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Natural Resources and Civil War Onset —— The Impact of Resource Types and Regional Variations

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ABSTRACT: *Existing studies generally acknowledge a strong correlation between a nation's natural resource endowment and the onset of civil wars. However, how do different types of natural resources influence civil war onset, and do these effects vary across regions? Drawing on data from the Uppsala Conflict Data Program (UCDP) and the World Bank, this paper examines 65 civil wars occurring between 1945 and 2000, alongside the natural resource profiles of the affected nations. It investigates the impacts of mineral resources and energy resources on civil war onset through the theoretical lenses of the "greed hypothesis" and "opportunity hypothesis," respectively, and conducts regional heterogeneity analyses. The findings reveal: (1) Greater natural resource abundance in a country correlates with a higher likelihood of civil war onset. Specifically, mineral resources primarily incentivize rebels to initiate conflicts by increasing potential wartime gains, while energy resources may elevate civil war risks by undermining state capacity. (2) The two resource types exhibit distinct regional effects: In Africa, mineral resources play a more pronounced role in driving civil wars, whereas in Latin America, energy-rich nations are more prone to conflicts. In Asia, civil wars are predominantly influenced by energy resources, with mineral resources showing negligible impact. This study provides a comprehensive analysis of the relationship between natural resources and civil war onset, clarifies the differential mechanisms of resource types, and identifies regional variations, offering theoretical insights for natural resource management and civil war prevention.*

Key words*: Civil war, greed hypothesis, natural resources, opportunity hypothesis.*

1. Introduction

Although interstate wars have not entirely disappeared since World War II, civil wars have replaced them as the predominant form of conflict, inflicting greater devastation. Civil wars not only severely undermine national development and reconstruction but also result in massive casualties, leaving enduring trauma for affected populations. According to the latest data from the Uppsala Conflict Data Program, organized violent conflicts claimed 120,000 lives in 2021, with over 80,000 deaths attributed to civil wars. In response to this recurring phenomenon, research on civil wars surged in the 1990s, with scholars extensively debating the causes of civil war onset. One prominent perspective posits a strong correlation between natural resource endowments and the onset of civil wars.

Building on this foundation, this paper aims to refine the understanding of the relationship between natural resources and civil war onset by exploring how different types of natural resources influence conflict initiation and how these effects vary across regions. This investigation seeks to deepen insights into the specific mechanisms and differential impacts of natural resources on civil war dynamics, thereby offering theoretical guidance for conflict prevention and management.

The introduction section outlines the research background and objectives. Section 2 reviews two categories of relevant literature and justifies the study's focus. Sections 3 and 4 present the research design and statistical analysis, respectively. The final section concludes the study.

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2. Literature Review

The literature related to the topic of this paper primarily falls into two categories: studies on the causes of civil war onset and studies on the impact of natural resources on civil war onset.

2.1. Literature on the Causes of Civil War Onset

The "grievance theory," "greed theory," and "opportunity theory" are the three main analytical frameworks for explaining civil war onset. The grievance theory posits that when power or wealth distribution in a country becomes highly skewed, leading to intergroup inequality, the resentment of disadvantaged groups serves as a motivation for initiating civil war. The greed theory, in contrast, argues that the pursuit of economic benefits is the primary driver for rational individuals or organizations to launch civil wars, particularly when the expected gains outweigh the costs. The opportunity theory approaches civil war onset from the perspective of state capacity, suggesting that weak state capacity creates opportunities for rebels to mobilize, thereby increasing the likelihood of civil war. These three theoretical mechanisms, while distinct, complement one another and collectively offer robust explanatory power for understanding civil war onset.

2.1.1. Grievance Theory

Initially, scholars studying civil wars predominantly viewed civil war onset through the lens of grievances, arguing that groups subjected to systemic injustice develop resentment, which then becomes a catalyst for conflict. This psychological state was conceptualized as "relative deprivation" (Ted Robert Gurr, 1970). The theory was quickly accepted and further refined into a comprehensive causal framework linking inequality, resentment, and conflict. For example, under colonial policies, ethnic groups were categorized as "advanced" or "backward." When colonial powers withdrew and the establishment of an independent state became imminent, both groups would compete for power to avoid marginalization, inevitably leading to civil war (Donald L. Horowitz, 2000) . By the 1990s, the rise of quantitative research enriched discussions on the grievance theory. Scholars emphasized that while both grievances and mobilization were critical conditions for civil war, grievances remained the foundational driver of political mobilization (Ted Robert Gurr, 1993).

