B_i\}}}_{i \text{ overcomes subject } \ell} - \underbrace{\mathbb{1}_{\{B_i^s<B_\ell^s\}}\mathbb{1}_{\{B_\ell<B_i\}}}_{i \text{ is overcome by } \ell}\right)\frac{W_\ell^s}{W_{tot}^s}B_i^s\right] > 0$$

It is immediate to show that status considerations introduce a discontinuity in the incentives to attack: the expected payoff of a conflict is significantly higher when it enables the attacker to gain status. This discontinuity will be the key ingredient to highlight how similarity triggers conflicts.

To gain intuition, consider a country where a resource-rich region is divided between two ethnic groups. Each group can attack the other to gain control of a gold mine: depending on the odds of success and the cost of fighting, the attack may or may not be deemed profitable.[24] If the country is ruled by an extractive government, status considerations come into play: the two groups anticipate that the government would reserve a more favorable taxation treatment to the stronger one. Thus, when gaining control of a gold mine makes a group stronger than the other, then the value of launching an attack jumps up. As this discontinuity is only present when groups are sufficiently similar, then similarity between groups is a trigger for conflicts

The next Theorem formalizes the idea that, in weakly-institutionalized societies, under a very general class of conflict technologies, similarity triggers conflicts. Indeed, considering a society with ruler R and resource distribution across subjects $(B_i)_{i=1}^n$, where $B_{i+1} > B_i$, we have the following:

Theorem 3 (Similarity triggers conflicts) *If the disutility κ from a conflict is such that, for subject i, $\kappa(0) < p(W_i, W_i)\frac{W_i}{W_{tot}}B_i$, then for every $(B_\ell)_{\ell\leq i}$ there exists $M > 0$ such that there is a conflict whenever $M > B_{i+1} - B_i$.*

Intuitively, the above mentioned discontinuity in the payoffs provides strong incentives for a subject to start a conflict that allows it to gain status in case of success and not to lose status in case of failure. If the resources of an higher-ranked subject get closer, the probability of winning a conflict against it increases and a smaller conflict size is needed to overcome it in the government's ranking. A conflict with smaller size b is associated with both a smaller cost $k(b)$ and smaller resource losses, which in turn

[24] As the odds of winning depend on the balance of power, we would expect conflicts to be associated with a more unequal distribution of power. The result that inequality of power leads to conflict is a robust result of the conflict literature that focuses on "greed" (Jackson and Morelli, 2009).

implies a smaller risk of losing status because of the conflict. Thus, we should expect status-related conflicts to arise when income shocks bring two groups sufficiently closer to each other.

Note that the result is not driven by the possibility of very cheap conflicts, as we do not require $\kappa(b)$ to go to zero as b goes to zero; for example, according to Theorem 3, the lowest-ranked group in the society might be willing to sacrifice as much as 50% of its equilibrium payoff to engage in status-related conflict, no matter how small.[25] While anti-elite conflicts are probably the most intuitive way to gain status, if the conflict technology is profitable, a subject can also climb the government's ranking through predatory conflicts, by appropriating the resources of lower-ranked subjects. Thus, also the resource level of third parties might be relevant when studying the incentive to attack. This feature has methodological implications for the empirical study of internal conflicts. While counter-intuitive, our model shows that the nation-wide distribution of resources may be an important determinant of internal conflicts, even if the observed conflicts are regionally clustered. This finding supports the mainstream empirical approach against Berman et al. (2017)'s recent criticism.[26]

Finally, note that our result does not require the conflict technology to be profitable: status gains can be obtained with non-profitable conflicts. Thus, similarity can trigger conflicts where even the winner loses resources. Going back to the earlier example, our result says that, when the two groups are sufficiently similar, the weaker one would be willing to start a conflict even if the best possible outcome were to destroy the other group's gold mine. Moreover, it is possible to show that status considerations are so strong that a group might be even willing to pay a cost to allow the government to appropriate the other group's gold mine, in spite of the fact that the mine's revenues would increase the government's power and thus its ability to tax.

4.4 The Pattern of Conflict: discussion of the empirical evidence with an example

To give a more concrete intuition of the previous results and highlight how the impact of the optimal taxation shapes the pattern of internal conflicts, in this section we develop a simple example in which the society is made up of two subjects A and D governed by a ruler R with no own resources. We want to study subject A's incentive to attack subject D as a function of D's military resources. To simplify the analysis we assume that A can only choose whether to incur disutility $\kappa > 0$ to start a conflict

[25] This is true, for example, if $W_j \downarrow W_i$ and $p(W_i, W_i) = 0.5$.

[26] In light of our model, we agree with Berman et al. (2017) that using the country-year level as the sole unit of analysis may be too aggregate. However, our analysis emphasizes that information at the country-level may still be relevant even to understand regionally clustered conflicts.

characterized by the following conflict technology C

$$(B_i^C - B_i, B_j^C - B_j) = \begin{cases} (\bar{b}, -\bar{b}) & \text{w.p. } \frac{W_i}{W_i+W_j} \\ (0,0) & \text{w.p. } \frac{W_j}{W_i+W_j} \end{cases}$$

where $W_D > \bar{b} > 0$ can be interpreted as a fixed claim that A has on D's resources. If the attack succeeds A appropriates $\bar{b}$ resources, if it fails no resource is gained nor lost. The probability of winning a conflict is fully determined by the balance of power $\frac{W_A}{W_A+W_D}$ which tends to one as W_D becomes infinitesimal with respect to W_A. This correctly suggests that A's incentive to attack D to appropriate $\bar{b}$ resources starts high when $W_D = \bar{b}$ and decreases as W_D increases, at least until $W_D = W_A$. Formally, the incentive for A to attack D when $W_A > W_D$ is given by

$$\frac{W_A}{W_A + W_D}\bar{b}$$

As W_D becomes greater than W_A, A would be ranked below D with certainty, absent the conflict. If the conflict allows A to gain status when successful, the incentive to fight discontinuously increases at $W_D = W_A$. Formally, if $W_D \in \left(W_A, W_A + 2\bar{b}\right)$, A would attack D if and only if

$$\frac{W_A}{W_A + W_D}\bar{b} + \left(\frac{W_A}{W_A + W_D}\right)\left(1 - \frac{W_A}{W_A + W_D}\right)B_A > \kappa$$

Finally if W_D is so large that A would be unable to overcome D even by winning the conflict, the payoff of the conflict discontinuously decreases. Note that this second discontinuity crucially depends on the assumption that the agent cannot adjust up the size of the conflict, i.e. cannot appropriate more than $\bar{b}$ resources with a conflict. This would not be the case for the first discontinuity (the one at $W_D = W_A$) which would not be smoothed out by the possibility of choosing the conflict stakes b. In Figure 1 we sum up these results and show the conflict pattern that emerges in this example. For intermediate cost level there will be two regions of conflict: one when W_D is sufficiently small compared to W_A and one when W_D is above W_A but sufficiently close.

We now discuss how our theoretical results relate to the existing evidence on conflicts that are not aimed at the rulership, in particular Esteban, Morelli and Rohner (2015), Mitra and Ray (2014) and Mitra and Ray (2019). Esteban, Morelli and Rohner (2015) studies conflicts perpetrated against minorities at risk. These minority groups "suffer from threats or discrimination" (Esteban, Morelli and Rohner, 2015, p.1116); in terms of our model these groups are lower-ranked with respect to the majority groups threatening them. Thus, by our model, the incentives to start a conflict against such minorities (predatory conflict) is provided only by resource appropriation (left part of the graph in Figure 1). Consistently with the graph, Esteban, Morelli and Rohner (2015) finds that smaller minorities (lower W) are at higher risk. Moreover, Esteban, Morelli and Rohner (2015) highlights dependence on mineral resources (oil

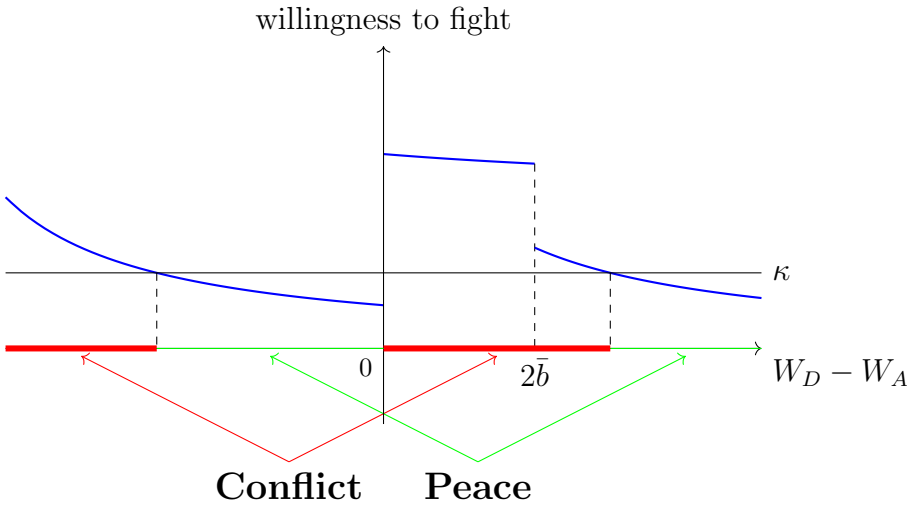

Figure 1: Pattern of Internal Conflict

and diamonds) as another important risk factor.[27] We can rationalize this finding as a consequence of the fact that mineral resources are arguably easier to appropriate and are thus associated with a more profitable conflict technology.[28] In terms of the example, we could think that a single attack (which costs κ) may grant access to a rich source of revenues (a greater $\bar{b}$). Finally, note that Esteban, Morelli and Rohner (2015) specifically focuses on genocides which can be seen in our model as a degeneration of predatory conflicts. In fact, the incentive to start a predatory conflict is driven by the prospect of resource appropriation and by the favorable odds of winning. As each victory makes the stronger group even stronger, then we should expect the predatory conflict to start again at the next available chance, until the weaker group is completely exterminated or it has nothing else of value to steal.

On the other hand, the positive part of the graph in Figure 1 speaks particularly neatly to the evidence of Mitra and Ray (2014) and Mitra and Ray (2019). The authors find that conflicts are more (less) likely when the poorer (richer) group experiences a positive economic shock. Our model is in line with such finding as it predicts status-related conflicts to emerge exactly when two groups become more similar. Since status-related conflicts can occur also when the conflict technology is non-profitable, it should not strike as a puzzle if such conflicts were to appear to only cause destruction. Finally, note that status-related conflicts could easily degenerate in a long-lasting sequence of conflicts between two groups that struggle for local supremacy: until the two groups are sufficiently far apart in term of resources, there will be a conflict at the

[27] These results are in Table 4 of Esteban, Morelli and Rohner (2015); note that the regression also controls for a group's satellite light intensity, a proxy for local economic resources.

[28] Recall that, according to our model, predatory conflicts require a profitable conflict technology, which we expect to be the case when there are mineral resources at stake.

next available chance. This description is very similar to the reality of Hindu-Muslim relations of post-independence India studied by Mitra and Ray (2014, 2019) and many other "communal" conflicts in the developing world; furthermore, it is strikingly reminiscent of the conflicts during the Middle Ages among small and large lineages alike. While such pattern may be easily interpreted as a self-reinforcing dynamics between internal conflicts and ethnic or partisan hate, our model suggests that the political logic of weakly-institutionalized societies may add to any other consideration a robust *policy-induced* economic interest for the occurrence of such conflicts, thus fueling them.

4.5 Externalities on Other Groups

In the previous sections we focused on how the interdependence generated by the favoristic taxation shapes the attacker's incentives to start a conflict. In this section we study the impact of internal conflicts on groups who are not directly involved in the conflicts.

Recall from the discussion in Section 4.2 that every subject obtains fiscal gains from a reduction in the resources of higher-ranked groups and fiscal losses from a reduction in the resources of lower-ranked groups. This consideration, together with the fact that conflicts typically imply resource destruction and the trivial observation that a conflict between two higher (lower) ranked subjects cannot trigger any status loss (gain) delivers the following remark.

Remark 1 *A conflict between i and j with more (less) destruction is strictly preferred by all subjects who are ranked below (above) both groups, where destruction is equal to $B_i + B_j - \mathbb{E}[B_i^s + B_j^s]$.*

This results clearly suggests that the lower-ranks of society have incentives to provoke or escalate internal conflicts, whereas elite subjects should potentially act as mediators and push towards a peaceful resolution of the controversy.

On the other hand, as shown by the following result, not all subjects are indifferent on the identity of the winner.

Remark 2 *Every subject that is ranked between the two fighting parties and that cannot be overcome strictly prefers the lower-ranked group to win the conflict.*

Abstracting from groups who are affected by status considerations, this result suggests that social groups (at least some of them) would look much more favorably to the perpetrator of an anti-elite rather than predatory attack. If we were to allow groups to intervene in the conflict (e.g. providing money for mercenary units), this force would have the obvious implication of discouraging predatory conflict and encouraging anti-elite ones. Since larger status gap between attacker and defender implies a larger "intervening" coalition, this could further refrain subjects from engaging in predatory conflicts against groups which are too far below in the government's ranking.

When we include status considerations the picture becomes more nuanced. In particular, a subject who risks to be overcome from one of the fighting parties would trivially prefer (and, possibly support) the other party to win. This implies that even a ruler who intends to forcibly expropriate another subject could find some support in those subjects who hope to gain status as a consequence of the weakening of their rival.

5 Evidence from Weakly-Institutionalized Societies

In the next two sections we apply our model to the evidence on weakly-institutionalized societies, where the power (e.g. violence potential) of local elites constitutes the only real constraint to the central authority. After showing how our predictions are consistent with broad patterns from a wide array of both historical and modern weakly-institutionalized societies (Section 6), we turn to in-depth case studies to better highlight the relevance of the particular mechanism we propose (Section 7).

A first key pattern we bring out is that attention for relative standing (in the form of rank and precedence), especially between members of the elite, is a universal feature of human societies (Section 6.1). This fact is consistent with our prediction that not only the individual characteristics of each group, but also their relative characteristics are an important determinant of the optimal policy. In particular, our model shows that the optimal policy of a central authority threatened by the formation of resisting coalition is a function of each subject's position in an order that should reflect the relative power of each group. This highlights the crucial importance of rankings as an *input* in the policies of central authority.

Second, we document how the creation or strengthening of central authorities have typically increased social stratification at the ethnic, territorial, clan and/or other levels (Section 6.2). This observation speaks to our model's prediction that the policies of central authorities should be regressive and that they would optimally *create* distinctions even among identical subjects, by arbitrarily favoring one social group over another.

Third, we provide evidence on the relation between the policies of central authorities and internal conflicts (Section 6.3). Firstly, participation in revolts is correlated with the extent to which the government discriminates against a particular group. This is in line with our model's prediction that the prevailing pattern of government opposition should reflect the ranking of society, thus be related to the extent of discrimination suffered by each social group. In particular, according to our model, if a group were to resist, it would be joined by all lower-ranked subjects, whereas all higher-ranked subjects would remain loyal. Secondly, we discuss the evidence that discriminatory policies by the central authority are sometimes considered a motivation for the infighting of social groups. This fact is again easily rationalized by our model, as we have shown how political favoritism may motivate conflicts among social groups, for instance status-related conflicts, i.e. conflicts to become stronger than the opponent and thus

climb the ranking of the ruler.

While the universal and systematic organization of societies in ranks and the role of governments in reinforcing social stratification might already be surprising from the perspective of democratic societies, even for weakly-institutionalized society these practices appear puzzling because of their relation with internal conflicts. For instance, if the government is able and willing to target the different groups with its policies (as we document in Section 6.1 and 6.2), why are rulers more likely to adopt policies that induce the most disadvantaged social groups to rebel (section 6.3)? Moreover, if the resentment of the disadvantaged social groups is a behavioral driver of rebellions, why do rulers unevenly distribute political rents in the first place? A second and related puzzle is the fact that while central authorities have attempted to curb subjects' infighting, which waste taxable resources and, possibly, government legitimacy, their policies also appear to generate the incentives for infighting (section 6.3). Our model provides an explanation for these puzzles, as it identifies favoritism as the cost-minimizing way to distribute political rents when the ruler is threatened by the formation of resisting coalitions. From this point of view, the relation between internal conflicts and the policy of central authorities are neither intentional nor irrational, but simply a (costly) by-product of political favoritism, the optimal policy.

