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# ***The Legacy of Rebel Taxation on Post-Conflict Fiscal Capacity***

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Roberto Nisticò<sup>§</sup>**

### **Abstract**

Civil wars often erode state sovereignty, as institutions are replaced or co-opted by armed groups that establish informal governance structures. Among these, rebel taxation emerges as a key tool for financing wartime activities but also administering territories. In this article, we explore whether wartime rebel taxation shapes post-conflict governments' fiscal capacity, drawing on cross-national data from postconflict states in Africa between 2000 and 2015. We emphasize the dual nature of rebel taxation. On the one hand, rebel taxation creates institutions and routines that may support post-conflict enforcement and compliance, especially when rebel groups are part of or co-opted into post-conflict politics. On the other hand, rebel taxation can undermine state authority by entrenching informal systems and introducing an alternative fiscal contract between citizens and non-state actors that may be hard to replace. Our analysis supports the first argument, finding a positive association between rebel taxation and post-conflict tax revenues. This result is especially pronounced in conflicts that ended without decisive military victories, suggesting that complete capitulation of rebels or governments hinders the integration of wartime taxation in post-conflict fiscal bureaucracy. Our findings highlight the enduring impact of rebel taxation on state capacity in post-conflict environments.

**Keywords:** rebel governance; rebel taxation; fiscal capacity; post-conflict.

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# 1 Introduction

Civil wars often lead to a substantial erosion of state sovereignty in war-torn regions, as state institutions - where they exist - are frequently replaced, captured, or co-opted by armed groups that assume governing authority (Kalyvas, 2006; Arjona, 2016; Mampilly and Stewart, 2021). In this context, rebel groups often become *de facto* political, social and economic authorities, managing and regulating the life of civilians in the territories under their rule. One of the most consequential institutions rebels set up is taxation. Unlike other forms of rebel governance, taxation is not simply one service among many. It is an enabling instrument as it is used by rebels to extract the resources necessary to sustain governance itself. In contexts of ongoing armed conflict, more than 30 percent of rebel groups establish some form of systematic taxation, making it both one of the most common and, we argue, one of the most foundational expressions of rebel institutional capacity<sup>1</sup>. Notably, this figure refers to cases where taxation is regular and systematically collected by rebel groups, and excludes cases of extortion or insurgents pocketing the resources. Establishing and enforcing these systems is costly for both states and insurgent organizations (Mampilly and Thakur, 2025; Mampilly and Stewart, 2021; Revkin, 2020). Yet, rebels are willing to pay the cost of governing civilians in their attempt to gain resources, build institutions and get legitimacy in wartime. But what role does rebels' wartime taxation play in peace time?

Scholars acknowledge that wartime institutions have often an important legacy in the post-conflict phase. Governance structures forged during civil wars can persist well beyond their termination, shaping the power dynamics between new governments and local populations (Kalyvas et al., 2008; Mampilly, 2012). Mampilly notes that “structures and practices developed at the local level during a crisis have the potential to be turned to more constructive purposes after the termination of fighting” (Mampilly, 2012, 7). Rebel taxation in particular, as a prominent and costly form of rebels' governance, is likely to significantly affect state-building trajectories in the aftermath of conflict (Justino, 2022).<sup>2</sup> Against this background, this article explores whether and how wartime taxation by rebel groups affects post-conflict fiscal capacity. More specifically, we argue that wartime taxation may foster enforcement and compliance, which in turn can enable post-conflict states' capacity to extract revenues from the population.

We expect rebel taxation during conflicts to have a twofold impact on post-conflict state-building and we put forward two competing hypotheses accordingly. On the one

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<sup>1</sup>Figures based on the Rebel Quasi-State Institutions Dataset (Albert, 2022)

<sup>2</sup>Justino (2022) identifies a number of potential state-building trajectories, which are shaped by the methods armed groups use to develop their institutional capacity during the conflict and the nature of their governance, particularly their approach to civilian rule during wartime.

hand, rebel taxation can hinder state authority by establishing parallel tax systems whose authority competes with the state. As rebel taxation is often accompanied by the provision of other services or benefits, rebels' taxation often occurs in the context of a fiscal contract where citizens pay to get something in return (Timmons, 2005). This would hamper state's capacity to enforce its tax policies in peacetimes, especially if rebel groups are defeated and in no way integrated or co-opted by post-war institutions.

On the other hand, however, two key outcomes of wartime rebel taxation may generate legacies that can be positively leveraged by the post-conflict state: enhanced enforcement capacity and strengthened compliance. First, wartime taxation by rebel groups builds a bureaucracy that persists in post-conflict and may be resumed or co-opted by the post-conflict government. Household records, procedures, and even insurgents' agents may become an asset for the *enforcement* of fiscal regimes in peacetime. Second, wartime taxation shapes citizens' attitudes toward taxation. The above-mentioned fiscal contract as well as the repeated practice of paying taxes to an authority, which sometimes mimics the state or co-opts its agents for authority purposes, builds the legitimacy of rebel groups among citizens. The legitimation effect of wartime taxation can sustain post-conflict tax morale and, consequently, compliance. Put together, these two mechanisms (increased enforcement capacity and compliance) are likely to improve post-conflict states' fiscal capacity. Since the legacy of rebel taxation can have these two countervailing effects, the net effect on state-building effort is not obvious. This has to be determined from the data.

To test the impact of wartime rebel taxation on post-conflict fiscal capacity, we assemble a country-year dataset covering post-conflict African states between 2000 and 2015. We combine data on civil war dynamics and conflict termination from the Uppsala Conflict Data Program with measures of rebel taxation from the Rebel Quasi-State Institutions dataset and detailed tax revenue indicators from the IMF World Revenue Longitudinal Database and the UNU-Wider Government Revenue Dataset. Our empirical strategy exploits variation in exposure to rebel taxation during conflict and compares post-conflict fiscal outcomes between exposed and non-exposed countries using event-study analyses to assess pre-trends and dynamic effects.

Overall, we find a positive and significant correlation between wartime rebel taxation and post-war fiscal capacity. Specifically, our analysis reveals an increase in overall tax revenues (as a percentage of GDP) and in certain taxation sub-components (i.e., taxes on income and profits, and goods and services) when rebel groups engaged in tax collection during the conflict. We further explore whether there are heterogeneous relationships linked to some types of conflict termination. While this analysis comes with some caveats on how multiple conflicts and their terminations are aggregated at the country level (as post-conflict country-year is our unit of analysis), we find that this positive association

is largely driven by negotiated terminations. This confirms recent work suggesting that scaling up rebel governance and institutions in peace times is not automatic; also, it shows that governments' military victory reduces the possibility of tapping into wartime institutions and practices established by non-state actors. Conversely, non-decisive military victories allows for power-sharing or co-optation strategies (Jarstad and Sisk, 2008) that enable the state to exploit wartime institutions more effectively, and ultimately increasing its fiscal capacity.

This article contributes to the literature on rebel taxation and the post-conflict legacy of rebel governance (see e.g., Sabates-Wheeler and Verwimp, 2014; Hoffmann et al., 2017; Kubota, 2018; Mampilly and Thakur, 2025; Martin et al., 2022; Justino, 2022; Breslawski and Tucker, 2022; D'Souza and Mampilly, 2024) and on the literature on what shapes fiscal capacity more widely (see e.g., Baskaran and Bigsten, 2013; Dincecco and Katz, 2016; Albers et al., 2023; Belmonte et al., 2023, 2025). Although extensive research has explored the origins of wartime political orders, far less attention has been paid to their consequences on how states build institutional capacity (Justino, 2022). Specifically, the ability of political authorities to collect revenue is crucial for long-term state-building as fiscal capacity and taxes are the backbone of effective statehood (Besley et al., 2013; Besley and Persson, 2013, 2014; Dincecco and Katz, 2014; Weigel, 2020). Furthermore, the existing literature remains unclear about whether exposure to rebel rule is more likely to strengthen or weaken post-conflict institutions. One reason for this ambiguity is the considerable variation in the governance arrangements introduced by non-state armed actors (Martin et al., 2022). By focusing on the prevalence of rebel taxation, we can examine the consequences of one most common wartime institutions and its link to a crucial post-war outcome: fiscal capacity.

The article proceeds as follows. Section 2 develops the theoretical framework and derives two competing hypotheses on the impact of rebel taxation on post-conflict fiscal capacity. Section 3 describes the data and outlines the empirical strategy. Section 4 presents the main empirical results, including dynamic and heterogeneous effects across institutional contexts and conflict outcomes. Section 5 concludes.