The grievance theory holds a foundational position in civil war studies, with subsequent theories building upon its insights. Guided by this framework, scholars have explored specific factors influencing civil war onset, including ethnicity, language, religion, public goods provision, political exclusion, and economic inequality. These studies have produced a wealth of academic work on the origins of civil wars(Shanna Kirschner, 2018). However, the grievance theory has notable limitations. Its most critical weakness is that it explains the motivation for civil war but fails to clarify how such motivations translate into action.

2.1.2. Greed Theory

The greed theory emerged as a critique of the grievance theory. Proponents argue that grievances are pervasive across societies, yet collective violence is not universally observed; thus, "relative deprivation" alone cannot explain civil war onset(David Snyder & Charles Tilly, 1972). The greed theory interprets civil war causation through the lens of individual rational choice, positing that rebels, as rational actors, decide whether to initiate conflict based on cost-benefit calculations. In this framework, costs are quantified as pre-war income levels of potential rebels, while benefits are measured as the economic gains anticipated from successful rebellion(Paul Collier & Anke Hoeffler, 1998). This economic logic was later conceptualized as "greed," with scholars asserting that material calculations—rather than grievances—are the true drivers of civil war(Paul Collier & Anke Hoeffler, 2004). Subsequent research expanded the theory, emphasizing that civil war is more likely when external or internal conditions favor the acquisition of economic benefits. External factors such as external funding, rebel organizational costs, and the geographic reach of government military forces were found to have stronger correlations with civil war onset than grievances.

The greed theory provides a more empirically robust analytical pathway for understanding civil war onset and has advanced scholarly insights into the relationships among natural resources, economics, and conflict. Nevertheless, the theory—rooted heavily in quantitative methods—faces limitations. A key criticism is the mismatch between its micro-level focus on individual rationality and the macro-level phenomenon of civil war, which operates at the state or societal scale.

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2.1.3. Opportunity Theory

The opportunity theory explains why civil wars predominantly occur in states with weak institutional capacity, leading some scholars to label it the "state capacity theory." Emerging concurrently with the greed theory, the opportunity theory established state capacity as a critical lens for analyzing civil war onset. In this framework, state capacity encompasses not only coercive power but also extractive, regulatory, and legitimizing capacities. Deficiencies in any of these dimensions are argued to elevate the risk of civil war.

Specifically, poverty, political instability, and large population size are identified as factors undermining state capacity. Weak states struggle to maintain domestic order, which emboldens rebels by lowering the perceived costs of mobilization and increasing the likelihood of successful rebellion(James D. Fearon & David D. Laitin, 2003). Like the greed theory, the opportunity theory downplays the role of grievances in driving civil war. Empirical case studies illustrate its explanatory power. For instance, frequent conflicts in Afghanistan are attributed to the collapse of state capacity following the Taliban regime's fall, which enabled warlords to exploit power vacuums(Seth G. Jones, 2008). Similarly, Somalia's civil war has been linked to declining state capacity caused by fragmented military structures, external dependency, and deteriorating leadership.

As a broad theoretical framework, the opportunity theory faces critiques of endogeneity. Specifically, weak state capacity may not only increase the likelihood of civil war onset but also result from civil wars themselves, as conflicts drain state resources and reduce investments in capacity-building sectors such as governance and infrastructure.

2.2. Literature Review on the Impact of Natural Resources on Civil War Onset

Under three theoretical frameworks, scholars have conducted empirical studies on hundreds of specific influencing factors, which can be broadly categorized into external environmental factors and domestic factors. External factors encompass geographical location and political environment, while internal factors primarily consist of eight components: historical factors, natural conditions, resource endowments, demographic factors, group structure, development level, political institutions, and social conditions.