To corroborate the relevance of the mechanism that we propose, Section 7 presents in-depth case-studies from Late Medieval and Early Modern Europe. We start our analysis discussing a conflict between the King of France and his magnates in the XV Century (Section 7.1). In line with the mechanism proposed by our model, this episode shows how the three key facts outlined in Section 6 can all be linked to a divide-and-conquer strategy of the central authority that is surprisingly close to the one proposed by our theory. Interestingly, we find that the idea of the ruler's divide-and-conquer strategy as the foundation of weakly-institutionalized societies appears in the writings of observers of such diverse backgrounds as Edward Coke, David Hume, Immanuel Kant and James Madison.

The goal of our second and final case study is to highlight how the concept of status-related conflict may be useful to rationalize the pattern of infighting among social groups. In particular, we present an in-depth discussion of the frequent infighting among magnates in Late Medieval and Early Modern Europe (Section 7.2.1), highlighting three puzzling stylized facts. First, magnates are willing to participate in highly destructive conflicts with each other over relatively minor stakes (i.e. for relatively minor resource gains). This is consistent with conflicts motivated by the relative level of resources of the two fighting parties, such as status-related conflicts in our model. Second, conflict behavior and rituals of reconciliation appear to be aimed at *publicly* establishing the superiority of one magnate over the other. Again, this is consistent with the idea of status-related conflicts: as such conflicts are motivated by the indirect gain that is obtained when the central authority updates its ranking, it is natural to expect that winners want to publicize the outcome of the conflict. Finally, we discuss how this type of conflicts appear to be a path for magnates to socially advance (e.g. obtain important administrative positions). This is again in line with our concept of

status-related conflicts, which are motivated by the opportunity to obtain a fiscal gain (i.e. lower taxes or higher political rents) by increasing one's rank.

6 General Patterns

6.1 Universal attention to relative standing

While the Roman Empire collapsed in Western Europe, it survived in its Eastern domains as the Byzantine Empire (330 CE - 1453). The Byzantine Emperor was the head of a Court which featured a famously strict etiquette that mandated different dressings, behaviors, and prerogatives based on the title held by a particular subject. At the heart of the Emperor's power was the ability to manipulate the hierarchy of imperial titles, the so-called taxis (Bougard, Iogna-Prat and Le Jan, 2009 p.363). The relation between this abstruse system and the exercise of power is well expressed in the X Century CE in the preface of the Treaty of Philotheus: "order is necessary so that the imperial power is upheld by the subjects. By mimicking the Godly order of the universe, imperial authority finds a way to consolidate its power" (quoted in Bougard, Iogna-Prat and Le Jan 2009, p.364; own translation).

A similar attention to ceremony and ritual can be found in Japan during the Nara (710 CE - 794), Heian (794 CE - 1185) and Kamakura (1185 CE - 1333) periods. Just as in the Byzantine Empire, "ritual and ceremony were not quaint or meaningless customs designed to occupy the time of bored courtiers, they were a visible symbol of the social order and served an important function in vitalizing and renewing the polity (..) from the very beginning, court ritual and ceremony *were* politics" (Friday 2004, p.32; emphasis in the original). Courts throughout history feature similarly complex systems of precedence that regulated access to the central authority and that induced an almost perfect stratification within the elite. For China, Chung-Mien and Herbert (1987) offers a glimpse into the intricate system of ranks of the T'ang dynasty (618 CE - 907); McKnight (1985) discusses how ranks were associated with different legal and political privileges during the Song dynasty (960 CE - 1279); Duyvendak (2008) discusses how in 1794-1795, during the last Dutch Embassy to the court of the Qing Dynasty (1644 CE -1911), dressings and manners revealed the rank of each courtier. In South-East Asia, Ghazzali (1933) provides a detailed account of how the etiquette of XX Century Malaysian Court was intertwined with relative standing.

In a surprisingly close parallel, the courtly societies of Western Europe during the Early Modern period also features an "extremely elaborate etiquette, a whole system of carefully orchestrated social rituals of deference, a finely gradated and strictly observed hierarchical order" (Zmora 2002, p.76). It should also be stressed that the attention for rank and precedence in Western Europe was not a novelty introduced by the rise of courtly society in the Early Modern period. Indeed, most Western European societies, at least since the Late Middle Ages, linked the political power and the fiscal/legal standing of their members to their rank within the polity. For instance, in the Holy

Roman Empire (962 CE - 1806) the status of elector, prince, duke, count, lord or imperial city mattered a great deal in the politics of the time and was closely determined by the Emperor (e.g. Strauss 1978, p.301; Stollberg-Rilinger 2018, Chapter 2; or Bryce 1901).

The importance of rankings is clearly present in other civilizations of the World as well. For instance, in her study of the Swazi society in Southern Africa, Kuper writes: "The clans are graded into a rough hierarchy, and the rank of a clan is measured by its position in the national structure" (Kuper 1949, p.111-112). Such structure is not static, but reflects the current balance of power of the clans in society. In particular, she notes that "[a]n outstanding man may "elevate the clan name" and his lesser clansmen will enjoy reflected glory" (Kuper 1949, p.111-112). A final observation that is relevant to our analysis is the correlation between rank and office-holding, as "individuals can raise their position through winning office from the King" (Kuper 1978, p.572). South America was not exempt from this pattern. The Inka society placed a particular emphasis on the relative status of each kin group, especially the most prominent ones. Interestingly, it has been hypothesized that the ranking of the various kin-groups was not rigidly determined, but it could be changed at will by the Emperor (D'Altroy 2015, pp.263-277). In general, Earls (1969) and Jenkins (1995) reveal that the societies in the Central Andes gave key importance to the relative standing of social groups before (and after) the arrival of the Spaniards in the XVI Century. After a joint analysis of political systems, myths and social organization in both Quechua and Inka civilizations, Jenkins (1995) concludes that "the apparent historical recurrence of age and rank structures in myth and social organization indicates that the structures themselves are in some way valued - a valuation, moreover, that may be significant in the organization of Andean history" (Jenkins 1995, p.92).

This pattern took a global dimension in the Modern Age, with the expansion around the world of the European colonial empires. Indeed, the development in Europe of Scientific Racism in the mid XIX Century can be thought of as an attempt to construct a global system of precedence that encompasses all peoples. Based on Darwin's evolutionary theory, intellectuals in the field of eugenics and Social Darwinism attempted to reconstruct the genealogy of all 'human races' and eventually provide a classification of every ethnicity based on their supposed descent (Dennis, 1995). This intellectual endeavour was in part the response to and in part the ideological foundation for the ethnic policies employed in the colonies.[29] For instance, the administration of the Spanish

[29]There is a large literature on how administrative classifications in the census of the colonial authorities have *created* new ethnic groups assigning them a preferential (or discriminatory) status (Brubaker, 2009; Cahill, 1994). Social Darwinism did not just affect the European elites, for a general discussion of how the adoption of Social Darwinism affected the minorities residing in China and Japan see Dikotter (1997), for Japan specifically see Weiner (2009), and for Latin America see Stepan (1991). From an ideological standpoint, it is interesting to note that Japanese scholars in the Modern period accepted a world-view that "reproduced Western racial hierarchies, privileging the West as the apotheosis of 'civilization' (bunmei), trailed by a 'semi-civilized' (hankai) Asia and 'barbaric' (yaban) Africa" (Weiner 2009, p.95). Similarly, "Latin American scientists not only imported these concepts that ranked humankind into inferior and superior races; they also produced their own racio-

Empire was characterized by "an unhealthy obsession with caste" whereby an individual's "character and quality were held to vary according to the colour and origins of the 'ethnic types'" (Cahill 1994, p.338-339). This approach lead to an extremely detailed ranking of each ethnicity based on their relative whiteness, distinguishing a mulato (someone whose mother had African origins and a Spanish father) from a testerón (someone with a mulato father and a Spanish mother), from a quarterón (someone with a testerón father and a Spanish mother), etc. Such distinctions had legal and fiscal consequences and natives who could afford to buy their 'whiteness' in the process known as 'gracias al sacar' often did so (see f.i. Cahill 1994, Voss 2008, and Twinam 2015).

6.2 State-building as a motor of social stratification

Boix (2015) shows how the establishment of central authorities have increased the stratification of a wide array of societies, exacerbating economic inequality and compounding economic well-being with a preferential political status and legal treatment.[30]

A common feature of the various centralizing drives that followed the fall of the Roman Empire in Western Europe was the tendency to reinforce hierarchy in society (Bougard, Iogna-Prat and Le Jan, 2009). Between 800 CE and 888, the Carolingian ruled over large parts of Western Europe by granting benefices and administrative authority mostly to the already powerful aristocrats. By carefully leveraging "a system in which politics was centred on the endowment and removal of honores [i.e. public offices]" (Innes, 2000; pp.262), the central authority created a stratification within the local elites based on office-holding, a strategy that allowed the Carolingians to obtain the loyalty of (and a share of the proceedings from) those who were fortunate enough to be vested with offices, as they had to be "careful not to give rulers any reason to seize them and give them to new favourites" (Innes 2000, p.89).

After centuries of political fragmentation, following the collapse of the Carolingian Empire, the reprisal of state-building efforts in XIV Century Europe "exercised profound influence on the creation and calibration" of an elite within the elite (Zmora 2003, pp.66-67) and were an "inexorable motor of inequality" (Zmora 2002, p.59). The trend continued in the Early Modern period: while some nobles obtained little more than exemption from taxation, others obtained large pensions and covered multiple offices, until "influence and prestige became the preserve of a restricted circle of men (and sometimes women), leaving a good many hopeless and resentful" (Zmora 2002, p.97).[31] In general, the history of Western Europe from the Middle Ages to the Mod-

logical theories that then influenced policy making regarding immigration as well as access to housing, sanitation, and education by blacks, whites, Indians, and mestiços" (de Santana Pinho 2009, p.42)

[30]North, Wallis and Weingast (2009) identifies hierarchy as a defining characteristic of "the natural state," a concept that North et al. (2013) fruitfully applies to modern developing countries.

[31]The assignment of multiple offices was a systematic feature that can be directly observed in France, the Holy Roman Empire and Spain. For an in-depth example of Late Medieval and Early Modern France see Zmora (2002) pp.47-48. For the Holy Roman Empire, see Zmora (2003) where it is stated

ern period shows that state-building "reinforced disparities and hierarchy in society in general and among the nobility in particular" (Zmora 2002, p.97).

The idea that state-formation or expansion might lead to growing elite stratification also appears in Asia. For instance, in Japan, the efforts to centralize powers during the Heian period (794 CE - 1185) ended up delegating central powers to a few selected clans, creating a deep stratification within the elite as "eligibility for any given post in the bureaucratic hierarchy became progressively more circumscribed, limited to smaller and smaller numbers of houses" (Friday 2004, p.7).

A particularly original place in terms of the relation between central authority and local elites is certainly Imperial China, where access to administrative positions was based on performance in a relatively fair exam. Even with this system, however, it can be argued that the allocation of administrative positions induced a centrally-controlled social stratification. Obviously, the exam was designed to select the best candidates; however, the enormous expenses related to the preparation of the exam made sure that the candidates would disproportionately come from members of the local elites. On top of this, because the success rate in the exam was governed by an heterogeneous system of local quotas, the central authority retained the ability to control the relative allocation of positions in the central administration for the various territorial units of the Empire (Elman, 2000). Indeed, as Bai and Jia (2016) has shown, even if the selection into the administration was based on an exam, it was also fundamentally intertwined with concerns for social stability.

A different example of how central authorities have induced stratification can be found in the governance of vast territorial empires. Just before the arrival of the Europeans, the city of Cuzco expanded its authority over much of the Pacific Coast of South America. While doing so, they offered differential gradations of 'Inka citizenship' to the various communities they subdued, favoring some community over others and creating net distinctions between local elites and local populations (Moseley, 2001; Chacon, 2009; Cahill, 1994). Indeed, during the Inka expansion "local divisions according to ethnicity and eliteness were recognized and used" (Lamberg-Karlovsky 1989, p.188) and new differentiation were created where they did not previously exist (D'Altroy 2015, Chapter 9). In an entirely similar fashion, when the city of Rome expanded its authority over much of the Italian peninsula in the III Century BCE, it assigned different gradations of Roman citizenship to the various communities it subdued. While at the time Rome was a relatively small city, it still managed to project its authority over much of the Italian Peninsula thanks to a carefully knitted system which assigned

that while Franconia did not feature the same degree of social stratification of Early-modern England or Castille, this was still in large part by the fact that the most prominent families were fulfilling "important functions simultaneously". For instance, in the period 1487-1528, 50% of the margravial councillors were also district governors and 75% had some other appointment (see Zmora, 2003; p.41 and references therein). While pensions could in principle compensate for any undesired stratification induced by the rigidity of administrative policies, the regressive allocation of pensions by the monarchs appears to aim at deepening rather than leveling such stratification. See p.47 Zmora (2002) for an example of such a regressive distribution of pensions in 1480 Castille and in Late Medieval France.

differential privileges and obligations to the various communities (De Petra, 1866).

The same approach can be found again in the Modern period when the various European monarchies built colonial Empires that stretched for much of the World. At least since the second half of the XIX Century, the British Empire explicitly pursued a policy modeled on the Roman example: "divide et impera was the old Roman motto and should be ours" (Stewart, 1951; p.54). The practice of employing a "highly differentiated treatment of native populations (..) [to] ensure Imperial stability" (Hausteiner, 2016; p.579) was especially elaborate in India, where it was thought that "the more nationalities and castes and religions, the more secure we shall be" (Stewart, 1951; p.53). Morrock (1973) describes how British rule appears to institute a finely grated ranking where social groups different in terms of geography, religion, occupation and traditional caste were assigned to a differential treatment. The British conduct was by no means an exception. As mentioned earlier, the Spanish Empire was administered employing a caste system that recognized increasing liberties and rights but at the same time less fiscal obligations based on 'whiteness.' Indeed, "a number of broad-brush racial *cum* ethnic classifications provided the basis for fiscal demands of Crown and Church alike" (Cahill 1994, p.325). Similar policies have been applied by the French Empire. For instance, during the colonial administration of Laos in the XX Century, "the French used a system of cross-racial administration which established a brutal ethnic hierarchy, and, especially in northern Laos, pitted the various ethnic groups against each other. The French used traditional racial hierarchies where they were strong, reinforced them where they were weak, and created them where they did not exist. (..) [T]he conditions of the mass of the tribesmen on the lower rungs of the hierarchy was little better than slavery, since their traditional subordination was compounded by heavy French taxes which produced unbearable demands on their meager resources." (Adams and McCoy 1970, p.80, quoted in Morrock, 1973).

Many contemporary societies still employ discriminatory policies towards the ethnic groups that reside within their boundaries, granting varying degrees of autonomy or citizenship to particular regions or ethnic groups, targeting specific ethnic groups with taxes or public investments, and carefully balancing the inclusion/exclusion of social groups in the political system (see Kasara 2007, Burgess et al. 2018, Francois, Rainer and Trebbi 2015 for empirical evidence). While these policies may simply reflect the sympathies of the autocrat, their systematic nature and the experience with colonial practices suggest that it might be useful, even within these countries, to understand favoritism in its divide-and-conquer connotation, i.e. as a deliberate strategy of self-interest governments that are threatened by the possibility that their subjects form coalitions against them.

6.3 Favoritism and internal conflicts

Discriminatory policies and favoritism are often associated with internal conflicts. For instance, Boucekkine, Desbordes and Melindi-ghidi (2019) notes that, in post-colonial Africa, opposition against governments is associated with the extent to which the

government discriminates among the various ethnic groups. One possible mechanism is shown by Michalopoulos and Papaioannou (2016), which shows that ethnic groups that were split by the arbitrary drawing of a national borders are more likely to be discriminated by the central government and are also more likely to participate in conflicts. In line with this, in-depth case studies of government oppositions and civil wars, such as Collier and Sambanis (2005*a*) and Collier and Sambanis (2005*b*), highlight that the rebel side of the conflict was often motivated by experienced or expected discriminatory policies by the relevant central authority.

Similar findings carry over to historical contexts. For instance, Cahill (1994) summarizes the literature that shows how the participation in rebellions of the various social groups (ethnic and territorial units) against the Spanish Empire can be explained by the extent of discrimination suffered by such groups. In a completely different context, Marín-Guzmán (1995) explains revolts in al-Andalus (modern Spain) during the IX and X Century CE as caused by the favoritism towards the Arab ethnic groups displayed by the Umayyad central government. In Western Europe, during the Late Middle Ages and the Early Modern period, it is often observed that favoritism towards particular families was a frequent trigger for armed revolts and that "favorites" are disproportionately on the loyalists side of armed rebellions.[32] Not only this finding is supported by the pattern of participation in revolts, but also it reflects the expectation of subjects and central authorities. In the case of Medieval England, Valente (2003) notes that before targeting the King, the violent action of rebellious magnates would typically be aimed against the King's favorites. Also, in many instances, Kings appear to be surprised when their favorites end up joining revolts (e.g. Zmora 2002, p.14).