## 2 Theory

The relationship between taxation and conflict has been extensively examined in numerous studies. War has often been linked to increased taxation as states fund their military efforts (Tilly, 2017). At the same time, violent conflict often hampers tax collection by weakening the state's fiscal capacity due to the erosion of state authority, and by reducing both its tax base and overall institutional capacity (Besley and Persson,

2008; Chowdhury and Murshed, 2016). Yet, as D'Souza and Mampilly (2024) note, this approach to examining the relation between taxation and conflict is state-centric and downplays or ignores the role of non-state actors in taxation and civilian governance. From Tilly's foundational claim that war-making drives state fiscal consolidation to more recent formal treatments by Besley and Persson, existing scholarship on state taxation establishes that conflict shapes fiscal capacity primarily through the pressure it places on states to extract resources and build administrative infrastructure. Our theoretical framework speaks directly to this tradition, but with an important qualification: in civil wars involving non-state armed actors, this logic does not operate exclusively through the state. Rather, as we argue and show, the bureaucratization and compliance effects that the literature associates with war and taxation can be generated by rebel organizations and subsequently inherited by post-conflict states, particularly when conflict termination allows institutional co-optation rather than full dismantling of wartime institutions. In this sense, our theory extends the state-level mechanisms to the level of non-state actors, and considers measurable consequences for post-conflict state revenue in line with other research on fiscal capacity in Sub-Saharan Africa (Albers et al., 2023; Baskaran and Bigsten, 2013).

Rebel groups do engage in taxation, and a growing body of anecdotal evidence, case studies, and empirical research suggests that such practices are more widespread than commonly assumed (Levy and Yusuf, 2021; Bandula-Irwin et al., 2024; Breslawski and Tucker, 2022; D'Souza and Mampilly, 2024). Contrary to the conventional view that tax revenues decline during armed conflict, non-state actors may introduce new forms of taxation and governance or expand existing ones, potentially increasing overall extraction when combined with government taxes (D'Souza and Mampilly, 2024). In this vein, D'Souza and Mampilly (2024) document how the Taliban, during their rule in Afghanistan, developed a comprehensive taxation system that generated substantial revenue and solidified their position as a governing authority.

Whereas economic incentives help explain some of the taxation behaviors observed among armed groups, taxation is very often used by rebel groups to pursue other goals. Taxation helps these groups build two key outcomes: institutions and legitimacy. We argue that the bureaucratization and legitimation effects resulting from wartime taxation practices shape post-conflict governments' fiscal capacity. First, rebel taxation is a form of institution building, as efficient extraction of resources requires some degree of organization. The bureaucratization effect of taxation is a well-known outcome of modern European state-building in the popular account by Charles Tilly (Tilly, 2017). The need for more systematic and less coercive extraction of resources to fund wars pushed European rulers to adopt more organized and efficient extractive apparatuses. This logic

applies to rebel groups too. While not all rebel groups tax civilians in the territories they rule, those that do often develop bureaucratic structures to achieve this goal. For example, in India, the National Socialist Council of Nagalim (NSCN-IM) levied taxes based on detailed household information that—borrowing from [Scott \(2020\)](#)—required a significant degree of population “legibility”; see also [Melcón \(2025\)](#). In Myanmar, the Karen National Army developed handbooks, standardized procedures, and intelligence offices devoted to revenue collection ([Bandula-Irwin et al., 2024](#)). In Somalia, Al Shabaab similarly operates an extensive and costly “fiscal bureaucracy,” including an intelligence branch—the Amniyaat—dedicated to enforcement, alongside specialized revenue departments ([Bandula-Irwin et al., 2024](#), 1606). Near the coltan-rich town of Rubaya in the Democratic Republic of the Congo, the M23 administers mining activities through its own mining department. According to a UN report, this “ministry” issued permits to diggers and traders bearing the marking “République Démocratique du Congo – Province du Nord Kivu,” required applicants to present identification documents, and compelled diggers and traders to pay an annual fee ([United Nations Security Council, 2024](#), para. 60). Taken together, this evidence shows that taxation fosters institutional structures that may run parallel to the state, as in the case of M23 in the DRC, or effectively replace it, as under Al Shabaab.

Crucially, the potential positive legacy of wartime rebel taxation does not depend solely on whether rebel leaders transition into formal political roles after conflict. Rather, wartime fiscal institutions can shape post-conflict fiscal capacity through multiple channels of institutional continuity. Taxation during conflict often leaves behind administrative infrastructures—including taxpayer records, standardized procedures, and enforcement networks—that reduce the fixed costs of post-conflict revenue collection. Post-conflict governments may also co-opt or retain lower- and mid-level personnel who previously administered taxation under rebel rule, particularly following negotiated settlements or non-decisive conflict terminations. In addition, the legibility of local economies and populations produced through wartime taxation can be appropriated by the state, facilitating fiscal penetration even when formal institutions are reconstituted. Through these channels, rebel taxation can provide institutional material that post-conflict states can adapt and scale up, easing the transition to effective state taxation.

Second, in addition to buttressing institutions, taxation practices can also contribute to the construction of legitimacy. It is not surprising that rebel groups set up bureaucracies to tax because, as [Mampilly and Thakur \(2025\)](#) note, taxation ultimately is a technology of governance, hence a mean to resolve political, economic and organizational obstacles to wartime order. To create this order, rebel groups have to counter the state and acquire authority and legitimacy among civilians, even by mimicking state practices. Some rebel

groups, like ISIS in Syria or NCSM in India provide tax payers with receipts of their payments (Revkin, 2020; Mampilly and Thakur, 2025); other, like M23, issue tax bills to businesses and aid agencies (Lewis et al., 2025). While the line between taxation and extortion by rebel groups may be relatively thin, some insurgents do attempt to create a social contract with civilians through taxation, for example by providing protection to individuals or businesses or other forms of governance. Only about 11 percent of rebel groups would tax civilians without providing education, health, justice or policing services in wartime, according to the Rebel Quasi-State Institutions Dataset (Albert, 2022). This suggests that there is a fiscal contract underlying rebel taxation that, in some contexts, creates a degree of acceptance and quasi voluntary compliance (Levi, 1988), which curbs civilians’ resistance to pay taxes to the group.

Given that institution-building and legitimacy are possible outcomes of wartime taxation, the next section theorize on whether these outcomes are likely to linger and shape post-conflict trajectories, and formulate observable implications.

## 2.1 Observable implications

We argue that wartime taxation by rebel groups can have to countervailing effects on post-conflict governments’ fiscal capacity. On the one hand, the institutions that rebel groups build during civil wars for taxation purposes enable post-conflict enforcement. In other words, “wartime governance practices and institutions developed under rebel governance administration may provide institutional raw material for state-building” (Podder, 2014, p. 214). As armed groups engage in taxation, they develop mechanisms to assess wealth and monitor compliance, which are critical components of fiscal capacity (Queralt, 2019). After having led Eritrea to independence from Ethiopia, the ruling Eritrean People’s Liberation Front (EPLF) turned the voluntary 2 percent martyrs’ tax paid by the diaspora wartime into a “willingly paid” government-imposed tax to rebuild the country (Müller, 2012; Dirkx, 2025). The Taliban in Afghanistan also did something similar when they took over the government in 2021 and replaced the previous, more Western-like taxation institutions with the wartime system they had run in parallel. This included a tax office levying 10 percent tax on harvests, 2.5 percent tax on wealth plus other fees for trading and transportation (Azizi and Gundur, 2025). By implementing a system consolidated during wartime, the Taliban reportedly collected more tax revenue than the previous government had managed to generate, despite a contracting economy and substantial reductions in foreign aid (D’Souza and Mampilly, 2024; Hakeemi, 2023). Hence, wartime fiscal institution-building can be an important asset in post-conflict tax enforcement. This is true both for cases where the rebels take control and can scale up their systems and in cases where they share government power. This suggests that cases

where rebel groups are defeated by governments are less likely to result in better fiscal capacity as it is more difficult for the winning state to expand and exploit rebel wartime institutions.