Natural resource factors demonstrate strong explanatory power for civil war onset. Initial research on this issue was grounded in the "greed theory." When natural resources are viewed as potential gains for rebels, the relationship between resource endowments and civil war onset exhibits a nonlinear inverted U-shaped pattern: 1) In countries with extremely scarce resources, rebels cannot obtain sufficient benefits to justify rebellion; 2) As resource abundance increases to moderate levels, potential material gains rise while state capacity remains limited, leading to higher civil war probability; 3) When resources reach substantial abundance, states can leverage them to strengthen governance capacity and suppress rebellions. Subsequent studies refined this framework by incorporating "grievance theory," positing that excessive resource extraction may exacerbate inequality, environmental degradation, and government repression, thereby intensifying relative deprivation and rebellion motivations. However, the inverted U-shaped relationship persists in this explanatory framework(Paul Collier & Anke Hoeffler, 1998).

Building on these foundational studies, research has become increasingly nuanced. Theoretically, additional mechanisms beyond greed and grievance have emerged. The "opportunity theory" specifically explains oil's impact on civil war onset: oil revenues may weaken state bureaucratic capacity, reducing governance effectiveness. Other mechanisms include resource-driven separatist movements, foreign intervention motivated by resource interests, and rebel financing through resource extraction rights(Michael L. Ross, 2004).

In terms of research subjects, natural resources have been categorized with greater precision. At the meso-level, distinctions between renewable and non-renewable resources reveal that the former exhibit stronger correlations with conflict. Micro-level analyses focus on specific resources, with petroleum, diamonds, and narcotics being frequently studied commodities. Petroleum is generally recognized as having the most significant impact on civil war likelihood.

Existing literature demonstrates substantial progress in both theoretical frameworks and empirical analysis of civil war determinants. As a highly explanatory variable, natural resources have received considerable scholarly attention. However, critical gaps remain: most studies either analyze aggregate resource endowments or examine single-resource impacts, with limited meso-level analyses comparing resource categories. Additionally, comparative regional studies remain relatively underdeveloped. This paper

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addresses these gaps by investigating how different resource types affect civil war onset and conducting regional heterogeneity analyses to enhance understanding of geographical variations in resource-conflict dynamics.

3. Research Design

3.1. Theoretical Framework

To analyze how different types of resources influence civil war onset through distinct pathways and how these effects vary across regions, this paper designs the following theoretical framework:

3.1.1. How Natural Resources Influence Civil War Onset

This paper adopts the explanatory pathways of the greed theory and opportunity theory. These frameworks are selected because, for the specific factor of natural resources, we argue that providing motivation for civil war is not the primary mechanism through which resources contribute to conflict. While inequality-derived motivations for civil war are multifaceted, natural resources play a relatively minor role in generating such grievances. In contrast, factors like religion, ethnicity, and economic inequality are more likely to evolve into direct motivations for civil war. Instead, the critical role of natural resources lies in their ability to overcome collective action problems. Rebel groups face high costs when initiating civil wars, and their success hinges on mobilizing supporters, neutralizing opposition, and making rebellion feasible. Natural resources serve as a crucial incentive to overcome these collective action barriers, thereby enabling challenges to state authority.

Specifically, according to the greed theory, the net expected benefits of a civil war are a key determinant of rebel groups' willingness to act. A country endowed with abundant natural resources implies that rebels can access substantial revenues both during and after the conflict, creating strong incentives for rebellion. However, directly measuring a country's natural resource endowment is challenging. Consequently, the share of natural resource revenues (from extraction and exports) in total government income serves as a proxy. A higher ratio of natural resource dependence indicates greater potential gains from conflict, thereby increasing the likelihood of civil war. Notably, this mechanism requires differentiation between secessionist civil wars and non-secessionist civil wars. In the latter case, rebels may prioritize capturing state power rather than natural resource revenues, though this paper does not explicitly categorize civil war types.

Under the opportunity theory, state capacity to suppress rebellion critically shapes rebels' strategic calculations. Weak state capacity lowers the perceived risks of failure, encouraging rebellion. Natural resource dependence again serves as a key indicator: a high reliance on resource revenues reduces the state's incentive to develop robust fiscal systems or bureaucratic institutions, as it can finance itself through resource extraction rather than taxation. This undermines state organizational and coercive capacities, creating opportunities for rebels to exploit institutional weaknesses.

In summary, the degree of natural resource dependence—measured by the proportion of natural resource revenues in total state income—serves as the core explanatory variable under both mechanisms. This metric captures how natural resources influence civil war onset either by amplifying greed-driven incentives or by eroding state capacity. The subsequent sections of this paper will operationalize this indicator in empirical analyses.