The second way in which favoritism is linked to internal conflicts is that it appears to create the incentives for infighting among social groups. This is linked to the widespread idea that status in hierarchic systems may fuel infighting. For instance, Earls (1969) notes that a typical trait of Andean societies and mythology is the idea that the contiguous ranks of society should be particularly likely to fight each other. Similarly, elaborating on the hierarchy-reinforcing policies of the French Empire in Laos, Adams and McCoy notes that the "system of control without direct contact had another advantage for the French. By deflecting peoples' anger at the race above or below them on the scale, the French administration was able to exploit extremely independent and volatile groups without ever incurring any direct hostilities" (Adams and McCoy 1970, p.80).

In Medieval and Early Modern Europe, the idea that the distribution of privileges could generate the incentives for in-fighting was well understood by contemporaries, who often speak of 'jealousy' as underlining the prevalence of internal conflicts. For instance, Dante Alighieri mentions jealousy as one of the three vices that have lead to internal conflicts in Florence (Alighieri 1314, Canto 6). Similarly, in mid-fifteenth-

[32]Typically, magnates rallied against the King's "evil councillors,' i.e. the more favored magnates who dominated the councils. See Valente (2003) for evidence on Medieval England, see Zmora (2002) for evidence on the Early Modern period (e.g. p.69 or p.97); for a general discussion of this feature during the XVII Century see Zmora (2002) p.99.

century France, one of the advisors of Charles VII told him: "when you cease to pay the said pensions, the lords will be more contented than they are at present; for it's all these jealousies that produce covert hatreds, and each one thinks that he deserves to have more than another." (quoted in Vale 1974, p. 226). However, these hatreds did not directly affect the central authorities. Indeed, Kendall (1971) notes that part of the success of the policies of Charles VII of France was that his magnates aimed their animosity at each other, rather than against the King (see footnote **??** for details).

In general, as we shall see in our in-depth study of conflicts between nobles in Late Medieval and Early Modern Europe, the idea that subjects' infighting may be motivated by climbing the ranks of the ruler can explain some counter-intuitive characteristics of conflict behavior. While in Section 7.2.1 we will mostly focus on conflicts among relatively minor political players, the same concept has been applied to larger-scale conflicts. For instance, the Thirty Years War (1618-1648), one of the most destructive conflicts of the Modern Age, was in part fueled by the rivalry between Bavaria and the Palatinate, rooted in the desire of the former to be elevated to the rank of prince elector (Gutmann, 1988). Interestingly, the rivalry between Bavaria and the Palatinate persisted into the XVIII Century, this time being "over their relative ranking within the electoral college" (Wilson 2014, p.14). Similarly, Kaminsky (2002) discusses how the modern historical literature have shown that concerns over the relative distribution of privileges was a key motivation for the nobles who fought each other during the Hundred Years' War (1337-1453).

7 Evidence from Late Medieval and Early Modern Europe

To provide evidence in favor of the mechanism that we propose, we now present detailed case studies from Late Medieval and Early Modern Europe. First, we will consider a specific episode of resistance of the Late Middle Ages, the War of the Public Weal, between Louis XI of France (r. 1461-1483) and his magnates, an episode of resistance against the monarch that is representative of other similar episodes in many ways.[33] As we shall see, the in-depth discussion of this episode allows us to determine that the divide-and-conquer logic proposed by our model is a key driver of how favoritism emerges in applications and can speak to the broad patterns presented in Section 6.

Our second case study applies our model to discuss conflicts among elite members in Late Medieval and Early Modern Europe (seigneurial wars). We will show

[33]On the very same year, in Castile we have the farce of Ávila, "a not dissimilar confrontation between king and nobles" (Zmora, 2002; p.40). As Zmora (2002) remarks, the similarity of the episodes is due to the similarity of the forms of government in Castile and France. In particular, such societies "were already possessed of some of the hallmarks of 'absolutist' monarchies", including the legitimacy of royal taxation and a standing army. Yet, the magnates could still cover a position of power thanks to their territorial control which presented them as "mediators between king and populace" (Zmora, 2002; p.41).

how the concept of status-related conflict proposed by our model can help explain the counter-intuitive conflict behavior that is characteristic of this pervasive form of internal conflicts.

7.1 Case Study: Louis XI of France and the League of the Public Weal

Between 1461 and 1483, France was ruled by Louis XI of France, a King whose historical reputation as a Machiavellian villain persists to the current day (Bakos 2013, introduction). Thanks to the large availability of sources and the King's particular character, his well-documented political career reveals a lot of the political workings of the societies of late Medieval and Early-Modern Europe. A lesson that was not forgotten by near contemporaries such as Charles V, Holy Roman Emperor, who would refer to Louis's earliest biography as a "textbook for Kings".[34]

Already in the XV Century, the King of France was a powerful figure, as with the exception of "limitations dictated by his own prudence or the recalcitrance of subjects, the royal prerogative remained virtually unlimited" (Kendall 1971, p.24). After ascending the throne, Louis XI set about modernizing the central administration and expanding royal prerogatives. This reforms brewed resentment that was visible even outside of France. In 1463, Cosimo de' Medici, the famous ruler of Florence and a friend of Louis, told a Milanese ambassador that by the end of the subsequent year "His Majesty [Louis XI of France] will have great trouble and more than he would like, because he rules his realm to suit his own ideas" (Kendall 1971, P.129). A prediction that fell short of reality by only one year. In 1465, the magnates announced that they joined against their King in the League of the Public Weal. By September 1465, the King of France was besieged into his capital by a united front of the magnates of the realm.[35]

At the beginning of September 1465, the besieged King started negotiating with the magnates. From the very start of the negotiation it was immediately clear that his strategy would be to "deal with [the magnates] singly, a strategy which heightened their mutual suspicions and lowered their individual resistance" (Kendall 1971, p.183). During the very first week of negotiations, the magnates attempted to signal their solidarity by formally assembling and swearing "a solemn oath to sign no separate appointments with the King" (Kendall 1971, p. 178). Despite this public display, Louis was "well aware of the pressures straining the unity of the princes" and "he

[34]Our discussion is heavily based on Kendall (1971). See Kendall (1971) p.27 for a summary of the primary sources that he used. Appendix I (pp.378-381) of Kendall (1971) offers a detailed discussion of the reliability of the Memoires of Philppe de Commynes, the earliest biography on the political career of Louis (for a recent translation, see De Commynes 1972). See Kendall (1971) p.253 for the quote on Charles V.

[35]In Appendix **??** we discuss the political background and the phases of the conflict that lead to the siege of Paris. Thanks to this detailed analysis we are also able to defend some of the assumption of our model.

realized that he must find the means to divide them" (Kendall 1971, p. 178).

By the end of September, the King put his strategy in motion by setting himself to "amply fulfilling the expectations of one member of the League in order to separate him from the others" (Kendall 1971, p. 178). Louis considered that only two magnates had the "authority to serve his turn, the Duke of Brittany and the Count of Charolais" (Kendall 1971, p.178), the two strongest elements of the coalition of magnates. Louis decided to approach the Count of Charolais, the man whose army he fought in the bloody battle of Monthéry two months before.

Before the end of September, Louis XI of France met his subject Charles, Count of Charolais, the future Charles the Bold, Duke of Burgundy. Initially, Charles repeated "the standard demands of the princes." After the end of the meeting, however, the Count of Charolais believed that as "he was indispensable to his confederates, they must expect his own demands to be satisfied first and be willing to be guided by his wishes regarding peace." Louis' strategy was working. The Count of Charolais, the most powerful adherent of the League was now pushing the others "to come to some kind of compromise terms with the King"; only the others though, for "there was no question of compromising his own demands, the justice of which Louis XI now recognized so gratifyingly" (Kendall 1971, p.180). In other words, "the unnatural unanimity of the princes was beginning to crack (..) Not without reason, they already distrusted each other's appetites and feared the King's uncanny arts of persuasion" (Kendall 1971, p. 178).

At their second meeting, "[t]he Count not only accepted the King's terms on the spot but promised to secure the adherence of his confederates" (Kendall 1971, p.182). With the most powerful member of the League on his side, Louis carried on with his strategy. On October 10, the King singled-out the Duke of Brittany making an offer that the Duke gladly accepted. With Charolais and Brittany pushing for peace, the King could now bargain with the other subjects from a position of strength. He next targeted the Count of Armagnac, offering a pension and a minor command in the standing army. Caught "in a violent rage" against his "more fortunate allies", the Count of Armagnac accused: "under the pretense of assembling for the public weal of the realm, each had come (..) for his own interest". Charolais responded that "he should be content with the offer that had been made him, which was more than he deserved" (Kendall 1971, p.184).

When the King dealt with the Duke of Nemours, he found that he was "happy to receive from the King a few crumbs of privileges" (Kendall, 1971; p.184). To the house of Valois-Anjou, the King offered a subsidy paid over several years, a small help for their campaign in Southern Italy. On the other hand, Duke John, of the House of Valois-Orleans, was simply informed that the King would not accept any of his requests. Towards the end of October, with an advantageous agreement in their hands, the Burgundians and the Bretons were preparing to leave. Pushing everyone to their limits, on October 28 Louis did not present a draft of his proposals, but rather a formal document: "it was take-it-or-leave-it" (Kendall, 1971; p.185). By the next day, the "unhappy magnates" accepted the offer as it was, making it the Treaty of Saint-Maur-

des-Fossés (Kendall, 1971; p.185). Peace was established, all actions were pardoned and the common interest had succumbed to the magnates' individual appetites, or as Commynes, our main source, remarks "the Bien Publique had been converted into the Bien Particulère," (Kendall, 1971; p.179). On November 3, the League was dissolved. "At the cost of satisfying the appetite of the Count of Charolais, Louis had succeeded in imposing , on princes sworn to have his skin, a treaty which dismissed their armies by concessions that mocked their demands" (Kendall, 1971; p.186).

7.1.1 Discussion

The case study offers key insights into the forces that underline the political equilibrium of XV Century France and, arguably, Western Europe. While Louis XI was considered an excellent negotiator by his contemporaries, the final settlement that he forces onto his magnates is essentially a return to the status quo, before his 'reckless' reforms attempts. This suggests that the strategy used by Louis XI might be a good description of the logic behind the prevailing political equilibrium in France at the time.

In general, there is no reason to believe that Late Medieval France was special in terms of the determinants of the political balance between rulers and magnates. Indeed, observers from as diverse backgrounds as Sir Edward Coke, Immanuel Kant and James Madison have all described "divide et impera" or "divide and conquer" as a normal practice or crucial strength in how monarchs dealt with their magnates.[36]

The case study offers an opportunity to discuss how the three facts presented in Section 6 can all be ascribed to the divide-and-conquer nature of the policies of central authorities, just as our model proposes. The bargaining strategy of Louis offers an important insight on the possible role played by *orders* (e.g. ranks, systems of precedence, etc.) as determinants of the political equilibrium. Interestingly, also David Hume interpreted the assignment of ranks as a reflection of a central authority's desire to cement its position (Miller, 1980). Louis dealt with the coalition of magnates by approaching them sequentially, moving to the next magnate only after making sure that the magnates he already approached were ready to desert the other members of the league (or even side with him), which allowed him to bargain from a position of increasing strength as he moved from one magnate to the next.

From a general perspective, it is natural to expect that more powerful groups obtain greater concessions because they have more bargaining power. However, as our model predicts, Louis assigned precedence in negotiation based on the magnates' relative powers.[37] Such strategy further aggravates any natural form of social stratification, as

[36]See Section 8.2 for the relevant reference from Coke (1644). Kant includes "divide et impera," or to "destroy the unity" of the magnates and to "separate them from the people", as one of the maxims of tyranny (Kant 1983, p.130). Kant even claims that such strategy is so well known that it might not work (Kant 1983, p.131). In a letter to Jefferson on October 24, 1787, Madison famously described "divide et impera" as the "reprobated axiom of tyranny," see Madison (1787)

[37]We have seen how Louis was sure that he would start his negotiations from either Charles or the Duke of Brittany, as they alone had the "authority to serve his turn", i.e. were sufficiently powerful to fit his strategy. In applications we expected the assignment of priority in negotiations to be in large

not only more powerful groups obtain better deals, but also more bargaining power. This is at the basis of the idea that government policies may *induce* social stratification: even if two groups were identical, the ruler would still deal with them sequentially, thus arbitrarily assign more bargaining power (thus a better deal) to one of them.

The case study also offers an opportunity to discuss the link between internal conflicts and favoritism. By design, the strategy of Louis made sure that if negotiation broke down at any point in time, then the King would have faced the military opposition of a coalition of only the lowest-ranked subjects, which is in line with the general pattern on revolts of Section 6.3. The case study also clarifies the nature of the jealousies that are often proposed as an explanation for the conflicts between magnates (see Section 6.3). The fact that the bargaining power of each magnate is based on the power of all the lower-ranked magnates can explain both the bitter reaction of the Duke of Armagnac against his "more fortunate allies" and the response of Charles, who noted that the Duke obtained more than he deserved.[38] Additionally, as shown by our model, this feature implies that status has value and might thus provide the incentives for infighting.

7.2 Case study: Seigneurial Wars in Late Medieval and Early Modern Europe

One of the most consistent features of Medieval society is the pervasiveness of internal conflicts. Indeed, the "medieval European nobility spent much of their time fighting each other, in what modern historians call private wars, guerres privèes, Privatkriege." (Kaminsky, 2002, p.55) While the conflicts "of the great noble families" are the most likely to be recorded by the surviving sources, we know that conflicts between whole kindreds and their armed supporters were common "at every level of society", in urban centers and rural districts alike (Bloch, 1961; p. 127).

Among all forms of private wars, our focus will be on what historians call seigneurial wars or the noble feud, which can be defined as "large-scale, organized, politically-motivated violence waged among non-royal parties" (Firnhaber-Baker 2010*a*, p.37). Unlike 'feuds' in the sense of "cyclical, vindicatory violence waged by kin groups", the basis of seigneurial wars was not "wounded honour or anger" (Firnhaber-Baker

part determined by a history of friendship or trust. However, this expectation is clearly subverted by Louis's strategy. Indeed, only a few months before, the King's army had clashed against Charles' army in a bloody battle, where both Louis and the Count lost many of their comrades. The Duke of Brittany was the subject whose treacherous dealings with England had risked opening a new phase of the Hundred Years' War, which was probably averted only because the English Crown was itself in a deep crisis, the devastating War of the Roses (1455-1485).

[38]The frustration of the Duke is natural given that the subjects that Louis singled-out before him (the higher-ranked subjects) obtained greater concessions by leveraging on the Duke's military resources as well as their own. Charles' response can be understood by noting that the Duke was not the last in the ranking and thus he also obtained "more than he deserved", in the sense that his bargaining power did not only reflect his own power, but also the military power of the magnates that did not obtain an offer from Louis before the Duke (i.e. the magnates ranked below the Duke).

2010*b*, p.91) but some contested lordship right (i.e. the distribution of political rents). Moreover, we will focus on seigneurial wars that took place in Late Medieval and Early Modern Germany (i.e. the Germanic domains of the Holy Roman Empire), basing our work on Zmora (2003, 2015, 2020), which studies the almost 300 seigneurial wars that took place between 1440 and 1570 in Franconia. This geographical and temporal focus is necessary to have a sharper view of the pattern of conflict behavior, however seigneurial wars were a widespread European phenomenon.[39] At the European level, seigneurial wars interacted with other conflicts, including important inter-state wars such as the Hundred Years' War.[40] Even when they did not interact with inter-state wars and only involved a limited number of military units, seigneurial wars caused "extensive devastation" and an "array of social problems and economic disruptions" (Zmora, 2003).

7.2.1 Characteristics of Seigneurial Wars in the German lands

Approaching seigneurial wars from a rational-agent perspective rises three key puzzles. First, fighting does not appear to be motivated by a positive balance between expected material gains and costs. Second, there is a strange ritualistic and behavioral focus on the public humiliation of the opponent. Third, while central authorities tried to limit the practice of seigneurial wars through mediation attempts or outright prohibitions, ex post they often appear to provide the rewards that may motivate the infighting in the first place.