Second, the legitimacy outcome of wartime taxation should strengthen peacetime compliance. If civilians accept taxation as a practice and a key component of a social contract, however dysfunctional, this should curb potential resistance to state taxation efforts. In other words, the routinization of taxation through wartime rebel governance creates expectations that taxes will have to be paid, especially in return for public goods or services, even in the post-war period. Over time, this may even lead to its normalization and acceptance (Suykens, 2015), though this is not necessary for compliance. Again, this is more likely if those that taxed civilians during the war are the same or at least linked to the post-conflict fiscal institutions. Notably though, it is difficult for civilians to separate state and insurgent representatives in war and peace time. The bureaucratic takeover of agents and networks happens both ways. M23 co-opted state bureaucracies to give legitimacy to its own diamond trade (Sweet, 2021). In some cases, the same people that used to work for the local government are now deployed to supervise mining sites on the behalf of the rebels. Post-conflict governments have done the same. Instead of dismantling rebels' infrastructures or networks, post-conflict governments have incentives to coopt and appropriate these resources to achieve territorial control and expand their reach (Martin et al., 2025). The above-mentioned legibility that some rebel groups attain in wartime can be inherited by the state to improve its fiscal capacity. Hence, whether rebels or the government prevailed in the conflict may be less salient for civilians' compliance with post-conflict taxation, conditional on having previously experienced wartime taxation. Consistent with this discussion, we formulate our first hypothesis as follows:

*H1a: Rebel taxation is associated to better post-conflict state revenue collection capabilities*

Yet, the very legacy of rebel taxation is complex and can either hinder or aid state-building efforts. In particular, rebel taxation can weaken post-conflict fiscal capacity through two distinct but related mechanisms. First, rebel taxation may generate institutional erosion by entrenching parallel fiscal authorities that undermine the state's ability to reassert fiscal reach in the post-conflict period.<sup>3</sup> During conflict, rebel groups often develop their own tax administrations, enforcement networks, and revenue channels that operate independently of the state. When violence ends—especially in cases of rebel defeat or abrupt territorial reintegration—these parallel systems may not be easily dismantled or absorbed. As a result, post-conflict governments may face reduced administrative

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<sup>3</sup>We thank an anonymous referee for highlighting this mechanism.

penetration, limited information about taxpayers, and weakened enforcement capacity in formerly rebel-held areas, constraining revenue extraction even in the absence of overt civilian resistance.

Second, rebel taxation may hinder post-conflict tax collection through compliance displacement. If civilians' compliance with taxation hinges on an implicit fiscal contract with rebel authorities—one that enables voluntary cooperation and contestation of the state (Arjona, 2016; Stewart, 2020)—this poses an obstacle for post-war governments. This is particularly likely when the post-conflict order exhibits little continuity with wartime governance, such as in cases where rebels capitulate and their leaders are excluded from political participation. As civilians become accustomed to rebel rule, they may view state taxation as an unwelcome imposition rather than a civic duty, reducing their willingness to comply once conflict ends. In a similar vein, Martin et al. (2022) show that prolonged rebel rule by the Forces Nouvelles in Côte d'Ivoire had a persistent negative impact on citizens' attitudes toward local government seven years after reunification. Individuals exposed to rebel control developed more negative views of state authorities, a diminished sense of civic duty, and greater tolerance for anti-state behavior—most notably, a higher willingness to condone tax evasion. One explanation, they argue, is that prolonged isolation from state authority eroded citizens' perceptions of state institutions as legitimate, leading to lower spontaneous compliance with civic obligations. At the same time, civil conflict often weakens the state's capacity to provide essential public goods, further eroding institutional trust and diminishing incentives to pay taxes. Consistent with this, Akitoby et al. (2020) find that while many conflict-affected states experience a short-term recovery in tax revenues, they struggle to sustain these gains beyond three years. Once conflict subsides, civilians may resist state taxation if it is perceived as an attempt to reassert control without delivering corresponding benefits—particularly in areas previously governed by rebels. Together, these dynamics can hamper governments' ability to enforce formal taxation and collect revenues in the aftermath of civil war. These arguments lead to the following countervailing hypothesis:

*H1b: Rebel taxation is associated to more limited post-conflict state revenue collection capabilities*

## 3 Data and methods

### 3.1 Data

In this section, we describe the data we use to assess whether wartime rebel taxation is positively or negatively correlated to post-conflict fiscal capacity. The analysis builds

on conflict-level information from the Uppsala Conflict Data Program<sup>4</sup> (UCDP), which provides the basis for both sample construction and the temporal structure of the dataset. We start from the universe of conflict-affected countries identified in the UCDP Dyadic Dataset and use UCDP Conflict Termination data to define conflict onset, the actors involved, the conflict outcome and the post-conflict period. In our design, we define a post-conflict country as one that has at least a year with no active dyads during the UCDP coverage period (1946-2023).<sup>5</sup> We also restrict the sample to intrastate or internationalized conflicts. Hence, the final sample we obtain is a result of the post-conflict criteria we set and the availability of data on fiscal capacity and rebel’s governance.

For the main dependent variable, *fiscal capacity*, we combine data on tax revenues as percentage of the GDP from the IMF World Revenue Longitudinal data (WoRLD, see Mansour et al. (2025)) and the Government Revenue Database<sup>6</sup>(GRD, by UNU-WIDER<sup>7</sup>).

With this choice, we build on Albers et al. (2023) and Besley and Persson (2014) who argue that fiscal capacity is the tax revenue a government can collect in the long run and is bettered captured by tax revenue generated by “hard-to-collect taxes”, net of cyclical effects.<sup>8</sup> We thus use some key subcomponents from Opper et al. (2021): direct taxes (that include taxes on income, payroll and workforce, property, profits and capital gain but exclude social security contributions); taxes on income, profits, and capital gains (exclusive of social contributions); and taxes on goods and services (mostly sales taxes, value-added taxes (VAT) and excise duties). These three variables are measured as percentages of national GDP.

For our main regressor of interest, *rebel taxation*, we use recently collected data on rebel governance and its components from the Rebel Quasi-State Institutions (QSI) dataset (Albert, 2022). The dataset includes information on whether and when rebel groups taxed civilians or civilian businesses. Taxation may include customs duties on goods crossing rebel-controlled borders, payments in food or supplies, or income and wartime taxes, provided the collection is routine or organised. Sporadic demands for resources by individual soldiers are excluded, as they do not constitute systematic taxation. Importantly, cases

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<sup>4</sup>Available online: <https://ucdp.uu.se/>

<sup>5</sup>An active dyad is one that caused at least 25 battle-related deaths in a year.

<sup>6</sup>Tax revenue (% of GDP) is obtained from the USAID Collecting Taxes Database (CTD), which compiles tax revenue data from the IMF World Revenue Longitudinal Data (WoRLD) and the ICTD/UNU-WIDER Government Revenue Dataset (GRD). The CTD is structured around the concepts of tax capacity and tax effort; consistent with the identity described in the CTD Technical Note, observed tax revenue can be recovered as the product of tax capacity and tax effort.

<sup>7</sup>Available at <https://www.wider.unu.edu/project/grd-government-revenue-dataset>

<sup>8</sup>Hard-to-collect taxes require a substantial upfront investment, but provide a larger revenue stream in the long-run than e.g., trade taxes and are also less volatile than taxes generated by trade or natural resources (Albers et al., 2023).

where individual soldiers collect payments for personal use are categorised as extortion rather than taxation. This is important to the extent that part of our theory hinges on the quasi-compliance and routinization of taxation that are less likely to hold with extortion. Our specification also includes the log of the GDP per capita, the log of population size, the log of trade (sum of imports and exports) in percentage of GDP from the World Bank Development Indicators. These are important control variables that are likely to be associated with fiscal capacity as they capture economic development, potential tax base and the administrative demands associated with revenue extraction, and the degree of trade openness, respectively. We also control for the regime type using the Polity IV score (Marshall and Gurr, 2020). Democracies are expected to be able to tax more, although autocracies can use coercion more easily to collect revenues (Przeworski et al., 2000; Ross, 2004). Finally, we include two proxies for institutional quality: the property rights index, that is (the perception of) the security of property rights from Ouattara and Standaert (2020), and the political corruption index, the perceived extent of political corruption within a society, from the V-Dem dataset (see Coppedge et al., 2024). Table 1 shows the summary statistics for our variables. Given data availability, and the restrictions imposed by our research design, our sample of analysis comprises 16 post-conflict countries in Sub-Saharan Africa observed between 2000 and 2015 (see Table A.1 in Appendix for details on the construction of the sample). The time window is constrained by the availability of data on tax revenues (from 2000 onward) and on rebel governance.