3.1.2. Measuring Natural Resource Endowment

The classification and measurement of natural resource endowments constitute a crucial component of this study's theoretical framework. In classical research, the value of primary product exports has been conventionally employed as a proxy for assessing a nation's natural resource endowment(Paul Collier & Anke Hoeffler, 1998). However, existing scholarship has raised substantive critiques of this approach. On one hand, studies argue that primary commodities and legal agricultural products exert no significant influence on civil war onset, with the observed correlation between primary product exports and civil conflicts being predominantly driven by strategic resources such as oil and diamonds. On the other hand, scholars contend that using primary product exports as a composite indicator fundamentally lacks validity, given the divergent impacts of concentrated resources versus diffuse resources on conflict dynamics. Furthermore, agricultural resources and extractive natural resources may differentially affect civil war risks, rendering their aggregation under a single metric conceptually problematic (Indra de Soysa, 2002).

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This study addresses these critiques through methodological innovations in resource measurement. First, we propose a meso-level classification system distinguishing mineral resources from energy resources. This categorization not only facilitates nuanced analysis of distinct resource types' impacts on civil war onset but also enhances measurement validity by excluding agriculturally derived commodities while retaining critical conflict-related resources such as petroleum, diamonds, natural gas, and metallic minerals. Second, aligning with our theoretical pathways, we operationalize resource endowment through the concept of "natural resource dependence" rather than raw production data. Specifically, we calculate this key indicator by dividing the revenue from mineral and energy resources by the country's gross national income (GNI). This normalized metric enables cross-national comparison of resource reliance while maintaining conceptual consistency with our hypothesized mechanisms linking resource governance to conflict outcomes.

3.1.3. Hypothesis Development

This section integrates the preceding theoretical frameworks to formally propose two hypotheses. First, this study posits that mineral resources predominantly incentivize civil war initiation through the "greed mechanism." Compared to energy resources, mineral resources such as diamonds, gold, and silver are characterized by lower extraction barriers, higher accessibility, and greater value-added potential. These attributes enable rebels to rapidly monetize captured mineral assets following a successful insurgency, thereby generating substantial financial gains. Consequently, higher dependence on mineral resources—measured as the ratio of mineral revenue to national income—reflects greater availability of high-value extractable resources, which amplifies rebels' expected returns and motivation to instigate conflicts.

Hypothesis 1: Countries with greater mineral resource endowments exhibit higher probabilities of civil war onset, as the potential economic gains from capturing these resources strengthen rebels' incentives to initiate conflict.

Second, this study argues that energy resources primarily influence civil war risks through the "opportunity mechanism." Energy resources, such as oil and natural gas, constitute the lifeblood of state operations, and their abundance directly correlates with state capacity. Heavy reliance on energy exports often generates substantial rent streams that paradoxically erode institutional governance, fiscal discipline, and societal oversight—key pillars of state resilience against rebellions. Specifically, energy-dependent states tend to prioritize rent distribution over public goods provision, weakening their ability to detect, deter, or suppress insurgent activities. This aligns with the broader "resource curse" literature, which consistently identifies oil wealth as a catalyst for state fragility and conflict escalation.

Hypothesis 2: Countries with greater energy resource endowments face higher risks of civil war onset, as energy-driven rentierism undermines state capacity to manage social tensions and counter rebellions, thereby lowering the perceived costs of insurgency for rebel groups.

The hypotheses systematically differentiate between resource types and their distinct conflict pathways, addressing prior critiques of oversimplified measurement while advancing theoretical precision in linking natural resources to civil war dynamics.

3.2. Variable Description and Data Sources

3.2.1. Dependent Variable

Civil War Onset. The definition of civil war follows Fearon and Laitin's (2003) criteria, requiring three conditions: (1) conflict involves at least two parties, including a state agent and a non-state actor seeking to control the government, a region, or alter policies; (2) cumulative fatalities exceed 1,000, with an annual average of at least 100 deaths; and (3) each party's fatalities exceed 100 to exclude one-sided violence like genocides. Based on this framework, we identify 65 civil wars across 64 countries from 1945 to 2000 using data from the UCDP/PRIO Armed Conflict Dataset.