The first feature is noted by Zmora that mentions "the apparently considerable disproportion between the comparatively little economic value of the disputed objects and the intransigence that the feuders displayed" as a "salient characteristic" of seigneurial wars (Zmora 2020, p.221). This disproportion was evident even to contemporary observers. When reporting that one of the most devastating seigneurial

[39]Conflicts between kin-groups are a constant feature of most documented pre-modern European history, at least since the first city-states in Ancient Greece (Zorzi 2009, pp.8-9, 17). Besides the case of Franconia, these conflicts are also well documented for Italian city-states in the Late Middle Ages. A general view is expressed in Martines (1972), Vigueur (2004) and Zorzi (2009). For studies on specific Italian communes see Lansing (1991) for Florence, Di Santo (2016) for Rome, Gentile (2009) for Parma, and Zorzi (2009) for Florence, Parma, Mantova, Lucca and Pisa. We focus on Germany as Zmora distinguishes between seigneurial wars and blood-feuds. Importantly, seigneurial wars did not only appear in places with a relatively weak central authority. The Kingdom of France was also afflicted from them, despite the regulations against feuding: for the period 1302-1568 more than fifty thousand royal pardons can be related to seigneurial wars (Kaminsky, 2002). In Southern France alone, we can count somewhere between 59 and 72 cases during the XIV Century (Firnhaber-Baker 2010*a*, p.91). Even in England, despite the relatively strong position of the English Crown vis-à-vis the aristocracy and the early royal prohibitions against private wars, seigneurial wars were "endemic from the fourteenth to the seventeenth centuries" (Kaminsky 2002, p.75).

[40]While the Hundred Years' war is typically characterized as one of the first conflict between nation states (France and England), Kaminsky (2002) discusses how recent scholarship on the surviving documentary evidence presents a picture where local rivalries and "the maintenance of individual power and privilege" were the key driver of the choice to side with the French or English Crown (Little 1984, p.176; quoted in Kaminsky 2002, p.72)..

wars of early-modern Franconia was over the rights to use a worthless sheep-run, the narrator himself commented in bewilderment "this was the beautiful Helen over which the two princes (...) went to a veritable Trojan War" (Fries 1713; quoted in Zmora 2003, p.87). Interestingly, this pattern does not only emerge from an ex-post reading of the evidence. Indeed, the actors immediately involved seemed perfectly aware of such disproportion, but willing to fight nonetheless. For instance, when the margrave of Brandenburg-Ansbach went to war with another Franconian prince over tolls, he noted "with the help of God we would not let 4,000 Gulden be taken away from the lordship even if it should cost us three times the worth of the tolls" (quoted in Zmora 2020, p.221). In general, any theory of seigneurial conflicts must come to terms with the fact that when fighting over lordship rights, "[a]ristocrats, from lesser nobles to princes and kings, accepted the disproportionately high costs of defending these rights" (Zmora 2020, p.221).

Both Firnhaber-Baker and Zmora discuss the role of public displays and acts of dominance as integral part of the conduct of fighting parties. "Wars almost invariably involved acts of violence and domination that produced no direct material benefit for the attackers, but which humiliated their enemy, resulting in the loss of prestige for the opposition." Moreover "[s]uch acts often involved public symbols of status such as banners and other regalia" (Firnhaber-Baker 2010*b*, p.97). This feature was shared by the seigneurial wars analyzed by Zmora as well, and was understood by contemporaries. For instance, "a commonplace maxim" that circulated among fighters in Franconia was "he who sustains the damage must often suffer the scorn as well" (quoted in Zmora 2020, p.222). In general, there is a general attention among the fighting parties to publicize their actions, especially towards the relevant overlord who were asked to be present at decisive events, such as duels or pacification ceremonies.

Finally, the evidence from Early Modern Franconia directly links seigneurial wars to the practice of political favoritism. Indeed, Zmora notes as striking that "many feuders were appointed to high princely offices during or immediately following their feuds," concluding that "feuds brought them to the fore and then closer to the prince (..) [and] [t]heir status rose concordantly" (Zmora 2003, pp.116-117) Importantly, because "lordships were in large part controlled or distributed by princes", princely favors could not be simply extorted with brute force from another family. Yet, "[u]nderlying all [conflict motives] was the concomitance of the competitions over accumulation and concentration of land-lordship and territorial lordship" (Zmora 2003, pp.117-118). This competition was an indirect effect of the princely policies: "making choices, by favouring some fighter over others, princes influenced the process of social stratification among the nobility" (Zmora 2003, p.112). So that "[seigneurial wars] helped to create winners and losers. In association with other strategies, feuds could result in accumulation and concentration of lordship" (Zmora 2003, p.118). Zmora concludes that "one of the most salient traits of the feud in this period of intense princely territorialisation" is that many "German noblemen owed their rise to prominence to a timely prosecution of feuds," as seigneurial wars provided the "political moment that generated the 'critical mass' necessary for [their] further ascent." It is only after taking these politi-

cal outcomes into account that a seigneurial war can appear as a "a well-thought-out enterprise" (Zmora 2003, pp.25-26).

8 Extensions

8.1 Endogenous Ruler

We now extend the baseline model to endogenize the identity of the ruler. In particular, in this section we consider the following modified timing:

1. Groups receive their initial endowment of military and economic resources and a group is randomly selected to be the incumbent ruler.

2. *Conflict phase*: groups can fight each other in order to affect an initially given distribution of resources $\boldsymbol{\theta} = (\mathbf{B}, \mathbf{W})$.

3. *Ruler Selection*: when all conflicts are settled,

   3a) Each group can choose to challenge the incumbent for the rulership;

   3b) Groups choose whether to support the incumbent, the challenger, or stay neutral.[41]

   3c) The group with the largest support becomes (or remains) the ruler.

4. *Taxation Game*: the appointed ruler optimally demands taxes from each group who, in turn, can choose whether to comply or to try to resist taxation.

5. Payoffs are realized.

This particular time structure allows us to consider the effect of ruler selection on the pattern of internal conflict and how the optimal taxation influences both ruler selection and internal conflicts, without resorting to a much more complicated repeated game. As the taxation game is the same as in Section 3, we start the analysis from the ruler selection phase.

8.1.1 Ruler Selection

As Section 3 characterizes the optimal taxation for any exogenously given ruler, in this section we study how the anticipation of optimal taxation affects subjects' ruler selection. We keep Assumption 3, i.e. that $W_i = g(B_i)$, with $\frac{g(B_i)}{B_i}$ increasing in B_i. We assume that, before entering the taxation game, every subject can challenge the incumbent for the rulership. In order to become the ruler, the challenger needs to collect enough support relative to the current ruler. In particular, given a challenger

[41] We focus on the equilibrium in which groups which are indifferent between incumbent and challenger stay neutral.

and an incumbent, we assume that each group can either stay neutral or side with one of the candidates for a negligible but positive cost.[42] The challenger becomes the ruler if:

$$\sum_{j\in\, C\text{-}support} W_j > \sum_{j\in\, I\text{-}support} W_j,$$

where *C-support* and *I-support* are the set of groups that choose to support the challenger or the incumbent, respectively.

We assume that no candidate can credibly commit to a particular taxation policy: thus, the taxation policy would be the one determined in the previous section, i.e.

$$T_i = c + B_i \times \left(1 - \frac{\sum_{j\leq i} W_j}{W_{tot}}\right) = c + B_i \times \left(\frac{W_{ruler} + \sum_{j>i} W_j}{W_{tot}}\right). \tag{3}$$

Because the ruler is purely extractive, each group prefers a ruler that imposes a lower tax burden on them. As a first step of the analysis, in the following lemma we characterize subjects' preferences over the identity of the ruler.

Lemma 4 *Each subject i strictly prefers a ruler h which is stronger $W_h > W_i$ rather than a ruler ℓ which is weaker $W_\ell < W_i$. Furthermore, subject i is indifferent among all stronger subjects.*

This result appears to run counter to the intuition that groups should benefit from a weak ruler, given its purely extractive role. Despite it is true that subjects benefit from a weakening of the ruler, as tax demands are increasing in the military power of the ruler, W_{ruler}, Lemma 4 implies that every group i would actually prefer the strongest group over any weaker group ℓ, $W_\ell < W_i$, as the ruler.

The logic of the result rests on the characteristics of the favoristic taxation that any ruler would optimally employ when extracting taxes. As it is clear from Equation 3, the taxation demands that the ruler imposes on i is backed by the military power of the ruler and that of all groups who are positioned above i in the government's ranking. This follows from the fact that whenever (in a deviation) resistance occurs, the ruler deals with it using its weapons and those of all subjects who have greater status than the resisting ones. This means that, for any i, the military power of any subject h with higher ratio $\frac{B_h}{W_h} > \frac{B_i}{W_i}$ would be employed to extract taxes from i, independently of the ruler's identity. Thus, in order to minimize their tax burden, subjects would strictly prefer to have a ruler who would anyway be above them, rather than below them, in the government's ranking.

With this in mind, we can characterize the endogenous choice of a ruler in the following theorem which identifies the strongest group as the natural ruler.

Theorem 4 *No group can successfully challenge the ruler when the rulership is held by the strongest group. The strongest group can successfully challenge any ruler.*

[42] This assumption, implying abstention of indifferent voters, allows us to focus on changes in rulership strictly preferred by a more powerful coalition than the one that strictly prefers the status quo.

In line with this theorem, Francois, Rainer and Trebbi (2015) shows that, in post-colonial Africa, autocrats are more likely drawn from larger than smaller ethnic groups.[43] In general, this result shows the particular relevance, in a weakly-institutionalized society, of becoming the hegemonic power, i.e. the strongest group.

8.1.2 Hegemonic Conflicts

In this section we explore how the ruler selection phase affects the pattern of conflict. While the analysis in Section 4 continues to hold, the ruler selection phase introduces novel incentives to start an internal conflict when its result can affect the identity of the ruler.

Since the strongest group (hegemonic power) attains the rulership in a weakly-institutionalized society (see Theorem 4), we find a novel and particularly large discontinuity in the incentive to start a conflict, depending on whether the attacker could become the new hegemonic power in case of success.

Indeed, becoming the strongest group reduces the group's tax rate to zero and grants access to the taxes paid by the rest of society.

Using the same logic of Theorem 3, we can establish an analogous result for the on-set of hegemonic conflicts, which we interpret as civil wars.[44] Ordering all groups from weaker to stronger, we find the following:

Corollary 2 (Hegemonic Conflicts) *If the disutility κ is such that, for subject n,*

$$\kappa(0) < p(W_n, W_n)\left[\sum_{\ell=1}^{n}\sum_{j>\ell} B_\ell \frac{W_j}{W_{tot}} + \frac{W_n}{W_{tot}} B_n + (n+1)c\right],$$

then for every distribution of resources $\mathbf{B}$ *there exists* $H > 0$ *such that there is a conflicts whenever* $H > B_{n+1} - B_n$

Note that the threshold on $\kappa(0)$ for hegemonic conflicts provided by the corollary is greater than $p(W_n, W_n)\frac{W_n}{W_{tot}}B_n$, i.e. the corresponding threshold for status-related conflicts in Theorem 3. In addition to the jump down in the group's tax rate (which goes to zero), there is an extra-term which captures the value of society's tax revenues.

Because tax revenues depend on the whole distribution of resources in society, then our model shows that civil wars should not only depend on the characteristics of the fighting parties, but also on a measure of the whole distribution of resources in society. This is another finding that justifies the approach of the empirical literature

[43] While a group's size does not necessarily represent its power, a very small group is unlikely to be very powerful.

[44] In the main datasets on conflicts (e.g. COW), civil wars are defined as conflicts involving the government that are not one-sided (i.e. there is no side that is negligible compared to the other). As hegemonic conflicts aim at becoming the ruler by becoming stronger than the current hegemonic power (which should be the current ruling group), we expect such conflicts to be coded as civil wars.

on ethnic conflict (e.g. Arbatli et al., 2020), which shows that the incidence of conflicts can be predicted by statistics of the country-level distribution of resources (e.g. fractionalization or polarization).

From an empirical perspective, our model suggests that civil wars should be more likely when the balance of power between the two strongest groups approaches parity. In effect, this observation may explain why polarization is associated with the incidence of civil wars even when controlling for other measures, such as fractionalization (Montalvo and Reynal-Querol, 2005).[45] To assess the empirical relevance of hegemonic conflicts in weakly-institutionalized societies, note that if $\kappa(0) = c$, then for every society and with any conflict technology such that $p(W, W) = 0.5$, there is an hegemonic conflict whenever the two strongest groups are sufficiently close to each other: the weaker of the two would start a conflict to try to become society's new hegemonic power and thus ruler.

8.2 Common Identity and Pledge Support: the threat of collective action

A fundamental assumption of our framework is that society is exogenously divided in non-atomistic groups that constitute the decision units of our model. In this section, we aim to shed some light on how (possibly stochastic) changes in such social divisions affect the equilibrium outcomes. In particular, we consider the possibility that two or more subjects are in *solidarity*, i.e. they act together as if they were a single decision unit. In particular, we consider two types of solidarity: *common identity* (i.e. subjects sharing the same norms, goals, activities, and internalizing each others' payoffs), and *pledged support* (i.e. subjects promising to support each other's interests against the demands of the central authority). These extensions will give us the opportunity to speak to a broad set of evidence on the political consequence of the changes in the composition of society or the political attitudes of the key actors involved.

In terms of groups' dynamics, new common identities may arise, for example, from changes in the socioeconomic and/or religious landscape. On the other hand, mutual representation may result from the creation of representative institutions or the formation of alliances. An example that is common to a variety of societies is the vertical alliances that are at the basis of feudal societies: a subject takes an oath to support another subject in battle in exchange for the other subject's protection and a portion of its land. Another typical example is the case where multiple subjects form an horizontal alliance thus promising to stand for one another, e.g. a pact that is at the basis of communes, leagues, or, more in general, the result of one of the many type

[45] Polarization is meant to capture a situation in which there are two main blocs with power close to parity. The idea to use such measure stems from Horowitz (1985)'s observation that conflicts arise in societies where a large ethnic minority faces an ethnic majority. As an example of this, Montalvo and Reynal-Querol (2005) shows that a country with high polarization and low fractionalization is Guatemala, where the two main groups include 97% of the country with the dominant one at 55%.

of 'representative institutions' backed by the threat of collective action that have been observed in history.[46]

We start our analysis from mutual representation, extending our baseline model allowing for the possibility that, with some probability p, a subset G of subjects will uphold an alliance stipulating that they will resist whenever a fellow member wants to. As a result, with probability p, the subjects in G are, de facto, part of the same group $\mathcal{G}$ with $B_{\mathcal{G}} = \sum_{i \in G} B_i$ and $W_{\mathcal{G}} = \sum_{i \in G} W_i$ and they either do not resist or resist together. It is easy to show that the equilibrium that arises if there is no uncertainty about the groups in G behaving as a single decision unit, i.e. $p = 1$, shares the same characteristic as our baseline model where we essentially replace the subjects in G with the united group $\mathcal{G}$. In the equilibrium with $p = 1$ the ruler would thus treat every member of G as a single group $\mathcal{G}$ and demand from all $i \in G$ a tax

$$T_i = c + \left(1 - \frac{W_{\mathcal{G}} + \sum_{j \in I \setminus G : W_j < W_{\mathcal{G}}} W_j}{W_{tot}}\right) B_i. \tag{4}$$

If group $\mathcal{G}$ arose from the creation of a common identity rather than mutual representation we would obtain similar results. Assume that, with some probability p, a subset G of subjects have successfully created a common identity, i.e. they internalize each other's utility $u_i(B) = u_j(B) = \sum_{s \in G} B_s$, where B is the full vector of economic resources at the end of the taxation game. Also in this case, if $p = 1$, the ruler wants to steer clear of resistance and thus treat them as a single group $\mathcal{G}$, demanding from all $i \in G$ a tax T_i such that[47]

$$\sum_{i \in G} T_i = \sum_{i \in G} \left(c + \left(1 - \frac{W_{\mathcal{G}} + \sum_{j \in I \setminus G : W_j < W_{\mathcal{G}}} W_j}{W_{tot}}\right) B_i\right). \tag{5}$$

The comparison of the tax demands in Equations 4 and 5 with our baseline model (the case where $p = 0$) shows that when fully credible, i.e. $p = 1$, solidarity decreases the total taxation imposed on members of G, i.e. $\sum_{i \in G} T_i$. Moreover, in the case of pledge support each member enjoys lower taxation (strictly so, with the only possible exception of the strongest subject in G).[48] Note that also the strongest member $i \in G$

[46] While Parliaments are the typical example of representative institutions, history is full of examples that follow a similar logic. An example from Ancient history is the figure of the Tribune of the Plebs in Ancient Rome. Such figure 'represented' the Roman plebeians as he had the right to interfere in any action against a plebeian taken by a magistrate (i.e. a patrician), and the tribune was backed by the threat of collective action as all plebeians were supposed to act together to either protect the actions of the tribune or avenge any damage he suffered. Another example from Medieval history is the Council instituted by the Magna Carta to watch over the King's adherence to the norms prescribed by the document. According to the Clause CHECK of Magna Carta, such council was backed by collective action as every magnate promised to take up arms if the Council asked so.