Table 1: Summary statistics

Variable	Mean	Std. Dev.	Min.	Max.	N
Tax revenue (% of GDP)	11.89	5.43	0.6	26.65	213
Treated (Rebel taxation on conflict years)	0.58	0.49	0	1	213
Post (Post-conflict years)	0.6	0.49	0	1	213
Treated*Post	0.22	0.41	0	1	213
Log population	16.54	1.03	13.79	18.45	213
Log GDP per capita	6.83	0.81	5.67	8.74	213
Log Trade openness	3.94	0.39	2.91	5.85	213
Polity score index	1.93	4.69	-6	9	213
Political corruption index	0.71	0.18	0.23	0.96	213
Property right protection index	49.19	2.43	45.56	54.64	213
Direct Taxes (% of GDP)	3.75	3.47	0.12	17.13	349
Taxes on income (% of GDP)	3.95	3.46	0.01	17.13	305
Taxes on goods and services (% of GDP)	3.53	2.2	0	9.99	266

### 3.2 Methodology

To examine the impact of rebel taxation during conflict on post-war tax capacity, we use the country-year as the unit of analysis and implement an event-study design centered on the end of conflict. Recent methodological contributions have emphasized that standard two-way fixed-effects difference-in-differences estimators may be biased in settings with heterogeneous treatment effects and staggered treatment timing, particularly when previously treated units serve as controls for later-treated units (Callaway and Sant’Anna, 2021; De Chaisemartin and d’Haultfoeuille, 2020). To address this concern, we estimate the following dynamic event-study specification and rely on the estimator proposed by De Chaisemartin and d’Haultfoeuille (2020), implemented through Stata’s *did\_multiplegt\_dyn* module:

$$Y_{it} = \alpha + \sum_{\ell=-4}^{-2} \beta_{\ell}(\text{Treated}_i \times D_{i,t}^{\ell}) + \sum_{\ell=1}^4 \beta_{\ell}(\text{Treated}_i \times D_{i,t}^{\ell}) + \delta \mathbf{X}_{it} + \mu_i + \lambda_t + \theta_i t + \varepsilon_{it}. \quad (1)$$

where the outcome variable,  $Y_{it}$ , denotes tax capacity in country  $i$  and year  $t$ , measured by total tax revenues, direct taxes, taxes on income, and taxes on goods and services, all expressed as a percentage of GDP. The treatment variable,  $\text{Treated}_i$ , is an indicator equal to one if at least one rebel group actively participated in governance and levied taxes during the conflict years, and zero otherwise.<sup>9</sup> We therefore code treatment at the country level as a dummy equal to one when at least one rebel group extracted material resources from civilians during the conflict period.  $D_{i,t}^{\ell}$  is an event-time indicator equal to one when country  $i$  is  $\ell$  years away from conflict termination in year  $t$ . We include three pre-treatment indicators and four post-treatment indicators. The omitted category is the last year of conflict, which serves as the baseline period. The vector  $\mathbf{X}_{it}$  includes the log of population, the log of GDP per capita, the log of trade, the polity score, the corruption index, and the property rights index. Country fixed effects,  $\mu_i$ , account for time-invariant country characteristics, while year fixed effects,  $\lambda_t$ , absorb common shocks across countries. We also include country-specific linear trends,  $\theta_i t$ , to account for differential long-run trajectories in tax capacity.  $\varepsilon_{it}$  is an error term. We cluster standard

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<sup>9</sup>While this approach masks within-country variation, systematic taxation is typically feasible only for relatively strong rebel groups. Moreover, taxation rarely occurs in isolation and is often accompanied by the provision of other services or public goods. As mentioned above, only a small fraction of rebel groups, about 11%, tax civilians without providing public goods in wartime (Albert, 2022). This suggests that the governance practices of the groups that do tax are also those most likely to shape post-conflict institutions, insofar as wartime legacies persist. In the absence of fine-grained information on the territorial scope and institutional features of rebel governance, however, it is difficult to identify which specific characteristics of rebel governance are most likely to be an asset in the aftermath of violence.

errors at the country level.

The identifying assumption is that, absent exposure to rebel taxation during conflict, treated and control countries would have followed similar trajectories in tax capacity around the end of conflict. In this setting, the pre-treatment coefficients provide a direct diagnostic for the plausibility of this assumption. The coefficients  $\beta_\ell$  for  $\ell < 0$  capture differences between treated and control countries before conflict termination. If these coefficients are not statistically different from zero, this provides support for the common-trends assumption. The coefficients  $\beta_\ell$  for  $\ell > 0$  trace the dynamic post-conflict effect of exposure to rebel taxation on tax capacity.

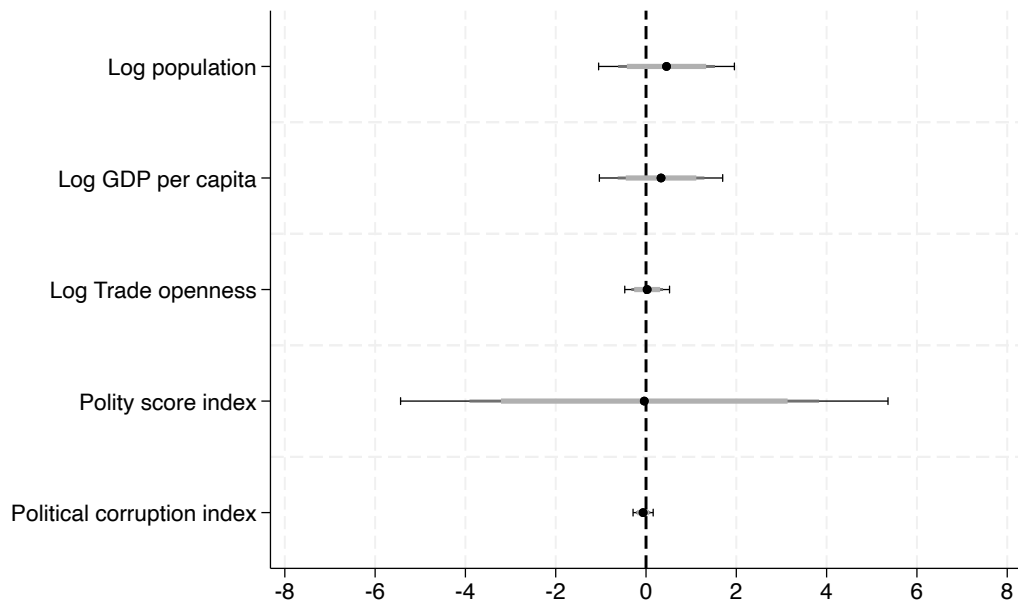


Figure 1: Pre-conflict balance test based on Pei et al. (2019)

*Notes:* The plot exhibits the estimated coefficient where each covariate is used as an outcome. Standard errors are clustered at the country level. Confidence intervals are shown at the 10%, 5%, and 1% significance levels.

As a first step in assessing the plausibility of the empirical strategy, we examine whether exposure to rebel taxation during conflict is systematically associated with pre-conflict structural differences related to fiscal capacity. Specifically, we conduct a diagnostic test to evaluate whether treated and control countries differ along a set of macroeconomic and institutional characteristics measured prior to conflict. In the spirit of Pei et al. (2019), who emphasize that balancing tests are more informative when potential confounders are used on the left-hand side of the equation, we regress pre-conflict characteristics on treatment status. Figure 1 shows no statistically significant differences between treated and control countries across the characteristics considered, providing

evidence that these covariates are balanced prior to conflict.<sup>10</sup>

A related concern is that exposure to rebel taxation during conflict may not be exogenous to pre-conflict fiscal capacity. Rebel groups may be more likely to establish taxation systems in contexts where fiscal extraction is already feasible. A testable implication of this selection mechanism is that pre-conflict fiscal capacity should predict treatment assignment. We evaluate this possibility by regressing treatment status on pre-conflict tax capacity. Because tax revenue data are extremely sparse in the decades preceding most conflicts in our sample, we rely on proxies of fiscal capacity with broader historical coverage. These include the fiscal state capacity index developed by O'Reilly and Murphy (2022), which captures five dimensions of state capacity: rule of law, state authority over territory, rigor and impartiality of public administration, the provision of particularistic versus public goods, and the share of fiscal resources derived from tax revenue. We also use direct taxes as an additional proxy, given their strong correlation with total tax revenue, with a correlation coefficient of 0.87.

As shown in Figure 2, we find no evidence that countries with higher fiscal capacity prior to conflict are more likely to experience rebel taxation during conflict. While these tests cannot fully rule out endogeneity, the analysis is typically interpreted as supportive of the common trends assumption.