3.2.2. Independent Variables

Mineral Resource Dependence. This variable measures a country's reliance on mineral resources, operationalized as the annual ratio of mineral revenue to gross national income (GNI) for each conflict-affected country from 1945 to 2000. Mineral revenue data, sourced from the World Bank, encompass earnings from aluminum, copper, iron, lead, nickel, phosphorus, tin, zinc, gold, silver, and other mineral commodities.

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Energy Resource Dependence. This variable captures a country's dependence on energy resources, calculated as the annual ratio of energy revenue to GNI for the same sample of countries and period. Energy revenue data, also from the World Bank, include earnings from oil, natural gas, and coal.

3.2.3. Control Variables

Existing studies suggest that larger population sizes increase societal diversity, raising the likelihood of rebellious factions; higher per capita income enhances a government's fiscal capacity to suppress or co-opt opposition, leading to a negative correlation between wealth levels and civil war onset; moderate democracies are less inclined to employ severe repression, making conflicts more probable in democratic contexts; and newly independent or regime-transitioning states often experience institutional instability, heightening their susceptibility to civil war(James D. Fearon & David D. Laitin, 2003). Aligning with these theoretical insights, this study incorporates four control variables: population size, per capita income, democratic regime status, and newly established state status.

In this analysis: Population size and per capita income are measured as annual national totals (for population) and per capita income figures (in constant USD) for conflict-affected countries from 1945 to 2000, sourced from the World Bank. Democratic regime status is operationalized as a binary variable (1/0) based on Polity IV's democracy scores (1945–2000), where countries scoring ≥5 on the Polity scale are classified as democracies. Newly established state status is coded as a binary indicator (1/0), assigned "1" if a country gained independence between 1945 and 1999, and "0" otherwise.

3.3. Model Specification

Aligned with the research objectives and theoretical foundations, we specify the following logit regression model:

$$Logit(onset_{it})=\beta_0+\beta_1 energy_{it}+\beta_2 mineral_{it}+X_{it}+Country_i+Year_t+\varepsilon_{it}$$

Subscript i denotes a country in the sample, and t represents the year. $onset_{it}$ is a binary dependent variable indicating whether country i experienced civil war onset in year t. $energy_{it}$ and $mineral_{it}$ are the key independent variables, measuring country i's energy and mineral resource dependence (as ratios to GNI) in year t, respectively. The coefficients β_1 and β_2 capture their marginal effects on conflict risk and constitute the study's core parameters of interest. X_{it} represents a vector of control variables, including population size, per capita income, democratic regime status, and newly established state status. $Country_i$ and $Year_t$ denote country and year fixed effects, respectively, to account for unobserved heterogeneity across spatial and temporal dimensions. β_0 is the intercept, and ε_{it} is the idiosyncratic error term.

The model employs logit regression to estimate the probability of civil war onset as a function of resource dependence, controlling for socioeconomic, institutional, and temporal confounders. Standard errors are clustered at the country level to address potential serial correlation. This specification enables rigorous testing of Hypotheses 1 and 2 while isolating the distinct effects of mineral and energy resources on conflict dynamics.

4. Empirical Analysis and Results Discussion

4.1. The Impact of Natural Resources on Civil War Onset

To investigate how natural resources influence civil war onset, this study conducts regression analyses aligned with the theoretical framework. Table 1 presents the regression results. We first examine the isolated effects of energy and mineral resource dependence on conflict risk and then incrementally introduce four control variables to assess robustness and model validity. Further sensitivity checks include alternative specifications such as multivariate linear regression and two-way fixed effects models.

Model (1), which regresses civil war onset solely on energy and mineral resource dependence, reveals statistically significant and positive associations for both variables. Notably, the coefficient for mineral resource dependence exceeds that of energy resources, suggesting a stronger conflict-inducing effect. This finding aligns with the theoretical proposition that mineral resources, due to their accessibility and high liquidity, amplify rebels' financial incentives under the "greed mechanism." However, the observed disparity in coefficients also underscores the multifaceted nature of natural resource impacts on state capacity. While the "opportunity mechanism" posits that energy dependence erodes governance and fuels conflict, natural resource revenues could simultaneously enhance state fiscal and coercive capabilities, enabling more effective

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rebellion suppression. The net effect—whether resource rents weaken or strengthen state resilience—likely depends on contextual factors such as institutional quality and rent distribution patterns, which remain challenging to disentangle without granular contextual data.