[47] Note that, given the payoff structure with a common identity, any transfer of tax from $i \in G$ to $j \in G$ would keep both groups indifferent.

[48] All $j \in G$ strictly benefit if $j \neq i$, with $i \in argmax_{s \in G}(W_i)$. Note that in the case of common identity the comparison between the tax paid by a single member under $p = 0$ and $p = 1$ would be meaningless.

is strictly better off if there exists a subject $j \in I \setminus G$ such that $W_{\mathcal{G}} > W_j > W_i$. The finding that being in solidarity has value captures the commonplace assertion that 'unity makes strength'. Our model shows that not only 'unity' increases the subjects' bargaining power, but it also undermines the main strength of the ruler, which is based on the ability to employ its divide-and-conquer strategy. This result runs counter to most of the results on the multilateral bargaining literature, including legislative bargaining, which often finds that there are non-increasing returns to bargaining power.[49] However, this logic seems consistent with the understanding of the workings of representative bodies by their early members. For instance, Coke (1644) reports that when asked what might be "a principal motive for them to have good success in Parliament" it was answered by both Commons and Lords alike that Parliaments protected them from the King's "Divide & impera", i.e. divide and conquer, practice.[50]

So far we only considered the case with $p = 1$; however, a new common identity might be frail and, certainly, not all pledges end up being honored. For instance, we have seen in Section 7.1 that the promise not to accept side deals from the King ends up being disregarded by the magnates. It is therefore natural to consider the case in which there is uncertainty on whether the members of G will be in solidarity or not, i.e. $0 < p < 1$. To start the analysis of this case, suppose that G is the set of all subjects and note that there are only two options. Either the ruler avoids resistance by demanding a tax vector that is smaller or equal to the one prevailing under $p = 1$, or it increases its demands accepting that the subjects will resist taxation with probability p. As the relative attractiveness of these alternatives depends on the probability that subjects are in solidarity, we find that when p is small enough, the ruler will prefer to gamble, demanding taxes as if subjects are not in solidarity and accepting that, with probability p, they will resist.

Proposition 3 *If $G = I$, there exists $\bar{p}$ such that:*[51]

- *If $p > \bar{p}$, the ruler demands taxes as if $p = 1$ and avoids resistance.*
- *If $p < \bar{p}$, the ruler demands taxes as if $p = 0$ and with probability p all subjects resist.*

[49] The standard solution to bargaining problems with multiple agents with heterogeneous bargaining power is the Nash solution, which features constant returns to bargaining power. In the legislative bargaining literature, recently reviewed by Eraslan and Evdokimov (2019), an increase in bargaining power may be detrimental (e.g. Acemoglu, Egorov and Sonin, 2008).

[50] Quote from Coke (1644) Chapter 1, p.35. The author reports a sentence in Latin: "Eritis insuperabiles, si fueritis inseparabiles. Explosum est illud diverbium; Divide, & impera cum radix & vertex imperii in obedientium consensu rata sunt", which can be translated as follows: "You would be invincible if you were inseparable. Once the subjects' collegial agreement became the foundation and summit of authority, the proverb Divide and Rule have been defeated".

[51] From the ruler indifference condition it is easy to show that $\bar{p}$, where $\bar{p}$ is such that $\frac{\left(\frac{\sum_{i\in I} B_i \sum_{j\leq i} W_j}{W_{tot}}\right)}{(k+|G|c)} = \frac{\bar{p}}{(1-\bar{p})}$, where k is the ruler's cost of facing a resistance and $|G|$ is the number of subjects in $|G|$.

First note that, when p is small enough, which could be the case when a new common identity arises or a new representative institution or alliance is formed, then we should expect to observe social unrest, rebellions and/or conflicts against central authorities. In Section 7.1, we have seen how Louis XI carried on with his negotiation strategy that treated the magnates as separate, ignoring their public displays of solidarity. This is an example of gambling on part of the ruler, which might have lead to a break-down of negotiations and a violent outcome, if it turned out that the magnates were really willing to support each other's demands. In Medieval Europe, this result might explain the particular frequency with which the magnates in England have rebelled against their ruler, as one particular feature of Medieval Europe is that the subset of magnates whose main interests were in England would often find a common identity based on the fact that they considered themselves to be English rather than French. In the context of Early Modern Europe, a leading example of the rise of a new common identity is certainly the Protestant Reformation of the XVI Century. In light of the above result, it is unsurprising that the spread of the new religious creeds was associated with widespread revolts and internal conflicts that have often a catalyzing factor in the 'wars of religion'. The idea that a new common identity might lead to social unrest can also be found in modern settings. For instance, when commenting the Indian Mutiny of , British Imperial officers, who attributed the Indian Mutiny of the XIX Century to the fact that the army allowed too many ethnic and social groups to interact with each other and thus form an Indian nationalistic sentiment.

In terms of equilibrium payoffs, the proposition shows that a credible (even if not perfect) threat of collective action (i.e. p high enough but not necessarily 1) leads the subjects to reap the full benefits of being in solidarity. Even in the case where $0 < p < \bar{p}$ and G includes everyone, the results implies that subjects are still better off than with $p = 0$. Indeed, while they are offered the same deal as when $p = 0$, they can still secure a higher expected payoff than in the case with $p = 0$ because with probability p they resist together. However, in this case the subjects do not get the full dividend of solidarity. Indeed, a comparison of the case where $0 < p < \bar{p}$ and $p > \bar{p}$ shows that from the point of view of society the latter case is inefficient (as there is social unrest in equilibrium), and from the point of view of the subjects there is a discontinuous gain for (some of) them when p becomes larger than $\bar{p}$. This result underlines the importance of the credibility of collective action in the functioning of solidarity agreements, such as representative institutions, a feature that can also be found in historical sources.[52] For instance, Coke (1644) says that "ancient Parliament men out of Record" have pointed to the lack of unity within and between the Houses as one of the few possible reasons for a limited success of the English Parliament.[53]

[52]Expanding on this, Proposition 4 will show that, if not everyone is a member of G, then an insufficiently credible solidarity may be be counterproductive.

[53]"It is observed by ancient Parliament men out of Record, that Parliaments have not succeeded well in five Cases. 1. when the King has been in displeasure with his Lords, or with his Commons. 2. When any of the Great Lords were at variance between themselves. 3. When there was no good correspondence between the Lords and the Commons. 4. When there was no unity between the

To conclude the analysis we now consider the general case where $0 < p < 1$ and G might only include a subset of the subjects. In particular, we are interested in characterizing who benefits and who loses from such agreements, to see when we might expect them to emerge and who should be expected to promote or contrast them. The first result is that the ruler is always hurt from any new form of solidarity among its subjects.

Remark 3 *Whenever at least two groups (i.e. $2 \leq |G| \leq |I|$) are in solidarity with some probability (i.e. $0 < p \leq 1$), the expected payoff of the ruler is strictly smaller than with $p = 0$.*

If a subset of subjects is in solidarity with some probability, then either this creates a new binding constraint on the ruler's maximization problem, or it creates an inefficiency which reduces the ruler's expected payoff. As a consequence, the expected payoff of the ruler is unambiguously lower than in our baseline model (i.e. with $p = 0$). While this result is not surprising from a theoretical perspective, it can rationalize the behavior of a wide array of central authorities. For instance,

The previous result establishes that the ruler is an enemy of any form of solidarity that might emerge among its subjects. Perhaps more surprisingly, the ruler is not the only agent that can be negatively affected by a change in the composition of society. In particular, we show that the relative impact on excluded and included groups depends crucially on the credibility of solidarity (i.e. on p).

Proposition 4 *Suppose $G \subset I$ and compare the expected payoff to the case with $p = 0$. There is $\bar{p}_G$ such that*

- *If $p > \bar{p}_G$, the expected payoff of the members of G is greater than with $p = 0$, whereas it is smaller for the excluded subjects.*
- *If $p < \bar{p}_G$, the expected payoff of each member of G can be strictly smaller than with $p = 0$ (the strongest member of G is at most indifferent), whereas every excluded subject is better off.*

When p is high and no resistance takes place in equilibrium, then the excluded subjects, i.e. $s \in I \setminus G$, are hurt by the creation of the new group. In particular, when p is sufficiently high, excluded subjects who are stronger than the weaker member of the newly formed group but weaker than the new group as a whole, i.e. $W_s \in (min_{j \in G} W_j, W_{\mathcal{G}})$, are strictly worse off. Such subjects would effectively suffer a loss in status because of the formation of the group: if weaker (thus lower-ranked) subjects join in a new and stronger (thus higher-ranked) group, a subject excluded by the formation of the new group would be strictly worse off, as some of the subjects that

Commons themselves. 5. When there was no preparation for the Parliament before it began" (Coke, 1644, Chapter 1, p.35).

used to contribute, with their military power, in reducing its tax burden would now contribute in increasing it.

A more subtle result can be found in the case when p is small and the ruler designs its offers accepting that, with probability p, the members of G will resist (possibly joined by other subjects). Note that when G does not include all subjects, then the members of G would not be the only one resisting, as they would be joined by every subject who is ranked below the highest-ranked member of G. But then, when p is small, the ruler might benefit from ranking some of the subjects excluded from G above every member of $\mathcal{G}$, so that even if the members of G end up resisting (which happens with probability $p > 0$), the ruler would have to face the resistance of a smaller subset of subjects.

In Appendix F we explore some implications of solidarity for internal conflicts and ruler selection. We find that, if it involves all subjects (e.g. a fully inclusive representative institutions) then it would strongly reduce the incentives for in-fighting (getting rid of all status-related and anti-elite motives), thus fostering internal stability.

8.3 Non-discriminatory taxation

In this section we study the case in which the government cannot set up a discriminatory taxation system. In other words, we assume that, by law or because of some technological or physical constraint, the ruler is prevented from setting different tax demands for different groups; thus $T_i = T_j = T$ for all $i, j \in I$.[54]

As a first step of the analysis, we argue that, when constrained in this way, an extractive ruler would typically demand taxes that generate socially costly resistance in equilibrium.[55] As the ruler is unable to target taxation demands to the specific groups, the ruler needs to choose whether to tolerate some resistance or set tax demands to a low level, giving up tax gains from those subjects who are far from their resistance threshold (i.e. the tax demand that makes them indifferent between resisting and complying). Once established the relevance of resistance in such non-discriminatory extractive societies, we move to characterize the pattern of resistance. In line with the discussion in Section 3.2, we can show that in equilibrium the ruler faces the largest resistance consistent with his tax demands.[56] In particular, the resistance would be made up of the largest set of subjects $S \subseteq I$ such that for all $s \in S$

$$T > c + B_s \left(1 - \frac{\sum_S W_s}{W_{Tot}}\right).$$

From the expression above, it is immediate to conclude that when a group becomes poorer and/or stronger, it becomes more prone to resist, i.e. it starts to resist at a

[54] To aid interpretation, we can think of groups with the same number of individuals.

[55] To see this, consider the case of one ruler and two subjects. Both subjects have ϵ close to zero military resources, one of them has also ϵ economic resources, and the other one has $B > 1$ economic resources. In order to have the first subject comply, the ruler would need to demand less than ϵ taxes from each subject; which is clearly suboptimal for a ruler who has sufficiently high military resources.

[56] This is formally proved in Appendix A, Lemma 5.

lower taxation level T. Despite this would suggest a role for military power, in the following proposition we show that economic resources are the main determinant of the resistance pattern under non-discriminatory taxation.

Proposition 5 *In non-discriminatory extractive societies, where $T_i = T_j = T$, the equilibrium resisting coalition will involve the poorest subjects. No matter the distribution of military resources W, if $s \in resist(T)$ and $B_j < B_s$ then also $j \in resist(T)$.*

In society where discriminatory taxation is impossible, all groups are demanded the same tax, so they have the same gain in case they join a successful resistance. On the other hand the richer groups have more to lose in case the resistance fails. This idea, combined with the fact that by joining the resistance, all subjects can take advantage of the military resources of all resisting subjects, delivers the result.

As we expect governments to lack the ability or the consent to perfectly discriminate among social groups, this result may have empirical relevance. First, we expect the poorest social groups to be the most likely to participate in social unrest (the empirical counterpart of resistance), when present. Finally, we expect social unrest to be more frequent in contexts where discrimination is more difficult or opposed. This suggests caution in transplanting egalitarian institutions in weakly-institutionalized societies: not only they may be ineffective, but also counterproductive.

9 Future directions

While the game analyzed in Section 3 is relatively simple, we argue that its main insight could apply to different settings then the specific application we considered. Indeed, from a formal point of view, the game simply captures a situation where a proposer makes an offer to a group of respondents, who choose whether to accept it or not. The fundamental innovation to this traditional setting is the existence of an option to "resist": an outside option whose value increases in the amount of respondents that take it. From a conceptual point of view, such outside option "with network externalities" captures what Hirschman (1970) calls "voice" which, in contrast to "exit", is a largely understudied, yet pervasive, feature of economic interactions. With minor tweaks, our taxation game could be used to study problems as varied as a firm offering wages when its workers can go on strike, a government trying to regulate interest groups, a manager motivating his or her workers who can boycott the success of his or her projects, a producer setting quality when consumers can voice their complaints to a regulating board or to other potential consumers (one of the many examples in Hirschman, 1970).[57]

[57] Our primitives, W_i and B_i, can be interpreted in flexible ways. For instance, W_i is just a general "power" variable (power of a lobby, number of votes a group is able to sway, credibility in the eyes of other consumers, etc.). Similarly, B_i is a general "stakes" variable: it allows for heterogeneity in how much a group has to lose from opposing the proposer. Applications that consider redundant the presence of both W_i and B_i can easily shut down one of the two by assuming that it is equal for every decision maker.

Note that, in spite of the wide applicability of the formal problem, to our knowledge only a few papers have studied a setting similar to our taxation game. Moreover, such small literature analyzed a simultaneous-move game (e.g. Segal, 2003). As such game delivers a multiplicty of equilibria, the focus of the literature has been on the determinants of coordination. Not only, as discussed earlier, sequentiality provides a powerful and psychologically-grounded equilibrium selection tool, we believe that such modeling assumption adds to the realism of the formal model, as most manifestations of "voice" unfold over time, allowing other players to join in. Future work could directly contribute to this theoretical literature by studying to what extent the optimality of favoritism generalizes to a more abstract setting than the one we considered.

In terms of the conflict phase, our framework can be expanded in various directions. As we wanted to focus on the relation between social groups, our model was silent about the internal organization of each group. In principle, we could embed within our framework a model that captures within-group considerations, for instance the idea in Padró i Miquel (2007) or the model proposed by Esteban and Ray (2011). This would certainly highlight novel insights and new predictions to bring to the data. Furthermore, as we wanted to stress the robustness of the incentives to fight identified by our model, we worked under a very general conflict technology. By specifying a sharper conflict technology, we would certainly be able to derive additional predictions on the pattern of conflict. This extension could be guided by previous research that have analyzed the incentives to invest in military equipment (Mitra and Ray, 2014) or that highlights how the costs and benefits of conflicts may depend on conditions of the local economy (Dal Bó and Dal Bó, 2011). Another promising avenue for future research is to allow for participation of other groups in conflicts, a topic we only touched upon in Section 4.5. Finally, an obviously important extension would be to explore the logic of our model within a repeated game. First, this extension would enable to derive predictions for economic growth, thus directly and explicitly contributing to the discussion on how political considerations and institutions may hamper or foster economic development. Second, such dynamic extension would enable to identify long-run patterns of conflicts, as we hinted at in Section 4.4. Third, it would enable us to endogenize the incentives of groups to form or dismantle political institutions (e.g. a representative institution) which, as mentioned in Section 8.2, are not trivial and may lead to novel and policy-relevant insights.