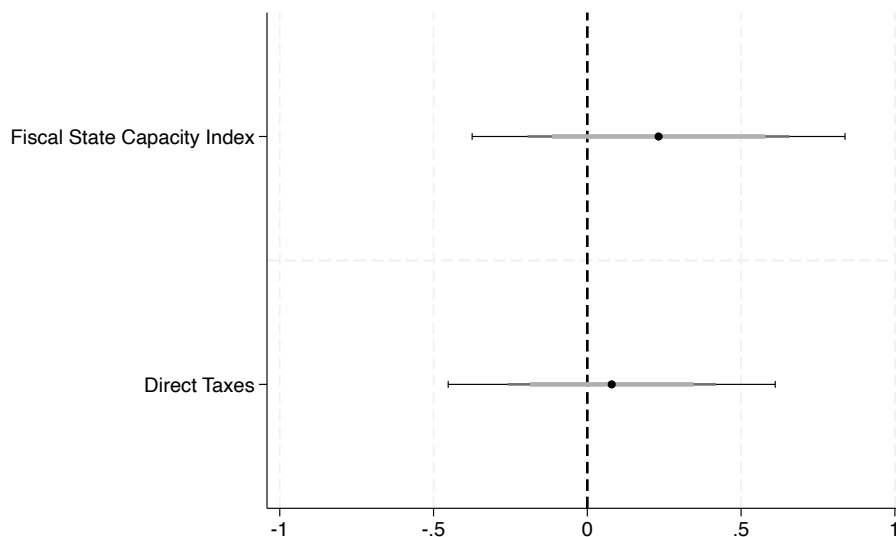


Figure 2: Testing sorting into treatment with pre-conflict fiscal capacity proxies

*Notes:* The plot exhibits the estimates from regressing treatment status on pre-conflict tax capacity, proxied by fiscal state capacity index and direct taxes. Standard errors are clustered at the country level. Confidence intervals are shown at the 10%, 5%, and 1% significance levels.

<sup>10</sup>The property rights protection index is available for only two countries in the pre-conflict period, Guinea and Côte d'Ivoire, corresponding to a total of 14 observations; therefore, it is excluded from the balance test.

## 4 Empirical findings

Table 2 reports our main findings, obtained from the estimation of Equation 1. The estimates indicate that exposure to rebel taxation during conflict is associated with higher post-conflict tax capacity. The estimated post-conflict effects are generally positive and tend to increase over time, while the placebo coefficients are generally small and statistically insignificant, providing support for the common-trends assumption.

Focusing on the average total effects reported at the bottom of Table 2, we find that the average effect on total tax revenue is positive and statistically significant at the 10% level, amounting to 1.36 percentage points of GDP. Direct taxes also increase by 0.60 percentage points of GDP, again significant at the 10% level. The largest estimated average effect is observed for taxes on goods and services, which rise by 1.18 percentage points of GDP and are statistically significant at the 5% level. By contrast, the average effect on taxes on income is positive but smaller, 0.26 percentage points of GDP, and not statistically significant. Overall, these estimates suggest that the post-conflict fiscal gains associated with rebel taxation are concentrated in total tax revenue, direct taxation, and especially taxes on goods and services, while the evidence is weaker for taxes on income.

To improve the presentation of our main estimates, Figure 3 provides a visual inspection of the results in Table 2. Figure 3(a) displays event-study estimates of the association between rebel taxation and post-conflict tax revenues. There is no evidence of pre-treatment trends, as the estimated coefficients for the pre-event dummies are consistently small and statistically insignificant at the 90% confidence level. However, two years post-treatment, there is a noticeable upward shift of approximately one percentage point, followed by a modest but gradual increase over time.

We also observe evidence of a positive but gradually declining relation between rebel taxation and direct taxes (Figure 3(b)) or taxes on income and profits (Figure 3(c)). These categories show an initial sharp increase one year after the conflict termination, followed by a gradual decline. Substantively, in the first post-conflict year, direct taxes increase of almost 0.7 percentage points in countries where rebels taxed in wartime, though this effect decreases below 0.5 percentage points by the fourth post-conflict year. A similar trend is depicted for taxes on income, profits, and capital gains: first post-conflict years record a 0.8 percentage point growth, and then a steady decline (although the results at years 3 and 4 of the post-conflict phase do not reach statistical significance). Overall, these results provide support for Hypothesis 1a, indicating a positive relationship between rebel taxation and post-conflict revenue collection capabilities.

Furthermore, Figure 3(d) indicates an upward trend in taxes on goods and services in the post-war period for countries that experienced rebel taxation. Three years after the end of the conflict, these countries exhibit levels of taxes on goods and services that are,

Table 2: De Chaisemartin &amp; D'Haultfoeuille estimates

	(1)	(2)	(3)	(4)
	Tax Revenue	Direct Taxes	Taxes on Income	Taxes on Goods and Services
Effect t=1	0.294 (0.385)	0.667 <sup>†</sup> (0.359)	0.814 <sup>†</sup> (0.443)	0.587 (0.425)
Effect t=2	0.806 <sup>†</sup> (0.454)	0.470 <sup>†</sup> (0.264)	0.318 <sup>†</sup> (0.171)	0.805** (0.297)
Effect t=3	0.981 <sup>†</sup> (0.580)	0.368* (0.146)	0.097 (0.277)	0.753* (0.307)
Effect t=4	1.571** (0.514)	0.317** (0.103)	-0.036 (0.266)	2.397** (0.876)
Placebo t=1	0.326 (0.414)	-0.123 (0.227)	-0.479 (0.335)	-0.035 (0.172)
Placebo t=2	-0.071 (0.807)	-0.097 (0.217)	-0.290 (0.282)	-0.281 (0.320)
Placebo t=3	-0.096 (0.981)	-0.251 (0.310)	-0.729 <sup>†</sup> (0.437)	-0.289 (0.327)
Average total effect	1.355 <sup>†</sup> (0.802)	0.599 <sup>†</sup> (0.346)	0.261 (0.222)	1.177* (0.475)
N	213	349	305	266
Countries	16	22	19	17
Country FEs	Yes	Yes	Yes	Yes
Time FEs	Yes	Yes	Yes	Yes
Country-Specific Trends	Yes	Yes	Yes	Yes

*Notes:* The table shows estimated coefficients from the dynamic event-study regression specified in Equation 1. Dependent variables, Tax revenues, Direct taxes, Taxes on Income, profits and capital gains, and Taxes on goods and services, are all expressed as % of GDP. Treated is a dummy that takes value 1 if there was rebel taxation on active conflict years, and 0 otherwise. Robust standard errors in parentheses are clustered by country.

<sup>†</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

on average, 0.7 percentage points higher than those in countries without this form of rebel governance. Contrary to the other tax-related variables, the change remains positive and goes above 2 percentage points after the fourth post-conflict year.

We further examine heterogeneity by assessing whether the mode of conflict termination conditions the relationship between wartime rebel taxation and post-conflict fiscal capacity. The mechanisms linking wartime taxation to post-conflict fiscal capacity should

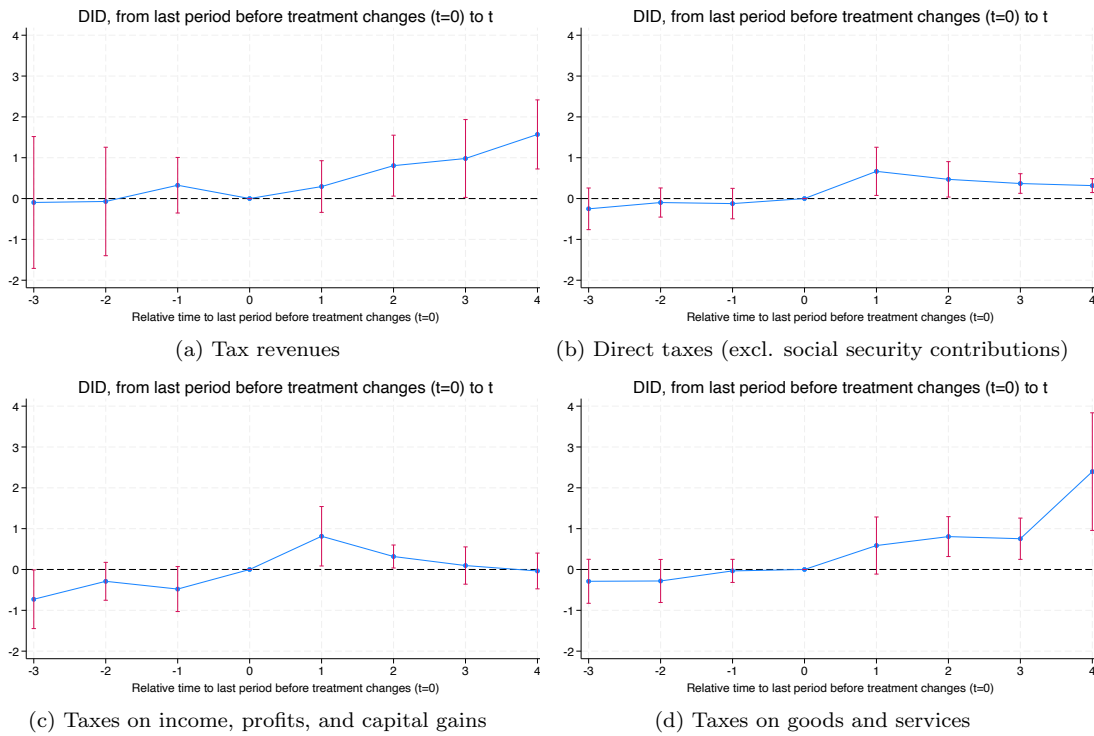


Figure 3: De Chaisemartin & D’Haultfoeuille estimates.