This ambiguity highlights the importance of distinguishing resource types and their distinct pathways. While energy resources may predominantly weaken state capacity through rentier effects, their potential to concurrently bolster state power introduces complexity to the "resource curse" narrative. Future research should explore conditional factors mediating these dual dynamics.

Table 1. The Impact of Natural Resources on Civil War Onset.

	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**
	logit1	logit2	logit3	logit4	logit5	xtreg1	xtreg2	xtreg3	reg
Main									
Energy	0.633***	0.608***	0.622***	1.026***	0.917***	0.117***	0.073***	0.121***	0.071***
	(6.56)	(6.26)	(6.37)	(7.25)	(6.52)	(9.46)	(8.98)	(9.61)	(8.86)
Mineral	2.485**	2.422**	2.714**	3.395***	3.041***	0.399***	0.172***	0.483***	0.139**
	(2.22)	(2.14)	(2.40)	(3.02)	(2.68)	(4.44)	(2.70)	(5.13)	(2.24)
Dem		-0.331	-0.362	-0.044	-0.210	-0.020	-0.003	-0.022	-0.004
		(-1.10)	(-1.20)	(-0.14)	(-0.66)	(-1.26)	(-0.21)	(-1.38)	(-0.31)
Newstate			1.914***	1.593***	1.779***	0.163***	0.160***	0.166***	0.148***
			(5.04)	(3.94)	(4.29)	(5.23)	(4.97)	(4.91)	(4.96)
Gdp				-0.554***	-0.487***	-0.040***	-0.009***	-0.029***	-0.010***
				(-4.13)	(-3.79)	(-4.98)	(-3.21)	(-3.43)	(-3.46)
Pop					0.181***	0.010	0.009***	0.219***	0.008**
					(2.59)	(0.62)	(2.85)	(3.75)	(2.55)
_Cons	-3.311***	-3.239***	-3.353***	-2.676***	-4.424***	-0.005	0.138	-1.718***	-0.029
	(-26.57)	(-23.88)	(-23.51)	(-13.65)	(-6.18)	(-0.03)	(1.30)	(-3.33)	(-1.00)
N	2061	2038	2038	1969	1969	1969	1969	1969	1969
R2						0.074		0.108	0.062
R2_W						0.074	0.088	0.108	
F						25.343		3.791	21.730

Models (2) through (5) incrementally introduce four control variables—democratic regime status, newly established state status, per capita income, and population size—culminating in Model (5), which represents the full specification of our theoretical framework. The inclusion of these controls does not substantially alter the statistical significance or magnitude of the coefficients for energy resource dependence and mineral resource dependence compared to Model (1), providing preliminary validation for our hypotheses.

To further test the robustness of the findings, this study re-estimates the relationships using multivariate linear regression and two-way fixed effects models. Model (6) controls for country fixed effects to address unobserved time-invariant heterogeneity, Model (7) incorporates year fixed effects to account for temporal trends, Model (8) employs a two-way fixed effects specification that simultaneously controls for country and year effects, and Model (9) applies a multivariate linear regression framework. Across all specifications, the coefficients for energy resource dependence and mineral resource dependence remain statistically significant at conventional levels ($p < 0.01$). These results demonstrate that the positive associations between resource dependence and civil war onset are robust to alternative modeling approaches, reinforcing the reliability of the core findings.

The empirical analysis consistently demonstrates that both energy and mineral resource dependence exhibit statistically significant positive associations with civil war onset at the 1% significance level across all model specifications, confirming the validity of the study's hypotheses. These findings establish that natural resource endowments significantly heighten civil war risks, with mineral resources exerting a stronger marginal effect compared to energy resources. Mechanistically, energy resources undermine state capacity through rentier governance structures, weakening institutional resilience and emboldening rebels by reducing the perceived costs of rebellion. In contrast, high-value mineral resources amplify insurgents' expected financial returns under the "greed mechanism," incentivizing conflict initiation due to their liquidity and ease

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of monetization. These results underscore the dual pathways through which natural resources exacerbate conflict—energy via state fragility and minerals via rebel profit motives—advancing the "resource curse" discourse by delineating how distinct resource typologies interact with governance and economic dynamics to shape conflict outcomes.