Finally, while in our model it is taken for granted, we might be interested in studying how the very existence of a society, i.e. the fact that different groups are subject to the same authority, impacts the pattern of conflicts. In this respect, Proposition 1, together with the optimal social order established by the ruler, suggests that weaker groups would be less frequently attacked when inside a society. This simply derives from the fact that weak groups would be optimally assigned a lower rank by the ruler and such lower rank has the unintended consequence to make stronger subjects internalize any damage they may inflict when attacking them. If greed, i.e. the desire to appropriate other groups resources, is the main driver of conflicts, then the creation of a society can reduce the incidence of conflicts even without considering any direct

role of the government to prevent them. On the other hand, note that fiscal motives inside a society increase the incentives to attack stronger groups. In particular, even abstracting from status motives, the existence of a society could lead groups to start conflicts when they are non-profitable, which would be a dominated choice otherwise.[58]

10 Conclusion

We developed a tractable theoretical framework to study the interrelation between conflicts and government policies in weakly-institutionalized societies. By allowing for multiple and heterogeneous social groups, our model not only highlights new mechanisms for conflicts for the rulership, but also opens up the possibility to address conflicts among non-ruling groups, a largely understudied topic (Sundberg, Eck and Kreutz, 2012). Furthermore, our theory is able to highlight the role played by the distribution of resources in society as a determinant of conflicts, a research direction advocated in Alesina, Michalopoulos and Papaioannou (2016). Our model delivers various novel prediction, including a U-shaped relationship between the similarity of two social groups and their likelihood of being involved in internal conflicts. While conflicts triggered by inequality are merely driven by the fact that fighting weaker groups makes winning more likely, our theory uncovered a robust *policy-induced* economic interest for conflicts when groups are similar, in particular as to why "conflict is more about the change in the relative income status of two similar groups rather than the overall level of inequality" (Ray and Esteban, 2017, p. 280). Finally, we extended the theory to study the role of political institutions. We have shown that exogenous limits on discrimination may backfire, causing wasteful social unrest. On the other hand, an inclusive representative institution may alleviate the problem of internal conflicts.

References

Acemoglu, Daron, and James A . Robinson. 2000. "Why Did the West Extend the Franchise? Democracy, Inequality, and Growth in Historical Perspective." *Quarterly Journal of Economics*, 115(4): 1167–1199.

Acemoglu, Daron, and James A. Robinson. 2019. *The Narrow Corridor: States, Societies, and the Fate of Liberty.* Penguin Press.

Acemoglu, Daron, Georgy Egorov, and Konstantin Sonin. 2008. "Coalition formation in non-democracies." *Review of Economic Studies*, 75(4): 987–1009.

Acemoglu, Daron, James A. Robinson, and Thierry Verdier. 2004. "Kleptocracy and Divide-and-Rule: A Model of Personal Rule." *Journal of the European Economic Association*, 2(2-3): 162–192.

[58] Another promising application is to study state-less societies as those discussed in Acemoglu and Robinson (2019) and when we should expect state-building to take place.

Adams, Nina S., and Alfred W. McCoy, ed. 1970. *Laos: War and Revolution.* HarperCollins Publishers.

Alesina, Alberto, Stelios Michalopoulos, and Elias Papaioannou. 2016. "Ethnic inequality." *Journal of Political Economy*, 124(2): 428–488.

Alighieri, Dante. 1314. *La Divina Commedia. Inferno.*

Arbatli, Cemal Eren, Quamrul H. Ashraf, Oded Galor, and Marc Klemp. 2020. "Diversity and Conflict." *Econometrica*, 88(2): 727–797.

Bai, Ying, and Ruixue Jia. 2016. "Elite Recruitment and Political Stability: The Impact of the Abolition of China's Civil Service Exam." *Econometrica*, 84(2): 677–733.

Bakos, Adrianna E. 2013. *Images of Kingship in Early Modern France: Louis XI in Political Thought, 1560-1789.* Routledge.

Baliga, Sandeep, and Tomas Sjöström. 2013. "Bargaining and war: A review of some formal models." *Korean Economic Review*, 29(2): 235–266.

Bates, Robert, Avner Greif, and Smita Singh. 2002. "Organizing violence." *Journal of Conflict Resolution*, 46(5): 599–628.

Berman, Nicolas, Mathieu Couttenier, Dominic Rohner, and Mathias Thoenig. 2017. "This mine is mine! How minerals fuel conflicts in Africa." *American Economic Review*, 107(6): 1564–1610.

Besley, Timothy, and Torsten Persson. 2009. "The origins of state capacity: Property rights, taxation, and politics." *American Economic Review*, 99(4): 1218–1244.

Besley, Timothy, and Torsten Persson. 2010. "State Capacity, Conflict, and Development." *Econometrica*, 78(1): 1–34.

Besley, Timothy, and Torsten Persson. 2011. "The logic of political violence." *Quarterly Journal of Economics*, 126(3): 1411–1445.

Blattman, Christopher, and Edward Miguel. 2010. "Civil war." *Journal of Economic Literature*, 48(1): 3–57.

Bloch, Marc. 1961. *Feudal Society, Volume 1: The Growth of Ties of Dependence.* . Taylor & F ed., London and New York:Routledge & Kegan Paul Ltd.

Boix, Carles. 2015. *Political Order and Inequality.* Cambridge University Press.

Boucekkine, Raouf, Rodolphe Desbordes, and Paolo Melindi-ghidi. 2019. "Social Divisiveness and Conflicts: Grievances Matter!"

Bougard, FranÃ§ois, Dominique Iogna-Prat, and RÃ©gine Le Jan. 2009. *Hiérarchie et stratification sociale dans l'Occident médiéval (400-1100).* Brepols.

Brubaker, Rogers. 2009. "Ethnicity, race, and nationalism." *Annual Review of Sociology*, 35: 21–42.

Bryce, James. 1901. "The Holy Roman Empire."

Bueno De Mesquita, Bruce, Alastair Smith, Randolph M. Siverson, and James D. Morrow. 2005. *The Logic of Political Survival.* The MIT Press.

Burgess, Robin, Remi Jedwab, Edward Miguel, Ameet Morjaria, and Gerard Padró i Miquel. 2018. "The Value of Democracy : Evidence from Road Building in Kenya." *American Economic Review*, 105(6): 1817–1851.

Cahill, David. 1994. "Colour by Numbers: Racial and Ethnic Categories in the Viceroyalty of Peru, 1532â1824." *Journal of Latin American Studies*, 26(2): 325–346.

Chacon, Yamilette. 2009. "An inquiry into inka structures of domination." PhD diss. University of.

Chung-Mien, Ts'en, and P. A. Herbert. 1987. "The T'ang System of Bureaucratic Titles and Grades." *Tang Studies*, , (5): 25–31.

Cipolla, Carlo M. 2009. *Storia economica dell'Europa pre-industriale.* Bologna:il Mulino.

Coke, Edward. 1644. *The Fourth Part of the Institutes of the Laws of England: concerning the jurisdiction of Courts.* London:Printed by Miles Flesher for William Lee and Daniel Pakeman.

Collier, Paul, and Nicholas Sambanis, ed. 2005*a*. *Understanding Civil War: Evidence and Analysis, Volume 1. Africa.* World Bank Publications.

Collier, Paul, and Nicholas Sambanis, ed. 2005*b*. *Understanding Civil War: Evidence and Analysis, Volume 2. Europe, Central Asia, and Other Regions.* World Bank Publications.

Dal Bó, Ernesto, and Pedro Dal Bó. 2011. "Workers, warriors, and criminals: Social conflict in general equilibrium." *Journal of the European Economic Association*, 9(4): 646–677.

D'Altroy, Terence N. 2015. *The Incas.* . 2nd ed., Wiley-Blackwell.

De Commynes, Philippe. 1972. *Memoirs: The Reign of Louis XI, 1461-83.* Penguin Books.

Dennis, Rutledge M. 1995. "Social Darwinism, Scientific Racism, and the Metaphysics of Race." *The Journal of Negro Education*, 64(3): 243.

De Petra, Giulio. 1866. *Sulle condizioni delle città italiche dopo la guerra sociale: con applicazioni alle colonie di Pompei e Pozzuoli.* Stamperia della R. Univ.

de Santana Pinho, Patricia. 2009. "White but Not Quite: Tones and Overtones of Whiteness in Brazil." *Small Axe*, 13(2): 39–56.

de Tocqueville, Alexis. 1955. *The Old Regime and the French Revolution.* New York, NY:Anchor Books.

Diermeier, Daniel, Georgy Egorov, and Konstantin Sonin. 2017. "Political Economy of Redistribution." *Econometrica*, 85(3): 851–870.

Dikotter, Frank, ed. 1997. *The Construction of Racial Identities in China and Japan.* Hong Kong University Press.

Dincecco, Mark, Giovanni Federico, and Andrea Vindigni. 2011. "Warfare, Taxation, and Political Change: Evidence from the Italian Risorgimento." *Journal of Economic History*, 71(4): 887–914.

Di Santo, Alberto. 2016. *Guerre di torri: violenza e conflitto a Roma tra 1200 e 1500.* Roma:Viella.

Duyvendak, J.J.L. 2008. "The Last Dutch Embassy To the Chinese Court (1794-1795)." *T'oung Pao*, 34(1): 1–137.

Dworczak, Piotr, and Alessandro Pavan. 2020. "Preparing for the Worst but Hoping for the Best: Robust (Bayesian) Persuasion."

Earls, John. 1969. "The Structure of Power in Quechua Mythology." *Journal of the Steward Anthropological Society*, 1: 63–82.

Elman, Benjamin A. 2000. *A cultural history of civil examinations in late imperial China.* University of California Press.

Eraslan, Hülya, and Kirill S. Evdokimov. 2019. "Legislative and Multilateral Bargaining." *Annual Review of Economics*, 11(1): 443–472.

Esteban, Joan, and Debraj Ray. 2011. "A model of ethnic conflict." *Journal of the European Economic Association*, 9(3): 496–521.

Esteban, Joan, Massimo Morelli, and Dominic Rohner. 2015. "Strategic mass killings." *Journal of Political Economy*, 123(5): 1087–1132.

Fearon, James D. 1995. "Rationalist Explanations for War." *International Organization*, 49(3): 379–414.

Fearon, James D. 2011. "Self-enforcing democracy." *Quarterly Journal of Economics*, 126(4): 1661–1708.

Firnhaber-Baker, Justine. 2010*a*. "Seigneurial War and Royal Power in Later Medieval Southern France." *Past & Present*, , (208).

Firnhaber-Baker, Justine. 2010*b*. "Techniques of seigneurial war in the fourteenth century Techniques of seigneurial war in the fourteenth century." *Journal of Medieval History*, 36(1): 90–103.

Francois, Patrick, Ilia Rainer, and Francesco Trebbi. 2015. "How Is Power Shared in Africa?" *Econometrica*, 83(2): 465–503.

Friday, Karl F. 2004. *Samurai, Warfare and the State in Early Medieval Japan.* Taylor & Francis e-Library.

Fries, Lorenz. 1713. "Historie, Nahmen, Geschlecht, Wesen, Thaten, gantz Leben und Sterben des gewesenen Bischoffen zu Wirtzburg und Hertzogen zu Francken [1544]." In *Geschicht-Schreiber von dem Bischoffthum Wirtzbürg.* , ed. Johann Peter Ludewig, 838–45. Frankfurt am Main.

Gehlbach, Scott, Konstantin Sonin, and Milan W. Svolik. 2016. "Formal Models of Nondemocratic Politics." *Annual Review of Political Science*, 19(1): 565–584.

Gennaioli, Nicola, and Hans Joachim Voth. 2015. "State Capacity and Military Conflict." *Review of Economic Studies*, 82(4): 1409–1448.

Gentile, Marco. 2009. *Fazioni al governo: Politica e società a Parma nel Quattrocento.* Roma, Italia:Viella.

Ghazzali, Muhammad. 1933. "Court Language and Etiquette of the Malays." *Journal of the Malayan Branch of the Royal Asiatic Society*, 11(2): 273–287.

Greif, Avner. 1998. "Self-Enforcing Political Systems and Economic Growth: Late Medieval Genoa." In *Analytic Narratives.* , ed. Robert H. Bates, Avner Greif, Margaret Levi, Jean-Laurent Rosenthal and Barry R Weingast, Chapter 1, 23–63. Princeton, NJ:Princeton University Press.

Grillo, Paolo, and Aldo A. Settia. 2018. *Guerre ed eserciti nel Medioevo.* Bologna:il Mulino.

Gutmann, Myron P. 1988. "The Origins of the Thirty Years' War." *The Journal of Interdisciplinary History*, 18(4): 749–770.

Harkness, Kristen A. 2016. "The Ethnic Army and the State: Explaining Coup Traps and the Difficulties of Democratization in Africa." *Journal of Conflict Resolution*, 60(4): 587–616.

Hausteiner, Eva Marlene. 2016. "Managing the world: Conceptions of imperial rule between republicanism and technocracy." *History of European Ideas*, 42(4): 570–584.

Hirschman, Albert O. 1970. *Exit, voice, and loyalty: Responses to decline in firms, organizations, and states.* Harvard university press.

Horowitz, Donald L. 1985. *Ethnic Groups in Conflict.* Berkeley:University of California Press.

Innes, Matthew. 2000. *State and Society in the Early Middle Ages: The Middle Rhine Valley, 400-1000.* Cambridge University Press.

Jackson, Matthew O., and Massimo Morelli. 2009. "Reasons for War: an Updated Survey." In *Handbook on the Political Economy of War.* , ed. Christopher Coyne.

Jenkins, David. 1995. "Temporal Processes and Synchronic Relations: Age and Rank in the Central Andes." *Ethnohistory*, 42(1): 91.

Kaminsky, Howard. 2002. "The Noble Feud in the Later Middle Ages." *Past & Present*, , (177): 55–83.

Kant, Immanuel. 1983. *Perpetual peace and other essays.* Hacket Publishing.

Kasara, Kimuli. 2007. "Tax Me If You Can: Ethnic Geography, Democracy, and the Taxation of Agriculture in Africa." *American Political Science Review*, 101(1): 159–172.

Kendall, Paul Murray. 1971. *Louis XI.* London, UK:George Allen and Unwin Ltd.

King, Elisabeth. 2013. *From classrooms to conflict in Rwanda.* Cambridge University Press.

Kuper, Adam. 1978. "Rank and Preferential Marriage in Southern Africa: The Swazi." *Royal Anthropological Institute of Great Britain and Ireland*, 13(4): 567–579.

Kuper, Hilda. 1949. *An African aristocracy.* London:Oxford University Press.

Lamberg-Karlovsky, Clifford Charles, ed. 1989. *Archaeological thought in America.* Cambridge University Press.

Lansing, Carol. 1991. *The Florentine Magnates: lineage and faction in a medieval commune.* Princeton, NJ:Princeton University Press.

Little, Roger Geoffrey. 1984. *The Parlement of Poitiers: war, government and politics in France, 1418-1436.* Royal Historical Society.

Madison, James. 1787. "The Papers of James Madison, vol. 10, 27 May 1787-3 March 1788."

Marín-Guzmán, Roberto. 1995. "The Causes of the Revolt of Umar ibn Hafsun in al-Andalus (880-928): A Study in Medieval Islamic Social History." *Arabica*, 42(2): 180–221.

Martines, Lauro, ed. 1972. *Violence and Civil Disorders in Italian Cities, 1200-1500.* Los Angeles:University of California Press.

McKnight, Brian E. 1985. "Song Legal Privileges." *Journal of the American Oriental Society*, 105(1): 95–106.

Michalopoulos, Stelios, and Elias Papaioannou. 2016. "The long-run effects of the scramble for Africa." *American Economic Review*, 106(7): 1802 – 1848.

Miller, David. 1980. "Hume and Possessive Individualism." *History of Political Thought*, 1(2): 261–278.

Mitra, Anirban, and Debraj Ray. 2014. "Implications of an economic theory of conflict: Hindu-Muslim violence in India." *Journal of Political Economy*, 122(4): 719–765.

Mitra, Anirban, and Debraj Ray. 2019. "Hindu-Muslim Violence in India: A Postscript from the Twenty-First Century." *Advances in the Economics of Religion*, , (March): 229–248.

Montalvo, JosÃ© G., and Marta Reynal-Querol. 2005. "Ethnic polarization, potential conflict, and civil wars." *American Economic Review*, 95(3): 796–816.

Morelli, Massimo, and Dominic Rohner. 2015. "Resource concentration and civil wars." *Journal of Development Economics*, 117: 32–47.

Morgenthau, Hans J. 1948. *Politics Among Nations: The Struggle for Power and Peace.* New York:Alfred A. Knopf.