*Notes:* The plots exhibit the estimated coefficients from the dynamic event-study regressions specified in Equation 1. All outcome variables are expressed as % of GDP. Standard errors are clustered by country. Vertical lines signify 90% confidence intervals.

be shaped by the type of conflict termination to an extent. If the government wins the conflict, the institutional legacies of wartime rebel governance are likely to be dismantled. But even if they are not, it is hard for the state that defeated the rebels to take control over rebels’ network and bureaucracy that enabled effective taxation. When rebels win, the challenge they face is to scale-up the wartime fiscal institutions they created. As the recent case of Syria has demonstrated, this is often very hard to do in practice. As Zelin notes, the rebel governance created in areas like Idlib “was developed for a specific population in a specific territory; scaling it nationally without meaningful adaptation is a significant political gamble”. (Zelin, 2026). Hence, decisive military victories, regardless of the winning side, are less likely to increase fiscal capacity than negotiated outcomes that allow cooperation and/or co-optation. However, it should be noted that conflict termination is a proxy of a variety of processes that describe post-conflict settings where rebel groups are not fully politically excluded. This may include, but is not limited to, cases of formal power-sharing, or informal co-optation of rebel groups’ cadres. Hence, conflict outcomes may condition the extent to which informal tax structures established by rebel groups are abruptly dismantled or can be incorporated into post-conflict institutions, as well as how citizens perceive and respond to post-conflict taxation (Sabates-Wheeler and

[Verwimp, 2014](#)).

To examine this heterogeneity, we draw on the conflict termination categories provided by the Uppsala Conflict Data Program (UCDP), which classifies conflict endings into peace agreements, ceasefires, victories by the government or rebel side, low-intensity endings, and cases in which an actor ceases to exist. Unfortunately, empirically assessing heterogeneous effects across the individual termination categories substantially reduces statistical power and does not produce informative estimates. Also, theoretically, it remains unclear which of these outcomes would be more conducive to stronger post-conflict fiscal capacity. We therefore evaluate a broader and theoretically more meaningful dimension that distinguishes decisive military conflict terminations (state or rebel military victories) from non-decisive terminations, reflecting negotiated or low-intensity endings.

We find that the type of conflict termination moderates how exposure to rebel taxation during conflict translates into post-conflict fiscal capacity trajectories. As shown in [Figure 4](#) and [Table A.2](#), when conflicts end through non-decisive military outcomes, countries exposed to rebel taxation achieve larger post-conflict gains in fiscal capacity than non-exposed countries. This gap widens over time, reaching a difference of almost 6 percentage points of GDP in tax revenues by the fourth post-conflict year. Conversely, when conflicts terminate through a decisive military outcome, exposed and non-exposed countries follow similar fiscal capacity trajectories in the first three post-conflict years. Only in the fourth year after conflict does a positive and statistically significant difference emerge, of approximately 1.3 percentage points.

In the methodology section, we have already provided evidence in support of our estimation strategy and its assumptions, as well as a possible selection process whereby rebel taxation occurs where taxation is feasible and easy to implement in the first place. We next address the concern that the estimated relationship may be driven by external revenue sources or commodity price shocks rather than changes in domestic fiscal capacity. To this end, we extend the baseline specification in [Equation 1](#) by controlling for foreign aid inflows and exposure to international commodity price fluctuations. We include the logarithm of total aid commitments received from international organizations, drawn from [Tierney et al. \(2011\)](#), and construct Bartik-style shift–share measures of exposure to crude oil and coffee price shocks. Specifically, we interact annual international commodity price series from the World Bank with country-year-specific export shares computed from UN Comtrade. This approach follows the shift–share identification strategy applied in the context of commodity price shocks (see e.g., [Dube and Vargas, 2013](#)). Because data availability on aid flows and detailed trade exposure further reduces the sample size, we introduce these variables as robustness checks rather than in the baseline specification. Reassuringly, the estimated post-conflict association of rebel taxation and post-conflict

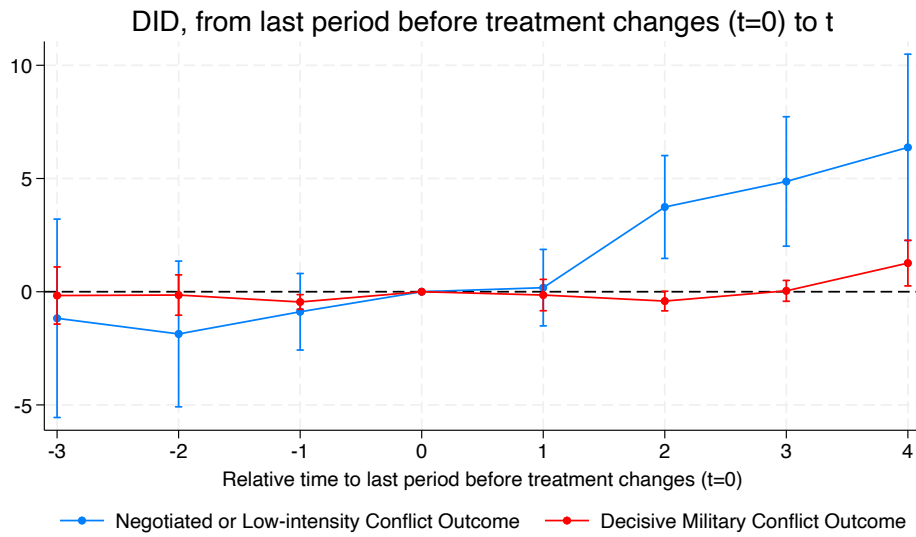


Figure 4: The impact of rebel taxation on Tax revenues by conflict outcome.

*Notes:* The plots exhibit the estimated coefficients from the dynamic event-study regressions specified in Equation 1, distinguishing between decisive military conflict terminations and negotiated or low-intensity endings. Tax revenues is expressed as % of GDP. Standard errors are clustered by country. Vertical lines signify 90% confidence intervals.

fiscal capacity remains positive and statistically significant for  $t = 2, 3, 4$  after controlling for these two factors (see Figure 5 and Table A.3 in the Appendix).

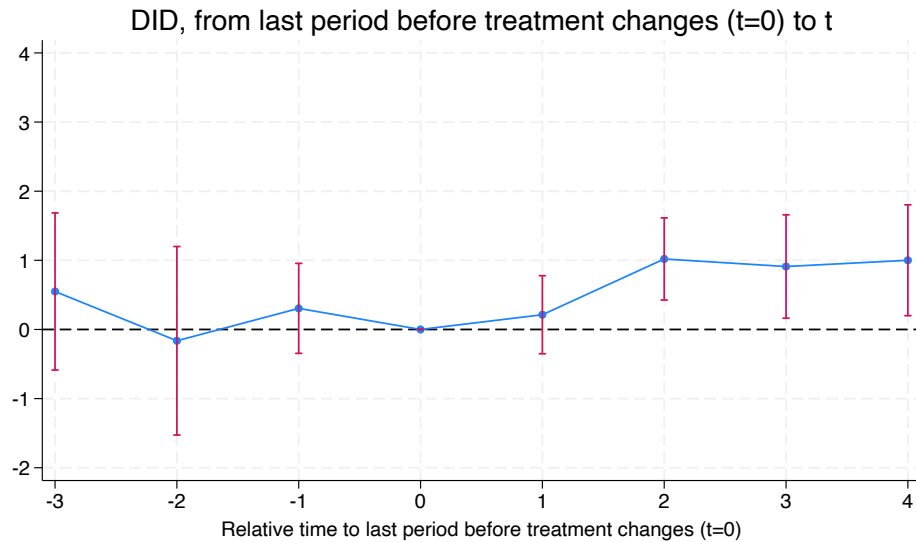


Figure 5: The impact of rebel taxation on Tax revenues, robustness test.

*Notes:* The plots exhibit the estimated coefficients from the dynamic event-study regressions specified in Equation 1, augmented to control for aid flows and resource price shock exposure. Tax revenues is expressed as % of GDP. Standard errors are clustered by country. Vertical lines signify 90% confidence intervals.