4.2. Regional Heterogeneity Analysis of Natural Resources' Impact on Civil War Onset

A secondary objective of this study is to examine regional variations in how natural resources influence civil war dynamics. To this end, the sample is stratified by continent based on the location of conflict-affected states. Among the 65 civil wars occurring between 1945 and 2000, 22 originated in Africa, 12 in Latin America, 23 in Asia, 7 in Europe, and 1 in Oceania. Due to the limited sample size in Europe (7 cases) and Oceania (1 case), the analysis focuses exclusively on Asia, Africa, and Latin America. Methodologically, this study retains the theoretical framework and empirical model outlined earlier, conducting separate regression analyses for each of the three regions. Robustness checks using multivariate linear regression and two-way fixed effects models are also replicated to ensure consistency and reliability across regional subsamples. This approach enables a comparative assessment of whether the hypothesized mechanisms—energy resources eroding state capacity and mineral resources fueling rebel incentives—operate uniformly or exhibit context-dependent variations across geographically and institutionally distinct regions.

Tables 2 and 3 present the effects of natural resources on civil war onset in Africa and Latin America, respectively, revealing consistent patterns across both regions. In both tables, energy resource dependence and mineral resource dependence exhibit statistically significant positive effects on conflict risk across all three models (baseline, controlled, and fixed effects). This indicates that natural resource endowments are critical determinants of civil war likelihood in these regions: the greater a country's reliance on energy or mineral resources, the higher its probability of experiencing conflict. These findings align with empirical realities. Africa and Latin America are endowed with diverse and abundant natural resources, many of which have historically fueled rebellions. High-value minerals, such as diamonds in Sierra Leone—infamously termed "blood diamonds"—became central targets for rebel groups during the country's civil wars in the 1990s. Similarly, El Salvador's mineral reserves were a strategic objective for insurgents during its 1979 civil conflict. Energy resources, particularly oil, have also corroded state capacity and exacerbated instability. For instance, Nigeria's 1967 civil war was partly driven by political corruption and regional tensions over oil revenues, while Libya's heavy dependence on oil exports—a critical economic pillar—left it vulnerable to conflict when oil price volatility destabilized its rentier economy. These cases illustrate the dual mechanisms theorized in this study: mineral resources incentivize rebellion through lootable wealth, while energy dependence weakens state governance, creating permissive conditions for insurgency. The regional analysis thus reinforces the universality of the "resource curse" in contexts where institutional fragility intersects with resource abundance.

However, an examination of impact coefficients reveals distinct regional patterns: in African regions, the impact coefficient of mineral resource dependence exceeds that of energy resource dependence, whereas the inverse holds true in Latin America. This study seeks to interpret this divergence through the lens of civil war typology. As previously discussed, natural resource revenues predominantly influence civil war onset when rebel groups pursue separatist objectives. In Africa, numerous civil conflicts have originated from separatist movements, exemplified by Southern Sudan's nationalist separatist movement in 1962 and the Somali National Movement initiated in 1991. Consequently, post-conflict mineral resource revenues constitute a critical strategic consideration for African rebel groups when initiating conflicts. In contrast to Africa, Latin American nations generally maintain more robust democratic institutions, with most civil wars aiming to replace existing regimes or negotiate political compromises with governments. Under such circumstances, potential material gains from conflict become less salient in rebel groups' strategic calculations.

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Table 2. The Impact of Natural Resources on Civil War Onset in African Regions.

	(1)	(2)	(3)
	logit	xtreg	reg
main			
energy	2.318***	0.214***	0.189***
	(2.91)	(5.26)	(5.49)
mineral	3.615**	0.421***	0.187**
	(2.03)	(3.32)	(2.39)
dem	-1.370	-0.031	-0.029
	(-1.30)	(-1.05)	(-1.19)
newstate	1.785***	0.138***	0.096***
	(2.95)	(3.11)	(2.86)
gdp	-0.682**	-0.095***	-0.030***
	(-2.05)	(-3.00)	(-3.05)
pop	0.129	0.265*	0.005
	(0.78)	(1.92)	(0.79)
_cons	-4.117***	-2.089*	0.011
	(-2.64)	(-1.85)	(0.23)
N	843	843	843
r2		0.115	0.051
r2_w		0.115	
F		1.674	7.557

Table 3. The Impact of Natural Resources on Civil War Onset in Latin America Regions

	(1)	(2)	(3)
	logit	xtreg	reg
main			
energy	9.768**	1.089***	0.675**
	(2.09)	(3.52)	(2.54)
mineral	4.496**	0.315**	0.242**
	(2.12)	(2.37)	(2.27)
dem	-0.615	-0.024	-0.016
	(-0.95)	(-1.02)	(-1.16)
newstate	0.000	0.000	0.000
	(.)	(.)	(.)
gdp	0.191	-0.033*	0.005
	(0.63)	(-1.68)	(0.69)
pop	-0.298	0.116	-0.010
	(-0.72)	(1.30)	(-1.09)
_cons	-1.651	-0.878	0.093
	(-0.53)	(-1.23)	(1.35)
N	609	609	609
r2		0.132	0.027
r2_w		0.132	
F		1.410	3.368

Table 4 presents the impact of natural resources on civil wars in Asia, revealing distinct patterns compared to other regions. Across the three models, only energy resource dependence demonstrates a consistently statistically significant positive effect, while mineral resource dependence is significant in only one model. This suggests that for Asian countries, natural resources influence civil war onset primarily through energy resource abundance rather than mineral resources. This finding is not entirely unexpected, as Asia includes the Middle East—a region characterized by both exceptional energy resource wealth and frequent conflicts. The

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relationship between oil endowments and civil war onset has been extensively studied; indeed, the "opportunity-based" explanation for how natural resources fuel civil wars largely emerged from theories targeting oil-rich states. Given the Middle East's vast petroleum reserves, the negative impact of such resources on state capacity and their inevitable role in driving civil conflicts is both evident and well-documented.

Table 4. The Impact of Natural Resources on Civil War Onset in Asian Regions.

	(1)	(2)	(3)
	logit	**xtreg**	**reg**
Main			
Energy	1.196***	0.094***	0.075***
	(5.60)	(5.80)	(6.12)
Mineral	35.515	5.826**	1.906
	(1.24)	(2.34)	(0.91)
dem	0.124	0.009	0.012
	(0.23)	(0.21)	(0.36)
newstate	2.399***	0.234**	0.350***
	(2.70)	(2.27)	(3.87)
gdp	-1.066***	-0.011	-0.029***
	(-4.23)	(-0.75)	(-3.63)
pop	-0.087	0.094	0.000
	(-0.67)	(0.82)	(0.06)
_cons	-0.808	-0.338	0.087
	(-0.53)	(-0.27)	(0.96)
N	425	425	425
r2		0.431	0.125
r2_w		0.431	
F		5.901	9.907

5. Conclusion

This study primarily utilizes data from the Uppsala Conflict Data Program (UCDP) and the World Bank to examine the impact of natural resources on the outbreak of civil wars. It clarifies how different types of natural resources influence civil war onset and reveals regional variations in these effects. The findings ultimately demonstrate that: Overall, natural resources exert a positive impact on civil war outbreak; Mineral resources and energy resources operate through distinct mechanisms - the former primarily increases potential for rebels to initiate conflicts while the latter mainly weakens state capacity to prevent rebellions; Among these, mineral resources exhibit a stronger effect than energy resources.

The impact of natural resources on civil war outbreak varies across regions. In Africa and Latin America, both mineral and energy resource endowments exhibit positive correlations with the onset of civil wars. However, in Africa, mineral resources demonstrate a stronger influence compared to energy resources, while the opposite pattern prevails in Latin America. The dynamics in Asia differ slightly: Due to the presence of the Middle East as a distinct subregion, only energy resources show a positive association with civil war outbreaks in the Asian context.

In reality, natural resources do not inherently or spontaneously influence the outbreak of civil wars; rather, institutional frameworks play a critical mediating role in this relationship. It is essential to recognize that natural resources are not the sole determinant of civil war onset, nor do resource-rich countries inevitably descend into conflict. Robust resource governance and institutional frameworks can transform abundant natural resources into a foundation for socioeconomic development. Conversely, weak institutional frameworks may lead to resource mismanagement, enabling the exploitation of resources by rebel groups and eroding state capacity, thereby fueling conflict. Thus, while understanding the mechanisms linking natural resources to civil wars is a crucial first step, the subsequent priority lies in addressing how to harness these resources efficiently and securely. This requires prioritizing institutional reforms, strengthening governance

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systems, and designing context-specific policies to mitigate risks while maximizing the developmental potential of natural resource endowments.

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