Morrock, Richard. 1973. "Heritage of Strife: The Effects of Colonialist "Divide and Rule" Strategy upon the Colonized Peoples." *Science & Society*, 37(2): 128–151.

Moseley, Michael. 2001. *The Incas and Their Ancestors: The Archaeology of Peru (Revised Edition).* London, UK:Thames & Hudson.

Myerson, Roger B. 2008. "The autocrat's credibility problem and foundations of the constitutional state." *American Political Science Review*, 102(1): 125–139.

Nietzsche, Friedrich Wihelm. 1967. *The Will to Power.* . Vintage ed.

North, Douglass C, John Joseph Wallis, and Barry R Weingast. 2009. *Violence and social orders: A conceptual framework for interpreting recorded human history.* Cambridge University Press.

North, Douglass C, John Joseph Wallis, Steven B Webb, and Barry R Weingast, ed. 2013. *In the shadow of violence: Politics, economics, and the problems of development.* Cambridge University Press.

Padró i Miquel, Gerard. 2007. "The control of politicians in divided societies: The politics of fear." *Review of Economic Studies*, 74(4): 1259–1274.

Papachristos, Andrew V. 2009. "Murder by Structure: Dominance Relations and the Social Structure of Gang Homicide." *American Journal of Sociology*, 115(1): 74–128.

Powell, Robert. 2006. "War as a Commitment Problem." *International organization*, 60(1): 169–203.

Ray, Debraj, and Joan Esteban. 2017. "Conflict and Development." *Annual Review of Economics*, 9(1): 263–293.

Renshon, Jonathan. 2017. *Fighting For Status: Hierarchy and Conflict in World Politics.* Princeton University Press.

Reynal-Querol, Marta. 2002. "Ethnicity, political systems, and civil wars." *Journal of Conflict Resolution*, 46(1): 29–54.

Segal, Ilya. 2003. "Coordination and discrimination in contracting with externalities: Divide and conquer?" *Journal of Economic Theory*, 113(2): 147–181.

Stepan, Nancy Leys. 1991. *The Hour of Eugenics: Race, Gender and Nation in Latin America.* Ithaca (NY):Cornell University Press.

Stewart, Neil. 1951. "Divide and Rule: British Policy in Indian History." *Science & Society*, 15(1): 49–57.

Stollberg-Rilinger, Barbara. 2018. *The Holy Roman Empire: A Short History.* Princeton University Press.

Strauss, Gerald. 1978. "The Holy Roman Empire Revisited." *Central European History*, 11(3): 290–301.

Sundberg, Ralph, Kristine Eck, and Joakim Kreutz. 2012. "Introducing the UCDP Non-State Conflict Dataset." *Journal of Peace Research*, 49(2): 351–362.

Ticchi, Davide, and Andrea Vindigni. 2008. "War and Endogenous Democracy."

Tortella, Gabriel. 2010. *The Origins of the Twenty-first Century.* New York, NY:Routledge.

Twinam, Ann. 2015. *Purchasing whiteness: Pardos, mulattos, and the quest for social mobility in the Spanish Indies.* Stanford University Press.

Vale, Malcolm Graham Allan. 1974. *Charles VII.* London:Eyre Methuen.

Valente, Claire. 2003. *The Theory and Practice of Revolt in Medieval England.* Aldershot, England:Ashgate Publishing Limited.

Vigueur, Jean-Claude Maire. 2004. *Cavalieri e Cittadini: guerra, conflitti e società nell'Italia comunale.* Bologna:il Mulino.

Voss, Barbara L. 2008. *The archaeology of ethnogenesis: Race and sexuality in colonial San Francisco.* University of California Press.

Weiner, Michael, ed. 2009. *Japan's Minorities: The Illusion of Homogeneity.* Vol. 53, Routledge.

Weingast, Barry R. 1997. "The Political Foundations of Democracy and the Rule of Law." *American Political Science Review*, 91(2): 245–263.

Wilson, Peter H. 2014. "Prussia and the Holy Roman Empire 1700-40." *German Historical Institute London Bullettin*, 36(1): 3–48.

Wrangham, Richard W., and Michael L. Wilson. 2004. "Collective violence: Comparisons between youths and chimpanzees." *Annals of the New York Academy of Sciences*, 1036(1): 233–256.

Zmora, Hillay. 2002. *Monarchy, Aristocracy and the State in Europe 1300-1800.* London and New York:Routledge.

Zmora, Hillay. 2003. *State and nobility in early modern Germany: the knightly feud in Franconia, 1440-1567.* Cambridge University Press.

Zmora, Hillay. 2015. *The Feud in Early Modern Germany.* Cambridge University Press.

Zmora, Hillay. 2020. "Reputation as a common source of cooperation and violent conflict: The case of the noble feud in early modern Germany." *Evolution and Human Behavior*, 41(3): 218–225.

Zorzi, Andrea, ed. 2009. *Conflitti, paci e vendette nell'Italia comunale.* Firenze, Italia:Firenze University Press.

A Game Trees

The Game form of the taxation game is depicted in Figure 2. In this figure, the first row of the payoff vector reports the ruler's expected payoff, the second row represents the expected payoff of the first respondent to the ruler's offer, and the last entry is the expected payoff of the second respondent. The game tree represents our taxation game with only two subjects, but extension to n subjects is straightforward. For notational convenience we suppressed the second and third argument of $f(\cdot)$.

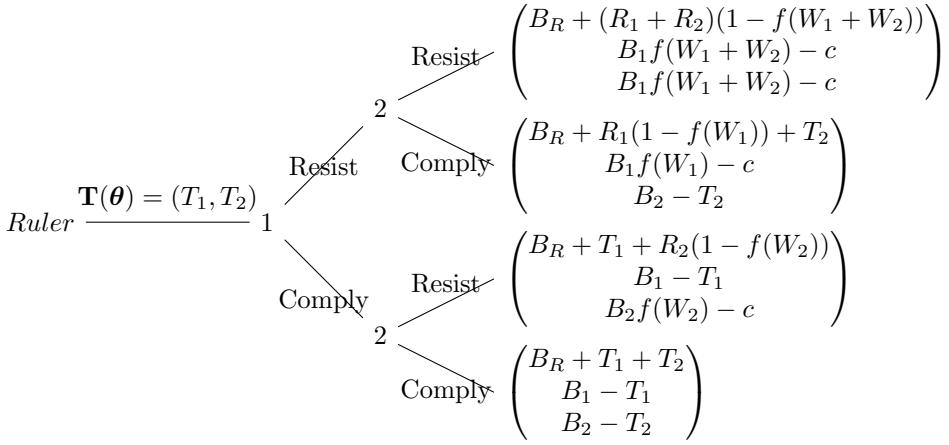

Figure 2: Taxation Game with two subjects

Given $V(\boldsymbol{\theta})$, the payoff that the taxation phase associates with a particular distribution of resources $\boldsymbol{\theta}$, the reduced-tree representing the conflict phase is depicted in Figure 3.

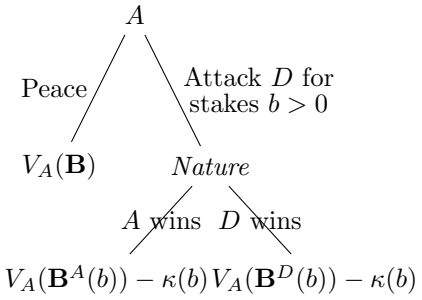

Figure 3: Conflict Phase from the point of view of A

B Mathematical Appendix of Section 3

PROOF OF LEMMA 1: Fix tax demands $\mathbf{T}$. Consider any SPE in which, when subjects are indifferent they choose not to resist. Proceeding by backward induction,

we know that the last agent to choose, call it n, observing the set of agents already resisting, $resist_n \subseteq I$, would join the resistance if and only if

$$B_n \times f\left(W_{resist_n} + W_n, W_{Ruler}, W_{tot}\right) - c < B_n - T_n$$

Knowing this, if group $n-1$ observes $resist_{n-1} \subseteq I$, the set of subjects resisting before its choice and n's choice is made, it will join the resistance if and only if

$$B_{n-1} \times f\left(W_{resist_{n-1}} + W_{n-1} + W_n \mathbb{J}, W_{Ruler}, W_{tot}\right) - c < B_{n-1} - T_{n-1},$$

$$\mathbb{J} := \mathbb{I}\left(B_n \times f\left(W_{resist_{n-1}} + W_{n-1} + W_n, W_{Ruler}, W_{tot}\right) - c < B_n - T_n\right)$$

Iterating the argument, we find similar conditions for every subject. Clearly, given the tie-breaking assumption and the common knowledge of the vectors $(\mathbf{B}, \mathbf{W})$ and the tax vector $\mathbf{T}$ demanded by the ruler, group i's choice about whether or not to join the resistance is uniquely determined by the choice of $j < i$, the player who moves before i. Further, note that if i resists when $j < i$ does not, then i will resist also when j resists. So, under this tie-breaking ruler, for any fixed tax vector $\mathbf{T}$ and order in which subjects are called to resist, there exists a unique SPE of the continuation of the taxation game. Finally, note that the tie breaking rule is without loss of generality. Indeed, if i joins the resistance when indifferent, the ruler would be better off by decreasing T_i by an infinitesimal amount so to discourage it from resisting. As a consequence, there is no equilibrium where an indifferent subject chooses to resist.[59] ■

PROOF OF LEMMA 2: Fix any tax demands $\mathbf{T}$. Consider two successive groups i and $i+1$ in a particular order $(1....n)$. Because players move sequentially and information is complete, it is easy to show that if $resist\left(\mathbf{T}\right)$ is the set of subjects that choose to resist in an SPE when the order is $(1, i, i+1...n)$ then $resist\left(\mathbf{T}\right)$ would also be the set of subjects that choose to resist in an SPE when the order is $(1..i-1, i+1, i, i+2..n)$. Lemma 1, establishing uniqueness of the SPE for any fixed order completes the proof: tax vector T generates resistance $resist\left(\mathbf{T}\right)$ independently on the order in which subjects are called to choose. ■

PROOF OF LEMMA 3: In Lemma 1 we showed that the subgame following the tax demand $\mathbf{T}$ has a unique SPE. Given the complete information, the ruler can anticipate the set of subjects that choose to resist in the possible SPE $resist\left(\mathbf{T}\right)$. Suppose that in an SPE we have $i \in resist\left(\mathbf{T}\right)$. Since discouraging i from joining the resistance cannot trigger a resistance of greater size (reducing the size of the resistance reduces its likelihood of success and thus the value of joining), then it must be the case that

$$\underbrace{B_i\left(1 - f\left(W_{resist(\mathbf{T})}, W_{Ruler}, W_{tot}\right)\right)}_{\substack{\text{expected resources extracted} \\ \text{from i when resistance set is resist(T)}}} > \underbrace{c + B_i \times \left(1 - f\left(W_{resist(\mathbf{T})}, W_{Ruler}, W_{tot}\right)\right)}_{\substack{\text{a tax able to discourage} \\ \text{i from joining the resistence}}}$$

[59] If $T_i = 0$ then i strictly prefers not to resist.

i.e. $c < 0$, which cannot hold as we assumed $c > 0$. ■

PROOF OF THEOREM 1: The proof evolves through different steps:

1. By Lemma 2 and 1, for any given $\mathbf{T}$ the SPE outcome is unique and order independent.

2. By Lemma 3 resistance cannot be part of a SPE. Call $\mathbf{T}^\star$ the SPE taxation demanded by the ruler and $resist_{\mathbf{T}^\star}$ the only possible set of resisting subjects that can be associated with $\mathbf{T}^\star$ in an SPE. By definition the ruler would choose $\mathbf{T} = \mathbf{T}^\star$ to maximize its utility, i.e. to maximize the expected sum of tax extraction.

3. In order to avoid resistance $\mathbf{T}^\star$ should be such that:

   - No subject needs to find optimal to resist alone: $\nexists\ i$ such that
   $$T_i^\star > c + B_i \left(1 - f\left(W_i, W_{Ruler}, W_{tot}\right)\right)$$
   - No two subjects find optimal to resist together: $\nexists\ s, j$ such that for all $i \in \{s, j\}$
   $$T_i^\star > c + B_i \times \left(1 - f\left(W_s + W_j, W_{Ruler}, W_{tot}\right)\right)$$
   - No three subjects find optimal to resist together: $\nexists\ s, j, l$ such that for all $i \in \{s, j, l\}$
   $$T_i^\star > c + B_i \left(1 - f\left(W_s + W_j + W_l, W_{Ruler}, W_{tot}\right)\right)$$
   - etc.

4. As by Lemma 3 the above constraints must be satisfied, it is easy to show that for any SPE which does not involve resistance, the tax vector $\mathbf{T}^\star$, should be such that given a re-ordering of subjects $(1, ..., n)$ (the order here does not need to coincide with the order in which subject can join the resistance), then
$$T_i^\star = c + B_i \left(1 - f\left(\sum_1^i W_j, W_{ruler}, W_{tot}\right)\right)$$

5. Thus it is a matter to maximize the total possible transfer with respect to such"order"
$$\max_{order\ O} \sum_i \left(c + B_i \left(1 - f\left(\sum_{j:O(j)<O(i)} W_j, W_{ruler}, W_{tot}\right)\right)\right)$$

6. Note also that the ruler would want assign a lower position in the order, $O\left(i\right) \leq O\left(j\right)$, subjects i with lower W and higher B. ■

PROOF OF THEOREM 2: From theorem 1 we know that in any SPE, the ruler would set up a ranking so to maximize

$$\max_{order\ O} \sum_i \left(c + B_i \left(1 - f \left(\sum_{j:O(j)<O(i)} W_j, W_{Ruler}, W_{tot} \right) \right) \right)$$

sub

$$T_i^\star = c + B_i \left(1 - f \left(\sum_1^i W_j, W_{Ruler}, W_{tot} \right) \right)$$

Note that if $f(\cdot)$ is linear in the first argument, the following is true

$$\max_{order\ O} \sum_i \left(c + B_i \left(1 - f \left(\sum_{j:O(j)<O(i)} W_j, W_{Ruler}, W_{tot} \right) \right) \right)$$
$$= nc + \sum_i B_i - \max_{order\ O} \left(-\sum_i B_i \sum_{j:O(j)<O(i)} f\left(W_j, W_{Ruler}, W_{tot}\right) \right)$$

Solving the above program is thus equivalent to the following

$$\min_{Order\ O} \left(\sum_1^n f\left(W_i, W_{Ruler}, W_{tot}\right) \sum_{O(j)<O(i)} B_j \right)$$

Consider exchanging the order between i and $i+1$ keeping everyone else fixed. Note that nothing changes for the others, so the incentive to switch i with $i+1$ is just given by the following

$$\left[f\left(W_i, W_{Ruler}, W_{tot}\right) \left(\sum_{j<i} B_j + B_{i+1} \right) + f\left(W_{i+1}, W_{Ruler}, W_{tot}\right) \left(\sum_{j<i} B_j \right) \right] +$$
$$- \left[f\left(W_{i+1}, W_{Ruler}, W_{tot}\right) \left(\sum_{j<i} B_j + B_i \right) + f\left(W_i, W_{Ruler}, W_{tot}\right) \left(\sum_{j<i} B_j \right) \right]$$
$$= \left[f\left(W_i, W_{Ruler}, W_{tot}\right) B_{i+1} \right] - \left[f\left(W_{i+1}, W_{Ruler}, W_{tot}\right) B_i \right]$$

Finally, note that this is negative if and only if

$$\frac{f\left(W_i, W_{Ruler}, W_{tot}\right)}{B_i} < \frac{f\left(W_{i+1}, W_{Ruler}, W_{tot}\right)}{B_{i+1}}$$

Thus, to maximize the total extraction $\sum_i T_i^\star$, the ruler would optimally order subjects in terms of $\frac{f(W_i, W_{Ruler}, W_{tot})}{B_i}$ with higher values corresponding to a higher position in the ranking from Theorem 1. Using this result and plugging in the specific $f(\cdot)$ from Assumption 2, we establish Theorem 2. ■