## 5 Conclusions

As [Justino \(2022\)](#) aptly observes, state institutions in post-conflict countries are rarely constructed from scratch. Instead, civil wars give rise to new institutional frameworks, as rebels engage in sophisticated forms of governance over territories and populations. These wartime governance structures can significantly influence state-building efforts in the post-conflict period. In particular, Justino highlights that civil wars often generate a degree of bureaucratic and institutional capacity through the governance practices of armed groups, which can be leveraged to develop states that are more (or less) capable of effective governance. Building on this argument, we explore one specific aspect of territorial control - rebel taxation - and its implication for revenue mobilization in the post-conflict period, which is essential for economic growth and development in the long-run. We argue that rebel taxation can generate two countervailing effects. On the one hand, it may entrench parallel fiscal authorities and weaken post-conflict state legitimacy. On the other hand, however, it may create administrative infrastructures and compliance routines that post-conflict governments can appropriate and scale up.

Using country-year data on post-conflict Sub-Saharan African countries between 2000 and 2015, we find support for the latter argument. There is a positive association between exposure to wartime rebel taxation and post-conflict tax revenues. Dynamic specifications reveal no evidence of differential pre-trends and suggest that gains in fiscal capacity materialize gradually after conflict termination. Moreover, the relationship is significantly stronger in cases of non-decisive military outcomes, consistent with the argument that institutional continuity and the incorporation of rebel administrative structures facilitate post-conflict revenue mobilization.

These findings contribute to the literature on rebel governance and state-building by highlighting taxation as a critical channel through which wartime institutions may shape post-conflict trajectories. Rather than treating rebel rule as uniformly detrimental to state capacity, the results suggest that certain forms of wartime governance may provide institutional foundations that states can later harness. At the same time, the evidence remains correlational and subject to important limitations. Measurement challenges, limited sample size, and potential endogeneity concerns caution against strong causal claims. Future research should seek finer-grained data on territorial exposure, institutional continuity, and the specific mechanisms linking wartime taxation to post-conflict fiscal performance. Understanding when wartime institutions become assets rather than liabilities remains central to the study of post-conflict state-building.

## References

- Akitoby, B., Honda, J., and Primus, K. (2020). Tax revenues in fragile and conflict-affected states—why are they low and how can we raise them? *IMF Working Papers*, 2020(143):1.
- Albers, T. N., Jerven, M., and Suesse, M. (2023). The fiscal state in africa: Evidence from a century of growth. *International Organization*, 77(1):65–101.
- Albert, K. E. (2022). What is rebel governance? introducing a new dataset on rebel institutions, 1945–2012. *Journal of Peace Research*, 59(4):622–630.
- Arjona, A. (2016). *Rebelocracy*. Cambridge University Press.
- Azizi, H. and Gundur, R. (2025). The taliban’s drug trade revenue and taxation system: What the experts know. *Studies in Conflict & Terrorism*, pages 1–22.
- Bandula-Irwin, T., Gallien, M., Jackson, A., Van den Boogaard, V., and Weigand, F. (2024). Beyond greed: Why armed groups tax. *Studies in Conflict & Terrorism*, 47(12):1599–1622.
- Baskaran, T. and Bigsten, A. (2013). Fiscal capacity and the quality of government in sub-saharan africa. *World Development*, 45:92–107.
- Belmonte, A., Bove, V., and Di Salvatore, J. (2025). Bad signals? foreign aid and tax morale across sub-saharan africa. *World Development*, 194:107055.
- Belmonte, A., Teobaldelli, D., and Ticchi, D. (2023). Tax morale, fiscal capacity, and war. *Annals of Public and Cooperative Economics*, 94(2):445–474.
- Besley, T., Ilzetzki, E., and Persson, T. (2013). Weak states and steady states: The dynamics of fiscal capacity. *American Economic Journal: Macroeconomics*, 5(4):205–35.
- Besley, T. and Persson, T. (2008). Wars and state capacity. *Journal of the European Economic Association*, 6(2-3):522–530.
- Besley, T. and Persson, T. (2013). Chapter 2 - taxation and development. In Auerbach, A. J., Chetty, R., Feldstein, M., and Saez, E., editors, *Handbook of Public Economics*, volume 5, pages 51–110. Elsevier.
- Besley, T. and Persson, T. (2014). Why do developing countries tax so little? *Journal of economic perspectives*, 28(4):99–120.
- Breslawski, J. and Tucker, C. (2022). Ideological motives and taxation by armed groups. *Conflict Management and Peace Science*, 39(3):333–350.
- Callaway, B. and Sant’Anna, P. H. (2021). Difference-in-Differences with Multiple Time Periods. *Journal of Econometrics*, 225(2):200–30.
- Chowdhury, A. R. and Murshed, S. M. (2016). Conflict and fiscal capacity. *Defence and peace economics*, 27(5):583–608.
- Coppedge, M., Gerring, J., Knutsen, C. H., Lindberg, S. I., Teorell, J., et al. (2024). V-dem codebook v14.

- De Chaisemartin, C. and d'Haultfoeuille, X. (2020). Two-Way Fixed Effects Estimators with Heterogeneous Treatment Effects. *American Economic Review*, 110(9):2964–96.
- Dincecco, M. and Katz, G. (2014). State Capacity and Long-Run Economic Performance. *The Economic Journal*, 126(590):189–218.
- Dincecco, M. and Katz, G. (2016). State capacity and long-run economic performance. *The Economic Journal*, 126(590):189–218.
- Dirkx, T. (2025). The clashing legacies of eplf rebel governance in post-independent eritrea. *Civil Wars*, 27(3):627–651.
- D’Souza, A. and Mampilly, Z. (2024). Conflict, taxation, and development. Technical Report 60, UNU-WIDER, Helsinki, Finland.
- Dube, O. and Vargas, J. F. (2013). Commodity price shocks and civil conflict: Evidence from colombia. *Review of Economic studies*, 80(4):1384–1421.
- Hakeemi, H. (2023). Afghanistan’s outlook: Under taliban rule, the economy slumps as taxation income rises. Bertelsmann Transformation Index (BTI) Blog, Bertelsmann Stiftung. Published August 15, 2023.
- Hoffmann, K., Vlassenroot, K., and Marchais, G. (2017). *Taxation, Stateness and Armed Groups: Public Authority and Resource Extraction in Eastern Congo*, chapter 11, pages 235–256. John Wiley & Sons, Ltd.
- Jarstad, A. K. and Sisk, T. D., editors (2008). *From War to Democracy: Dilemmas of Peacebuilding*. Cambridge University Press, Cambridge.
- Justino, P. (2022). Wartime governance and state-building trajectories in post-conflict societies. WIDER Working Paper 2022/48, UNU-WIDER.
- Kalyvas, S. N. (2006). *The Logic of Violence in Civil War*. Cambridge University Press.
- Kalyvas, S. N., Shapiro, I., Masoud, T. E., et al. (2008). *Order, conflict, and violence*. Cambridge University Press Cambridge.
- Kubota, Y. (2018). Nonviolent interference in civic life during civil war: Rebel service provision and postwar norms of interpersonal trustworthiness in sri lanka. *Security Studies*, 27(3):511–530.
- Levi, M. (1988). *Of rule and revenue*. Univ of California Press.
- Levy, I. and Yusuf, A. (2021). How do terrorist organizations make money? terrorist funding and innovation in the case of al-shabaab. *Studies in Conflict and Terrorism*, 44(12):1167–1189.
- Lewis, D., Paravincini, G., and Rolley, S. (2025). In congo, m23 rebels’ latest fight is to revive the economy. *Reuters*.
- Mampilly, Z. and Stewart, M. A. (2021). A typology of rebel political institutional arrangements. *Journal of Conflict Resolution*, 65(1):15–45.