C Mathematical Appendix of Section 4

PROOF OF PROPOSITION 1: We want to establish how the incentives for a subject, A, to start a purely destructive conflict against another subject, D, depend on the ranking exogenously assigned to subject D. First note that purely destructive conflicts would never be directed against lower ranked subject as they would increase the tax rate of A without providing any resource gain. On the other hand, when D is ranked higher than A it might be optimal for A to attack D. In particular A attacks whenever

$$\begin{aligned}
&(B_A - d_A^A)\frac{L + g\left(B_A - d_A^A\right)}{W_{tot\setminus\{A,D\}} + g\left(B_A - d_A^A\right) + g\left(B_D - d_D^A\right)}\pi + \\
&+ (B_A - d_A^D)\frac{L + g\left(B_A - d_A^D\right)}{W_{tot\setminus\{A,D\}} + g\left(B_A - d_A^D\right) + g\left(B_D - d_D^D\right)}(1-\pi) - \kappa(b) \\
&> B_A\frac{L + g\left(B_A\right)}{W_{tot}},
\end{aligned}$$

where $d_i^j > 0$ stands for $d_i^j(W_i, W_j, b)$ and represent the destruction of i's economic resources when j wins the conflict; π stands for $p(W_A, W_D)$, the probability that A wins the conflict; L is the sum of military power of all subjects ranked strictly below A; $W_{tot\setminus\{A,D\}} = \sum_{i\in I} W_i + W_{ruler} - (W_A + W_D)$. Note that the inequality above does not depend on the specific rank assigned to D; the difference between left- and right-hand side captures the incentive for A to attack D whenever D is ranked higher than A. This is true for any possible attacker A. Thus subject D gets more exposed to destructive conflicts whenever it is moved up in the ranking: lower-ranked subjects that were attacking D would still attack D when it is moved up in the ranking, and groups that used to be above but after the change in the ranking are ranked below D might become willing to start a destructive conflict against D. ■

PROOF OF PROPOSITION 2: When D is exogenously ranked above A, the incentive for A to attack D is given by

$$\begin{aligned}
&(B_A + h_A^A)\frac{L + g\left(B_A + h_A^A\right)}{W_{tot\setminus\{A,D\}} + g\left(B_A + h_A^A\right) + g\left(B_D + h_D^A\right)}\pi + \\
&+ (B_A + h_A^D)\frac{L + g\left(B_A + h_A^D\right)}{W_{tot\setminus\{A,D\}} + g\left(B_A + h_A^D\right) + g\left(B_D + h_D^D\right)}(1-\pi) + \\
&- \kappa(b) - B_A\frac{L + g\left(B_A\right)}{W_{tot}},
\end{aligned}$$

where h_i^j stands for $h_i^j(B_i, B_j, b)$ and represent the change in i's economic resources when j wins the conflict; π stands for $p(W_A, W_D)$, the probability that A wins the conflict; L is the sum of military resources of all subjects ranked strictly below A; $W_{tot\setminus\{A,D\}} = \sum_{i\in I} W_i + W_{ruler} - (W_A + W_D)$. When h_D^i decreases the incentive for A

to attack D increases. On the other hand, when D is exogenously ranked higher than A, the incentive for A to attack D is given by

$$\begin{aligned}
&(B_A + h_A^A)\frac{L + g\left(B_A + h_A^A\right) + g\left(B_D + h_D^A\right)}{W_{tot\setminus\{A,D\}} + g\left(B_A + h_A^A\right) + g\left(B_D + h_D^A\right)}\pi + \\
&+ (B_A + h_A^D)\frac{L + g\left(B_A + h_A^D\right) + g\left(B_D + h_D^D\right)}{W_{tot\setminus\{A,D\}} + g\left(B_A + h_A^D\right) + g\left(B_D + h_D^D\right)}(1-\pi) + \\
&- \kappa(b) - B_A\frac{L + g\left(B_A\right) + g\left(B_D\right)}{W_{tot}},
\end{aligned}$$

where h_i^j, π, and $W_{tot\setminus\{A,D\}}$ are as above, and L is the sum of military resources of all subject ranked strictly below A, excluding D. When h_D^i decreases the incentive for A to attack D decreases. ■

PROOF OF THEOREM 3: Group A's gain from overcoming D with a conflict of size b is:

$$\begin{aligned}
&(B_A + h_A^A)\frac{L + g\left(B_A + h_A^A\right) + g\left(B_D + h_D^A\right)}{W_{tot\setminus\{A,D\}} + g\left(B_A + h_A^A\right) + g\left(B_D + h_D^A\right)}\pi + \\
&+ (B_A + h_A^D)\frac{L + g\left(B_A + h_A^D\right)}{W_{tot\setminus\{A,D\}} + g\left(B_A + h_A^D\right) + g\left(B_D + h_D^D\right)}(1-\pi) + \\
&- \kappa(b) - B_A\frac{L + g\left(B_A\right)}{W_{tot}},
\end{aligned}$$

where h_i^j, π, and $W_{tot\setminus\{A,D\}}$ are as in the proof of Proposition 2, and L is the sum of military resources of all subject ranked strictly below A, excluding D.

Set $b = b\left(B_A, B_D\right)$ such that $b\left(B_A, B_D\right)$ is just enough for A to overcome D in case of success, i.e. $h_A^A\left(B_A, B_D, b\left(B_A, B_D\right)\right) - h_D^A\left(B_A, B_D, b\left(B_A, B_D\right)\right) = \left[B_A - B_D\right]^+$. Recall h_l^s is assumed to be continuous in all its arguments. As always we use $W_i = g\left(B_i\right)$. Thus for $B_A \to B_D$ we get $h_A^A\left(W_A, W_D, b\left(B_A, B_D\right)\right) - h_D^A\left(W_A, W_D, b\left(B_A, B_D\right)\right) \to 0^+$, which is true for $b\left(B_A, B_D\right) \to 0^+$, in which case $h_\ell^s \to 0$ for both $\ell, s \in \{A, D\}$. Thus for $B_A \to B_D$ and $b \to 0^+$, the previous expression goes to:

$$\begin{aligned}
&p\left(W_i, W_i\right)\frac{L + W_i + W_j}{W_{tot}}B_i + \left(1 - p\left(W_i, W_i\right)\right)\frac{L + W_i}{W_{tot}}B_i - \kappa\left(0^+\right) - \frac{L + W_i}{W_{tot}}B_i \\
&= p\left(W_i, W_i\right)\frac{W_j}{W_{tot}}B_i - \kappa\left(0^+\right) \\
&= p\left(W_i, W_i\right)\frac{W_i}{W_{tot}}B_i - \kappa\left(0^+\right)
\end{aligned}$$

Since by assumption $p\left(W_i, W_i\right)\frac{W_i}{W_{tot}}B_i - \kappa\left(0\right) > 0$, and both $\kappa(\cdot)$ and $h_\ell^s(\cdot)$ are continuous we have that there exists an $M > 0$ such that i would always attack another group (possibly j) for some stake b whenever $0 < W_j - W_i < M$. ■

D Mathematical Appendix of Section 8.1

PROOF OF LEMMA 4: Follows from,

$$T_i = c + B_i \times \underbrace{\left(\frac{W_{ruler} + \sum_{h:B_h>B_i} W_h}{W_{tot}}\right)}_{\substack{\text{equilibrium tax rate if} \\ \text{ruler is weaker than } i}} > c + B_i \times \underbrace{\left(\frac{\sum_{h:B_h>B_i} W_h}{W_{tot}}\right)}_{\substack{\text{equilibrium tax rate if} \\ \text{ruler is stronger than } i}},$$

Note that the equilibrium tax imposed on i when the ruler is stronger than i does not depend on which of the stronger subject is the ruler but just on the sum of the military resources of all stronger groups. Thus each subject is indifferent on which stronger group is the ruler. ■

PROOF OF THEOREM 4:

Suppose the rulership is held by the strongest group ($W_{strongest}$). Suppose that any other group challenges the ruler (say $W_{challenger}$), then by Lemma 4 every group who is weaker than the challenger would be indifferent on who gets to be ruler and every group who is stronger than the challenger would strictly prefer the strongest to remain ruler. Moreover, because we assumed that there is a negligible but positive cost in picking a side, groups would remain neutral when indifferent. As a consequence, the strongest group would remain ruler as $W_{I-support} \geq W_{strongest} > W_{C-support} = W_{challenger}$. On the other hand, if the incumbent ($W_{incumbent}$) is not the strongest group and the strongest group challenges it, then by the same argument we have $W_{I-support} = W_{incumbent} < W_{strongest} \leq W_{C-support}$. ■

E Mathematical Appendix of Section 8

PROOF OF PROPOSITION **??**: Consider $i \notin parl$ such that $\min_{j\in parl} W_j < W_i < W_{parl}$, let W_E be the sum of military resources of all subjects stronger than i that are excluded from the parliament, $W_E = \sum_{h\in I\setminus parl:W_h>W_i} W_h$, then for i:

$$\begin{aligned}
T_i^{Parl} &= c + B_i \times \underbrace{\left(\frac{W_{ruler} + \sum_{p\in parl} W_p + W_E}{W_{tot}}\right)}_{\substack{\text{equilibrium tax rate} \\ \text{with a parliament}}} \\
&> c + B_i \times \left(\frac{W_{ruler} + \sum_{p\in parl} W_p - \min_{j\in parl} W_j + W_E}{W_{tot}}\right) \\
&\geq c + B_i \times \left(\frac{W_{ruler} + \sum_{h\in I:W_h>W_i} W_h}{W_{tot}}\right) \\
&= T_i^{NoParl}. \blacksquare
\end{aligned}$$

Lemma 5 *Given a fixed homogeneous tax demand T the set of resisting subjects, resist (T), is the largest $S \subseteq I$ such that for all $s \in S$*

$$T > c + B_s \left(1 - \frac{\sum_S W_s}{W_{Tot}}\right).$$

PROOF OF LEMMA 5: A group i would join the resistance if

- either
$$T > c + B_i \left(1 - \frac{W_i}{W_{Tot}}\right)$$
- or $\exists\ j$ such that for all $s \in S := \{i, j\}$
$$T > c + B_s \left(1 - \frac{\sum_S W_s}{W_{Tot}}\right)$$
- or $\exists\ j, l$ such that for all $s \in S := \{i, j, l\}$
$$T > c + B_s \left(1 - \frac{\sum_S W_s}{W_{Tot}}\right)$$
- ...

where the first bullet point depends only on group i's incentive, while the following ones consider also the incentives of other groups to join and the fact that all groups are demanded the same amount T of taxes. The proof is then completed by noting that if subject i is willing to join a resisting coalition S, then it is also willing to join a larger resisting coalition $S' \supseteq S$. ■

PROOF OF PROPOSITION 5:

Since s joins the resistance, it must be the case that

$$T - c > B_s \left(1 - \frac{W_{resist \setminus \{s,j\}} + W_s}{W_{tot}}\right)$$

but if $B_s > B_j$ this implies that

$$\begin{aligned} T - c &> B_s \left(1 - \frac{W_{resist \setminus \{s,j\}} + W_s}{W_{tot}}\right) \\ &> B_j \left(1 - \frac{W_{resist \setminus \{s,j\}} + W_s}{W_{tot}}\right) \\ &> B_j \left(1 - \frac{W_{resist \setminus \{s,j\}} + W_s + W_j}{W_{tot}}\right) \end{aligned}$$

thus poorer subjects always follow. ■

F Extension of Section 8.2

In this Appendix we build on Section 8.2 to analyze how a deviation from a weakly-institutionalized society affects the pattern of conflict. In particular, we explore the implications for conflict (and ruler selection) of a collective bargaining platform which we call representative institution. Strategic interaction develops along three phases with the following timing:

1. *Conflict phase*: groups can fight each other in order to affect an initially given distribution of resources $\boldsymbol{\theta} = (\mathbf{B}, \mathbf{W})$.

2. *Ruler Selection*: When all conflicts are settled, the groups need to elect a ruling group with the power to extract taxes from society.

3. *Taxation Game with a representative institution*: the appointed ruler optimally demands taxes from the representative institution which chooses whether to comply or to use the resources of its members to try to resist taxation.

As this version of the taxation game is analyzed in Section 8.2, we take as given the results that we established there and, proceeding by backward induction, we turn to the selection of the ruler.

F.1 Ruler Selection with a Representative Institution

We adapt the analysis of section 8.1.1 to the case in which the selected ruler is expected to be constrained by an egalitarian representative institution which is also inclusive, i.e. $W_{parl} = \sum_{j \in I} W_j$.[60] When such institution is in place every subject i pays a tax:

$$T_i = c + \frac{W_{ruler}}{W_{tot}} B_i \tag{6}$$

Given that the objective of all subjects is to minimize their taxation burden, the preferences for the identity of the ruler are straightforward:

Remark 4 *Any group can successfully challenge a stronger group, unless it has more than half the total resources. The weakest group can successfully challenge any ruler and can only be successfully challenged by a group with more than half of the total resources.*

This contrasts with the case of the weakly-institutionalized society analyzed in Section 8.1.1 where the natural candidate for the rulership was the strongest and not the weakest group. The reason for this is that, with an inclusive and egalitarian representative institution, taxation is not favoristic and the military power of every group

[60] We state the result in terms of an egalitarian institution because it is an easy an natural benchmark, however the result would also hold for alternative distributions of the burden of taxation.

contributes to reducing the tax burden on any other group. Thus, every group wants to keep stronger groups on their side. Finally, the result shows that the only case in which the strongest group can become ruler is when its power is greater than that of all other groups combined, that is when the support decision of the other groups does not matter for ruler selection.

F.2 Conflict Phase with a Representative Institution

In this section, we study internal conflicts within a society where the ruler bargains with an inclusive and egalitarian representative institution (i.e. the tax on each group is given by Equation 6). First of all, note that the presence of an inclusive egalitarian representative institution eliminates status and hegemonic motives. Thus similarity in groups' resources ceases to be the powerful trigger for conflict that we highlighted for weakly-institutionalized society in Section 4.3. As far as fiscal effects are concerned we establish the following result:

Remark 5 (Destruction with Representative Institution) *Consider two conflict technology C and C' whose only difference lays in the fact that C' imposes higher losses to the defendant. Then a change from C' to C preserves all conflicts, the opposite does not hold.*

Note that the presence of an inclusive egalitarian representative institution partly reverses the logic highlighted in Section 4.2 for weakly-institutionalized societies. In particular, the tax burden imposed on a subject decreases in the military power of all the other subjects, and not only lower-ranked ones. Thus, *all conflicts* are discouraged by the potential destruction imposed on the opponent, not only predatory ones. Following the same logic we make the following remark about the externalities that a conflict imposes on non-fighting parties.

Remark 6 (Externalities with Representative Institution) *Every conflict between i and j with less destruction is strictly preferred by all subjects. Moreover, in every internal conflict that involves the ruler, every subject strictly prefers the ruler to lose.*

This result suggests that, when part of a inclusive and egalitarian representative institution, every subject would have the incentive to act as a mediator and limit the destruction (e.g. duration) of any internal conflict.[61] Differently from the case of weakly-institutionalized societies, no subject would like to escalate the conflict and no subject would have an incentive to pick sides. Furthermore, since the presence of an inclusive egalitarian representative institution eliminates status and hegemonic motives,

[61] In consideration of this externality, it is also reasonable to think that a representative institution would have the incentive to set up a system that penalizes the perpetrator of a conflict. For example, if credible, the threat of exclusion from the representative institution, which in light of Proposition **??** is highly costly, could actually discourage conflicts between subjects even further.

every subject strictly prefers the ruler to lose every conflict against another subject. This implies that a representative institution would have the additional positive side-effect of undermining the social legitimacy of any act of expropriation perpetrated by the government and, if we were to allow for participation in conflicts, we should expect the government's attempts to expropriate its subjects to be met with collective resistance.

While we interpret our result in terms of an inclusive "representative institution", every institution that fosters the collective action of all subjects would have the same effect on optimal taxation and thus on conflict. While the notion that inclusive institutions are a key ingredient for successful development is well established,[62] we contribute to this debate by suggesting a new point of view. Not only such institutions reduce the government's tax extraction and its ability to expropriate its subjects, but also they have the positive side-effect of reducing the incentives for in-fighting, thus the incidence of internal conflicts. While the mere existence of a de jure representative institution does not imply its de facto relevance, it is encouraging to observe that existence of de jure representative political systems correlates with a lower probability of internal conflict in post-colonial Africa (Reynal-Querol, 2002).

[62] A complementary literature studies how political institutions that foster collective action can emerge to solve some specific types of violence: how extending the franchise may avoid revolutions (Acemoglu and Robinson, 2000), how a centralized authority may limit the subjects' incentives to fight one another (Bates, Greif and Singh, 2002; Greif, 1998), or how councils (Myerson, 2008), written laws (Weingast, 1997) and elections (Fearon, 2011) may limit the government's ability to expropriate its subjects by fostering collective action.