- Mampilly, Z. and Thakur, S. (2025). Rebel taxation as extortion or a technology of governance? telling the difference in india's northeast. *Comparative Political Studies*, 58(3):462–493.
- Mampilly, Z. C. (2012). *Rebel rulers: Insurgent governance and civilian life during war*. Cornell University Press.
- Mansour, M., Verhoeven, M., Sawadogo, F., and Tan, B. C. S. (2025). *Methodology and Overview of the IMF's World Revenue Longitudinal Database*. International Monetary Fund.
- Marshall, M. G. and Gurr, T. R. (2020). Polity5: Political regime characteristics and transitions, 1800-2018. *Center for Systemic Peace*, 2.
- Martin, P. A., Piccolino, G., and Speight, J. S. (2022). The political legacies of rebel rule: Evidence from a natural experiment in cote d'ivoire. *Comparative Political Studies*, 55(9):1439–1470.
- Martin, P. A., Piccolino, G., and Speight, J. S. (2025). Ex-rebel leaders and strategies of regime survival in côte d'ivoire. *Security Studies*, 34(3):428–458.
- Melcón, L. (2025). Covering the expenses of rebel administration: Are rebels taxing or pillaging towns? *Netherlands International Law Review*, 72(2):247–289.
- Müller, T. R. (2012). From rebel governance to state consolidation—dynamics of loyalty and the securitisation of the state in eritrea. *Geoforum*, 43(4):793–803.
- Oppel, A., McNabb, K., and Chachu, D. (2021). Government revenue dataset (2021): variable description. *WIDER Technical Note*, 11(2021):2021–11.
- O'Reilly, C. and Murphy, R. H. (2022). An index measuring state capacity, 1789–2018. *Economica*, 89(355):713–745.
- Ouattara, B. and Standaert, S. (2020). Property rights revisited. *European Journal of Political Economy*, 64:101895.
- Pei, Z., Pischke, J.-S., and Schwandt, H. (2019). Does selection on observables imply selection on unobservables? *Journal of Business & Economic Statistics*, 37(3):345–356.
- Podder, S. (2014). Mainstreaming the non-state in bottom-up state-building: linkages between rebel governance and post-conflict legitimacy. *Conflict, Security and Development*, 14(2):213–243.
- Przeworski, A., Alvarez, M. E., Cheibub, J. A., and Limongi, F. (2000). *Democracy and Development: Political Institutions and Well-Being in the World, 1950–1990*. Number 3 in Cambridge Studies in the Theory of Democracy. Cambridge University Press, Cambridge, UK.
- Queralt, D. (2019). War, international finance, and fiscal capacity in the long run. *International Organization*, 73(4):713–753.
- Revkin, M. R. (2020). What explains taxation by resource-rich rebels? evidence from the islamic state in syria. *The Journal of Politics*, 82(2):757–764.
- Ross, M. L. (2004). Does taxation lead to representation? *British journal of political science*, 34(2):229–249.

- Sabates-Wheeler, R. and Verwimp, P. (2014). Extortion with protection: Understanding the effect of rebel taxation on civilian welfare in burundi. *Journal of Conflict Resolution*, 58(8):1474–1499.
- Scott, J. C. (2020). *Seeing like a state: How certain schemes to improve the human condition have failed*. Yale University Press.
- Stewart, M. A. (2020). Rebel governance: military boon or military bust?(isard award article). *Conflict Management and Peace Science*, 37(1):16–38.
- Suykens, B. (2015). Comparing rebel rule through revolution and naturalization: Ideologies of governance in naxalite and naga india. In Arjona, A., Kasfir, N., and Mampilly, Z., editors, *Rebel Governance in Civil War*, pages 138–157. Cambridge University Press, Cambridge.
- Sweet, R. (2021). Concealing conflict markets: how rebels and firms use state institutions to launder wartime trade. *International Organization*, 75(4):1109–1132.
- Tierney, M. J., Nielson, D. L., Hawkins, D. G., Roberts, J. T., Findley, M. G., Powers, R. M., Parks, B., Wilson, S. E., and Hicks, R. L. (2011). More dollars than sense: Refining our knowledge of development finance using AidData. *World Development*, 39(11):1891–1906.
- Tilly, C. (2017). War making and state making as organized crime. In *Collective violence, contentious politics, and social change*, pages 121–139. Routledge.
- Timmons, J. F. (2005). The fiscal contract: States, taxes, and public services. *World Politics*, 57(4):530–567.
- United Nations Security Council (2024). Midterm report of the group of experts on the democratic republic of the congo. *S/2024/969*, pages 1–160.
- Weigel, J. L. (2020). The Participation Dividend of Taxation: How Citizens in Congo Engage More with the State When it Tries to Tax Them. *The Quarterly Journal of Economics*, 135(4):1849–1903.
- Zelin, A. Y. (2026). Syria’s new government appointments: More continuity than change. PolicyWatch 4218, The Washington Institute for Near East Policy. Published May 22, 2026.

## Appendix

### Sample construction

Consistent with our theory, the original sample we start with comprises all 43 African countries in the UCDP Dyadic Dataset that experienced intrastate or internationalized intrastate conflict. Three restrictions reduce this sample to the 16 countries included in the main specification (and summarized in Table A.1).

First, Tanzania, South Sudan, and Benin are excluded because conflict was never fully terminated during the study period. Since active dyads persisted throughout, there is no identifiable post-conflict window in which tax outcomes can be observed. This reduces the candidate sample from 43 to 40 countries.

Second, the Rebel Quasi-State Institutions dataset (Albert, 2022), which provides the treatment variable, does not record rebel organizations for conflicts in 16 of the remaining countries. Because treatment status cannot be assigned for these cases, they are excluded from the analysis. This reduces the sample from 40 to 24 countries.

Third, eight countries with QSI records are excluded because the USAID Collecting Taxes Database does not provide post-conflict observations for the main outcome. These countries are Algeria, Angola, Chad, the Republic of Congo, Liberia, Mozambique, Nigeria, and Somalia. Their absence from the CTD prevents their inclusion in the main specification, although several of them enter the subcomponent analyses using GRD data. This yields the final analytic sample of 16 countries.

The 2000–2015 time window is also determined by data availability. The lower bound is imposed by the USAID Collecting Taxes Database, which is available for African countries from 2000 onward. We exploit the GRD’s longer coverage in the appendix for the subcomponent outcomes. The upper bound of 2015 is imposed by the Ouattara and Standaert (2020) property-rights index, which is included as a control variable.

Table A.1: Sample construction

Restriction / Stage	Countries Dropped	Notes	Remaining (N countries)
Theoretical sample: African countries in the UCDP Dyadic Dataset with intrastate or internationalized intrastate conflict	–	Conflict types 3 and 4	43
Drop: ongoing conflict throughout study period	3	Tanzania, South Sudan, Benin	40
Drop: no record in the Rebel Quasi-State Institutions dataset	16	Burkina Faso, Cameroon, Central African Republic, Comoros, Eritrea, Gabon, Gambia, Ghana, Kenya, Lesotho, Libya, Madagascar, Mauritania, Niger, Togo, Tunisia	24
Drop: no post-conflict tax effort/capacity data in the USAID Collecting Taxes Database	8	Algeria, Angola, Chad, Republic of Congo, Liberia, Mozambique, Nigeria, Somalia	16
Final analytic sample: main specification	–	–	16

*Notes:* The theoretical sample includes all African countries in the UCDP Dyadic Dataset that experienced intrastate or internationalized intrastate conflict. Countries are excluded sequentially when no post-conflict period can be identified, when the treatment variable cannot be assigned using the Rebel Quasi-State Institutions dataset, or when the USAID Collecting Taxes Database does not provide post-conflict observations for the main outcome.

## Other tables

Table A.2: Heterogeneity analysis of Tax Revenues by conflict outcome

	(1)	(2)
	Negotiated or Low-intensity Conflict Termination	Decisive Military Conflict Termination
Effect t=1	0.178 (1.026)	-0.147 (0.420)
Effect t=2	3.741** (1.380)	-0.413 (0.263)
Effect t=3	4.869** (1.738)	0.038 (0.279)
Effect t=4	6.374* (2.502)	1.264* (0.613)
Placebo t=1	-0.886 (1.028)	-0.453* (0.197)
Placebo t=2	-1.866 (1.956)	-0.147 (0.541)
Placebo t=3	-1.174 (2.664)	-0.169 (0.767)
Average total effect	8.346 (6.886)	0.175 (0.505)
N	104	109
Countries	8	8
Country FEs	Yes	Yes
Time FEs	Yes	Yes
Country-Specific Trends	Yes	Yes

*Notes:* The table shows estimated coefficients from the dynamic event-study regression specified in Equation 1, distinguishing between decisive military conflict terminations and negotiated or low-intensity endings. Dependent variable, Tax revenues, is expressed as % of GDP. Robust standard errors in parentheses are clustered by country.

†  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

Table A.3: De Chaisemartin &amp; D'Haultfoeuille estimates, robustness check

	(1) Tax Revenue
Effect t=1	0.213 (0.343)
Effect t=2	1.020** (0.361)
Effect t=3	0.911* (0.455)
Effect t=4	1.001* (0.487)
Placebo t=1	0.305 (0.396)
Placebo t=2	-0.164 (0.829)
Placebo t=3	0.549 (0.691)
Average total effect	1.394 <sup>†</sup> (0.775)
N	180
Countries	15
Country FEs	Yes
Time FEs	Yes
Country-Specific Trends	Yes

*Notes:* The table shows estimated coefficients from the dynamic event-study regression specified in Equation 1, augmented to control for aid flows and resource price shock exposure. Dependent variable, Tax revenues, is expressed as % of GDP. Robust standard errors in parentheses are clustered by country.

<sup>†</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .