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Violence and Security

**Revisiting the Resource–Conflict Link:  
A Systematic Comparative Test of Causal Mechanisms  
in Four Major Oil-Exporting Countries**

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## **Revisiting the Resource–Conflict Link: A Systematic Comparative Test of Causal Mechanisms in Four Major Oil-Exporting Countries**

### **Abstract**

Causal mechanisms and related contextual variables are crucial to the study of the resource–conflict link, but little systematic research has been done on their exact functioning. This paper contributes to the filling of this gap by comparing four major oil exporters (Algeria, Iran, Nigeria, and Venezuela) with differing levels of internal violence. To capture the causal complexity of the resource–conflict link we created a questionnaire with some 150 variables that distinguish between resource-specific (RS) and non-resource specific (NRS) conditions. The causal mechanisms are measured by assigning pertinent RS and NRS indicators to them. Our results suggest that the role of resources may be less prominent than is widely assumed. Only three resource-related causal mechanisms provide limited explanatory value (motive at subnational level, indirect economic, and institutional mechanism) by distinguishing Venezuela—the most peaceful case—from all the others. Only a mixed mechanism that combines 13 RS and NRS (economic and geographic characteristics, identity, intergroup relations, as well as political and institutional variables, including elite behavior) conditions can explain the differences between the countries with regard to the dependent variable comprehensively.

Keywords: oil, violent conflict, causal mechanism, resource curse

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# **Revisiting the Resource–Conflict Link: A Systematic Comparative Test of Causal Mechanisms in Four Major Oil-Exporting Countries**

**Matthias Basedau, Annegret Mähler, Miriam Shabafrouz**

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## **1 Introduction**

Conventional wisdom holds that natural resources create both the motivation and opportunities for civil war, as well as indirectly reinforcing economic, institutional, and other causes of internal violence. However, recent research has increasingly questioned this link. At best, the commodity oil is robustly linked to the onset of armed conflict (Dixon 2009; Hegre/Sambanis 2006; Ross 2004b; 2006). Other studies have pointed to the ambiguity (Fjelde 2009) or even spuriousness of the resource–conflict link (for example, Bulte/Brunnschweiler 2008). In any case, the exact causal mechanisms through which this link works—or does not work—remain largely unknown. This paper deals with this persistent puzzle and takes a closer look

at the question of why—and particularly how—some resource-producing countries lapse into internal violence, while others do not. In working to resolve this puzzle, the paper utilizes a context-sensitive approach, which systematically tests which causal mechanisms—and related resource-specific (RS) and non-resource-specific (NRS) conditions—can explain the divergent levels of internal violence. Methodologically, it makes use of a controlled comparison of four oil producers—Algeria, Iran, Nigeria, and Venezuela—which share a number of theoretically-important similarities but which differ with regard to the levels of internal violence.

The first section of the paper outlines the theoretical argument and identifies the three main causal mechanisms and submechanisms that presumably link resources to internal violence, and assigns RS and NRS conditions to these mechanisms. The second section summarizes the up-to-now results of quantitative and other empirical studies, and also refers to existing shortcomings. The third section outlines the methodology of the small-N comparison, on which the paper concentrates. We then propose an innovative operationalization for the comparative test of causal mechanisms and related contextual conditions. We also introduce a more comprehensive measure of internal violence than the usual armed conflict onset or battle death indicators, including various other indicators for intensities and types of internal violence. The fourth section presents the major findings regarding the explanatory value of the causal mechanisms as well as country-specific results. Finally, the paper discusses these results against the backdrop of the current state of the debate, and draws a number of conclusions for theory and for future research.

## 2 The Theoretical Argument: Causal Mechanisms Linking Resources and Violence

A cause cannot exist without a causal mechanism connecting causes to effects, and a causal mechanism is more than a cause (Falleti/Lynch 2009). Causal mechanisms link cause(s) and effect(s) through a sequence and interaction of events, conditions, and processes. What, then, are the causal mechanisms of the resource–conflict link?<sup>1</sup> In their seminal work on “greed and grievance,” Collier and Hoeffler (2004: initially, 1998) argue that the main mechanism is economic opportunity. Wealth—in the form of primary commodities—increases the likelihood of the onset of civil war by providing the opportunity, and the related motive of “greed,” for armed rebel activity rather than by spurring conflict-promoting grievances.<sup>2</sup>

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1 Unless otherwise indicated, “conflict” refers to “internal violent conflict.”

2 Collier and Hoeffler actually mean economic opportunity when using the term “greed.” The catchphrase “greed and grievance” (“grievance” meaning deprivation of social groups rather than resource-induced grievances) obviously sounds better than “opportunity and grievance.” “Greed” and opportunity actually refer to economic (not just resource-related) opportunities.

These ideas have been further developed and modified in the literature.<sup>3</sup> With regard to causal mechanisms, several different lists of such mechanisms have been developed (for example, Ross 2004; Humphreys 2005; Le Billon 2008). These lists differ somewhat, but they generally state that natural resources promote violence through three major mechanisms and several submechanisms: (a) motive, (b) opportunity, and (c) indirect mechanisms such as detrimental impacts on institutions and socioeconomic development.

**The Motive Mechanism(s):** The first main causal mechanism connects resources and violent conflict through *motive*, which Le Billon considers a “risk” for “resource wars” (Le Billon 2008). Resources may be the source of conflict between several actors; violence may result from conflict over how the benefits and the costs of resource production are shared between different groups within a country.

In order to achieve a higher precision, it seems fruitful to divide the mechanisms into subtypes according to geographical levels—as the actors involved and the scope of their actions will differ according to these levels. Hence, we deal with a motive mechanism at the *national level* if, for instance, the central government’s control of resources (and related revenues) or the nationwide distribution of revenues is at the heart of a conflict; the *subnational level* comes into play when we talk about secessionist or autonomy-related conflicts between resource-producing regions and the central state (or other regions). Intercommunal conflicts within resource-producing regions over revenue distribution or the effects of resource production also belong to this mechanism. Finally, internal conflicts over benefits—not so much costs—from resources may also be promoted by the vested interests of *international* actors (or rivals) in the resource reserves of the country in question, which make direct or indirect military intervention in internal conflicts more likely.

These subtypes of the motive mechanism are more likely to function when particular RS conditions are met. In some circumstances, these are necessary conditions in the logic of the mechanisms (for a systematic overview, see Table 1). Any motive-driven conflict over the distribution of revenues may be the consequence of the (perceived) uneven allocation of resource income or simply of the fact that there is too little to distribute because the abundance of resource income per capita is too low for the government to engage in large-scale distribution policies. The failure to implement environmentally-sensitive resource management may provoke grievances over ecological problems, such as oil spills. Uneven revenue distribution may also fuel intercommunal conflict in the resource-producing region. The emergence of “greedy outsiders” (Humphreys 2005) is more probable when the country has a strategically and financially valuable, but scarce, resource such as oil. Externally-induced escalation also becomes more likely when the country is a globally important producer and has not established firm relationships with external allies that can provide effective outside protection.

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3 For an overview of the literature, see also Samset (2009), Basedau and Lay (2009), Ross (2008), and Le Billon (2008).

**Table 1: Indicators for Causal Mechanisms of the Resource–Conflict Link**

Main Causal Mechanisms	Submechanisms	Indicators for Contextual Conditions Involved (“risks”)	
		RS (Resource-specific)	NRS (Non-resource-specific)
Motive (“Resource War”):  Conflict over costs and benefits of resource production	National level:  Emergence of nationwide conflict over resources	- High dependence with effects on spending potential of the government - Low abundance relative to population size - No distributional policies - No cooptation of potential opposition leaders - Protest against the distribution of oil revenues	General reinforcing risks (not included in mechanism)*: - Socioeconomic problems - Demographic pressures - Cultural diversity and relations - Confrontational agency of elites - Conflict history
	Subnational level:  Emergence of secessionist, autonomy-related, or intercommunal conflict in the resource-producing region	- Concentration of resources in culturally distinct regions - Contested revenue distribution between resource-producing region and the central state - Ecological and socioeconomic stress due to resource production	Reinforcing risks (included in mechanism): - Socioeconomic problems in the resource region*** - Demographic pressures in the resource region - Rough terrain in the resource region - Cultural diversity and relations, particularly in and with resource region ** - Conflict history in the resource region
	International level:  Direct or indirect intervention by “greedy outsiders”	- Scarce but strategic/valuable resource(s) - High abundance relative to world production/reserves - Int’l geographical dispersion of resources and related disputes - Problematic relations with major importing countries	Reinforcing risks (included): - Poor relations with major foreign countries, few allies - Evidence of foreign intervention - Conflict-prone regional/ international environment
Opportunity (“Conflict Resources”):  Resources make rebellion/military action feasible	Economic opportunity:  Resources provide money to make rebellion financially feasible	- Lootable technical mode of production - Resource companies’ personnel unprotected - Lack of government control over production sites/transport routes - Peripheral location of resources	Reinforcing risks (not included): - Weak state, particularly weak security apparatus - Rough terrain in resource region
	Military opportunity:  Resource facilities, production sites, and personnel offer easy targets for military action	- Production sites/transport routes and personnel as easy military targets - Lack of government control over production sites/transport routes - Peripheral location of resources - Low spending of resource money on security apparatus	Reinforcing risks (included): - Weak state, particularly weak security apparatus - Rough terrain in resource region
Indirect mechanisms (“Resource Curse”):  Resources have negative consequences for other areas, which in turn renders violence more likely	Socioeconomic problems:  Resource dependence creates socioeconomic problems that make the country vulnerable to violence	- High dependence - Low abundance relative to population size - Wealth reduction due to MNCs’ share - Direct evidence of price shocks and other negative economic consequences of resource production	Necessary complementary risks (included): - Socioeconomic problems including high inflation, slow growth, high unemployment, high poverty rates, etc.
	Weak state/institutions:  Resource production (for example, via rent-seeking mentality) damages the effectiveness of institutions thereby making the country vulnerable to violence	- High dependence - Low abundance relative to population size - Huge state sector - Corrupt and ineffective resource sector - No efforts to tackle resource-related problems	Necessary complementary risks (included): - Low effectiveness of state institutions and/or deterioration (ideally after discovery of resources or beginning of production)

Source: Authors’ own compilation.

Note: the list of non-resource risks is not necessarily exhaustive; for further details see main text.

\* Generally, classical risk factors such as socioeconomic and demographic factors are believed to reinforce all the mechanisms, hence they are only listed with the first mechanism (motive at the national level).

\*\* All indicators were included in the questionnaire. Please note that indicators can be part of several causal mechanisms.

\*\*\* Several indicators summarized in an index.

Non-resource-specific conditions (NRS) are also important for each subtype of the motive mechanism. First, classical NRS risk factors—such as rapid demographic change and economic crisis—will increase the risk of violence (for example, Hegre/Sambanis 2006; Dixon 2009), for instance, by making it easier to draw on grievances to recruit possible rebels. Additionally, or in conjunction with economic struggles, rebel leaders can draw on cultural differences between groups. Second, and more importantly, some of the mechanisms require the interaction of RS and NRS conditions. In the case of the “subnational secessionist mechanism” major resource reserves have to be located within an area that shares a common ethnic or other social identity. A historical record of problematic relations with the central state and a relatively low level of development in the resource region will make it more likely that the mechanism will function.<sup>4</sup>

**The Opportunity Mechanism(s):** The second main causal mechanism is based on the assumption that natural resources will provide an *opportunity* for, or facilitate the feasibility of, warfare, or, in particular, rebellion. Understanding opportunity in a narrow sense,<sup>5</sup> we can identify two subtypes of the opportunity mechanism. First, resources may provide the *financial means* for rebellion. Whether this is the case depends on several RS conditions (Le Billon 2001). If rebels want to access resources and to trade them in order to generate the financial means necessary to maintain a rebel group, the resources should ideally be “lootable” (Ross 2003). “Lootability,” refers to the type or, more precisely, the technical mode of extraction: alluvial diamonds that can be mined by artisanal means are more suitable in this sense than offshore oil, which requires sophisticated and expensive equipment and know-how. The geographical location also matters: if resources are located in peripheral regions this will further contribute to a pro-rebellion opportunity structure.

Second, rebels need not necessarily control resource production: resources might provide fruitful *military targets*, particularly when income from these resources is critical to the government. Rebels can attack production sites and sabotage transport facilities. Personnel can be kidnapped. The latter action not only boosts military opportunity but also provides a lucrative source of income, thus contributing to financial opportunity.

The opportunity mechanism, at least the financial one, does not exclusively function through actual access to resources (or resource-production facilities that are within the range of immediate military action). If outside forces are ready to grant support in return for future

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4 Sometimes it may be difficult to determine the difference between RS and NRS conditions. As a rule, we have defined conditions as resource-specific when any resource-related aspect was involved, except for socioeconomic, demographic, and ethnic characteristics in the resource region, which we principally consider to be NRS conditions.

5 In the strict sense, one may argue that motive is also part of an opportunity structure. It is true that it is often not entirely clear how to best distinguish motive from opportunity. An effective security apparatus, for instance, may also discourage possible rebels; grievances over revenue distribution increase the opportunity for rebels to recruit rank-and-file members.

gain (or “booty”)—in the event of victory—this will also contribute to a pro-rebellion structure (Ross 2004a)—although it can be argued that direct and actual access makes the opportunity mechanism more likely to work. Moreover, one should not look at the opportunity structure exclusively from a rebel perspective. From the government’s point of view, it is crucial to maintain firm control over the production sites and transit routes in order to limit rebel opportunity. Effective control will depend on the strength of the state as a whole and, more specifically, on the effectiveness of the security apparatus. These are principally NRS conditions, but they are often nevertheless related to resources. If the country really has abundant resources—relative to population size—it may have the financial means to establish a security apparatus that makes rebellion unfeasible. This shows that a resource-financed security apparatus is not necessarily a civil war risk. Resources will only fuel conflict over longer periods or facilitate the onset of conflict if they contribute to an equilibrium between government forces and rebels, which commonly means that the (weaker) rebels have RS opportunities, such as lootable resources (Ross 2004a).

**The Indirect Mechanism(s):** A third key causal mechanism is based on the argument that resources do harm other areas, thus making countries indirectly vulnerable to the emergence of violence. Again, we can think of subtypes, mostly inspired by the literature on the “rentier state” and the (economy-related) “resource curse” (Auty 2001; see also, Le Billon 2008). In the case of the *economic subtype* it is expected that resources will damage economic prospects through the well-known side effects of resource-dependent rentier states: negative price shocks; the “Dutch Disease,” when the resource sector crowds out other sectors; the neglect of other sources of income (for example, education, manufacturing); or the wasting of resource income on economically harmful, prestigious projects (“white elephants”). Once resources have contributed to economic crisis, the provision of public goods will become more difficult. As a consequence, violent conflict becomes more likely. Numerous empirical studies have shown that low income per capita and low economic growth are robustly linked to the onset of civil war (for example, Hegre/Sambanis 2006; Dixon 2009).

The economic resource curse is not a predetermined fate, however, and whether it strikes or not depends to a great extent on contextual RS and NRS conditions—such as the actual policies of governments or how the economy was structured before the discovery of resources. Last but not least, how much income from resources is actually available per capita also matters. It is also obvious that price shocks will hit those countries that are highly dependent on resource exports the hardest—but only if prices actually plummet.<sup>6</sup>

The *institutional* variant of the indirect mechanism—also referred to as the *weak state mechanism*—draws on the concept of the rentier state (Mahdavy 1970; Luciani 1987) and ar-

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6 Also, the losses in distributional potential have to fall below a critical threshold. If a country is still sufficiently resource rich in per capita terms, any price shocks resulting from dependence may have a limited effect.

gues that resource income represents rents, which foster rent-seeking behavior, if not outright corruption, which is damaging to the quality of institutions and weakens the state (see Fearon 2005; Fearon/Laitin 2003; Fjelde 2009).<sup>7</sup> There are two principal variants of the weak state mechanism. First, abundant resource income might prevent governments from establishing an effective bureaucracy, with harmful consequences for social welfare and, in turn, internal peace, at least in the long run. Also, weak states will be conducive to rebellion given their lack of control over the entire territory, and resource-rich regions with (lootable) resources in particular. Second, resources do not always proactively damage the quality of institutions; rather, they are detrimental if they happen to be discovered in countries where the institutions are already weak. An important contextual condition here is the quality of institutions before the discovery of resources or the beginning of resource production. Though it is difficult to measure, given the lack of historical data on institutional quality, it seems plausible that a robust set of institutions—as found, for instance, in Norway before the beginning of oil production—may prevent a country from lapsing into violence.

These causal mechanisms are possibly not completely exhaustive,<sup>8</sup> and are not necessarily mutually exclusive. It is possible or even likely that they interact, reinforcing or neutralizing each other. For instance, the motive mechanism at the subnational level should be complemented by an opportunity mechanism in the resource region in question. Only the presence of both motive and opportunity are sufficient to explain a particular group behavior. The interplay and potentially mutually reinforcing or neutralizing effect of conditions and mechanisms makes the formulation of predictions a very demanding challenge. Hence, we should generally view these mechanisms as making violence more likely—but not as determining such an outcome.

Finally, it is far from clear-cut that resources will have only a negative impact on peace. Several authors (for example, Le Billon 2001; Fjelde 2009; Basedau/Lay 2009), mainly drawing on rentier state theory, have shown that it is equally possible that resource-specific and other conditions can make conflict less likely due to the use of resource money for cooptation, distribution, or repression, and also because of outside protection, the funding for which is derived from resource wealth (see also, Lujala and Rustad, forthcoming).

### 3 Literature Review: Empirical Evidence from Quantitative and Comparative Studies

What do we actually know about causal mechanisms and related conditions in the resource–conflict link? Given the complexity of the link, and the apparent difficulty of capturing the many theoretically important resource-specific conditions within the causal mechanisms (see

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7 Fearon (2003) uses income levels as a proxy indicator for a “weak state,” which can be equally assigned to the “economic crisis mechanism.”

8 For additional submechanisms, see Basedau et al. (2011).

Ross 2004; Basedau/Wegenast 2009), it is not surprising that the question of how resources impact conflict—that is, through which contextual conditions and causal mechanisms—is still empirically underexplored and insufficiently explained.

The main problem derives from certain methodological difficulties. Quantitative methodologies are not ideally suited to the detection of exact causal mechanisms. Such methodologies aim to generalize, and tend to ignore the precise mechanisms at work in individual cases. Moreover, indicators (“proxies”) are limited in number—while causal mechanisms involve numerous aspects—and are, if significant, open to divergent interpretations. For instance, low income per capita can proxy a weak state or a weak economy. Almost all systematic studies on causal mechanisms conclude that more specific data is necessary (for example, Humphreys 2005; Sambanis 2005; Ross 2006). The lack of (adequate) data especially refers to the operationalization of institutional quality or economic grievances (Dixon 2009). Numerous case studies do not share these problems and have revealed evidence of individual causal mechanisms; however, they are often not comparable and are by nature incapable of discovering general results.

With the exception of a few works (for example, Ross 2004a; Collier/Sambanis 2005; Humphreys 2005; Basedau/Lay 2009), systematic quantitative and comparative studies that explicitly look at causal mechanisms are rare. For instance, Ross (2004a) tests a number of causal mechanisms for civil war onset in 13 cases in which resources and conflict are “most likely” connected. For conflict onset he finds evidence of neither opportunity (“looting”) nor motive (“grievances”) mechanisms, but he does find evidence of separatism in two cases (Indonesia, Sudan) and two other mechanisms in three cases (Congo Republic: “future booty;” DRC: “foreign intervention;” Sierra Leone: “foreign intervention” and “future booty”). Empirical support for mechanisms at work is more frequent with duration of conflict, particularly for “looting” (all but two cases), though some of the mechanisms have also shortened the wars. However, the sample cannot explain differences in violence given the rather constant dependent variable, as the author frankly admitted (Ross 2004a: 49).

Collier and Sambanis’ (2005) study consists of several in-depth case studies (for example, DRC, Indonesia, Mali, Nigeria, Senegal) that test the Collier–Hoeffler model, in which resources play a central role (Sambanis 2005: 308; see above). In comparing the case studies, Sambanis concludes that there is little evidence that resources cause civil wars due to motive or opportunity. However, resources—and functional NRS equivalents, such as looting and kidnapping—often sustain rebellion. He argues that research on the resource–conflict nexus should consider the interaction of resources with covariates such as external price shocks and the effects of resource production on regime type.

Humphreys (2005) explicitly aims to “uncover” different causal mechanisms via econometric techniques (and has developed probably the most extensive list of mechanisms so far), mainly by using different indicators for natural resources to distinguish between the mechanisms such as oil production, on the one hand, and reserves on the other. He finds lit-

the evidence of greedy rebels—which should be reflected by the higher significance of oil reserves than past production—but does identify grievances as the result of a weakened state. He concedes, however, that econometrics faces substantial problems in testing causal mechanisms, particularly due to the lack of data and to the results' sensitivity to model specifications, and that his study has not been able to test all of the mechanisms.

According to a meta-analysis of 14 econometric studies on the resource–conflict link by Ross (2004b), and to general meta-analyses of civil war correlates by Hegre and Sambanis (2006) and Dixon (2009), the only more or less robust influence is (the commodity) oil.<sup>9</sup> This finding contradicts the opportunity mechanism, originally advocated by Collier and Hoeffler: oil is a less lootable resource, and lootable resources such as timber, narcotic plants, or alluvial diamonds explain at best the duration but not the onset of conflict (see Lujala et al. 2005;<sup>10</sup> Le Billon 2008: 352).

Why, then, are oil countries prone to (the onset of) civil war? First, as a recent study by Lujala (2010) finds, onshore oil, which is more lootable than offshore oil, is indeed more conflict-prone if subnational units—and not countries—are studied. A further explanation is that oil production often takes place in culturally different regions within a state tending to secessionist or autonomist uprisings, such as Angola, Indonesia, and Nigeria (Hoeffler/Collier 2006; Ross 2008). Others (Fearon/Laitin 2003; Fearon 2005) find evidence that the oil–violence nexus works through the weak state mechanism (see Ross 2006: 290–291) or can be attributed to the effects of sparse international networks in economic or political terms (Humphreys 2005).

Recent studies have tried to explain the differences within the group of oil countries. According to Fjelde (2009), the interaction of high levels of corruption and appropriate re-

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9 Smith (2004) looks at developing countries only, and does not find any evidence that oil production increases the risk of civil war onset. According to Hegre and Sambanis (2006: 531), only oil exports—not production or other resources—are marginally robust regarding their link to (minor not major) violent conflict. Bodea and Elbadawi (2007) confirm that oil increases the risk of civil war but state that other forms of violence—that is, coup d'états and violent unrest—are not linked to natural resources. Brunnschweiler and Bulte (2008) have tested both resource dependence and abundance and find that resource abundance reduces the likelihood of civil war onset, while dependence seems to be a consequence rather than a cause of civil war.

10 They find that secondary diamonds are positively linked to the onset of ethnic civil wars only, while primary diamonds lower both the risk of civil war onset and civil war duration. Buhaug and Rød (2006) study the role of geographical factors in African civil wars from 1970 to 2001 by looking not at nation-states, but at subnational state units (“grid cells”). One of their hypotheses is that proximity to valuable resources increases the risk of civil war. However, their results are somewhat ambiguous. Proximity to oil is linked neither to secessionist nor other civil war onsets. The presence of diamonds in a region simply makes a non-territorial civil war onset more likely (but apparently suppresses secessionism). Le Billon (2008) generally states that the results on “diamond wars” are not robust.

sources (oil wealth) reduces the conflict proneness of a country: the destabilizing effect of resource abundance is offset through the peace-buying effects of corruption. Basedau and Lay (2009) find that oil dependence increases the risk of civil war onset (U-shaped relationship), while high levels of abundance per capita substantially reduce the civil war risk once a particular (relatively high) threshold is surpassed. A medium-N analysis in the same work concentrates on 27 highly dependent net oil exporters in order to isolate the effects of abundance and rentier mechanisms that may explain the absence or presence of civil war onset. According to this analysis, abundant income from resources is apparently used to engage in large-scale distribution and the establishment of a huge and effective security apparatus. In addition, oil-abundant states often enjoy protection from abroad, suggesting that international influence may not only spur conflict but can also contribute to internal peace.

Both Fjelde and the latter study provide evidence of resource-related effects when the national motive mechanism does *not* work. Basedau and Lay propose that dependence is a risk—on the condition that the country does not have abundant resources per capita—while leaving open whether this is due to harmful economic effects arising from price shocks or a weak state mechanism. They find that “oil-poor” oil-exporting countries have weaker institutions than oil-rich countries, thereby suggesting that a weak state mechanism is indeed at work but that state weakness is presumably not caused by dependence as such, but, rather, by low levels of oil abundance. Basedau and Wegenast’s (2009) medium-N study on RS conditions among Africa’s main oil and diamond producers finds that deposits of these two commodities in the settlement regions of “minorities at risk” are a conflict risk supporting the “subnational motive mechanism”; resources in peripheral regions are even a necessary condition of civil war, which supports the opportunity mechanisms.

To summarize the empirical evidence, there is support for the assumption that a number of RS conditions represent risks for civil war onset (oil exports, particularly if associated with low income per capita from exports or resources in general; high dependence; regional concentration of production/reserves in culturally distinct regions). However, the empirical testing of causal mechanisms has so far been mostly superficial, at best. The best-supported mechanism is the “subnational motive” mechanism. There is also evidence for opportunity mechanisms, but they remain contested. Possibly due to the fact that it is difficult to measure motive at the national level, this mechanism receives little support; rather, there is evidence for when it does not work. Some support is found for indirect mechanisms, such as the weak state and the economic crisis mechanism, but the test remains indirect. The mechanism of international motive has remained widely untested.

## 4 Methodology

### 4.1 Comparative Design and Case Selection

As detailed above, the most common research strategies—quantitative and single case studies—seem not to be perfectly devised for the study of the exact functioning of causal mechanisms. In order to balance the advantages of individualization and the general scientific goal of generalization, it seems best to engage in a controlled comparison, particularly a small-N comparison that resembles a natural experiment (Sartori 1994).

In order to exploit the full potential of a small-N comparative design, we have strived to select cases according to the principles of a most similar systems design (cf. Przeworski/Teune 1970; Sartori 1994). Cases should share a number of important similarities, but should differ with regard to the value of the dependent variable (conflict or, as detailed below, “internal violence”) in order to be able to better isolate potential causes for the former difference. With these principles in mind, we have created a sample of four “comparable oil exporters,” comprising Algeria, Iran, Nigeria, and Venezuela. This sample does not completely match the strict requirements of a most similar systems design—which is in any case difficult to identify in natural settings—but the cases do have in common important RS and NRS conditions.

During our period of investigation, limited to the period from the end of the Cold War—which may have had different implications for the onset of civil war—until 2009 (1989–2009), the four cases have shared some key RS variables that have been identified in the literature as being important in the resource–conflict link. Most likely, the countries are rather “high risk” with regard to these conditions (see Web Appendix I, Table A3.2).<sup>11</sup> First, the major resource type produced in these countries is oil—the most conflict-prone resource according to the literature. Though all the countries also have other valuable resources, they have been highly dependent on oil for decades and are major oil producers in their regions, with a considerable share of production and reserves worldwide (but not an outstanding share, as in the case of Saudi Arabia). As a consequence, their economies have all been affected by the volatility of oil prices; the governments experienced serious declines in their spending potential between 1980 and 1990—when oil prices were low—and benefited from the rise in oil prices after 2000. Although the levels of income from oil differ somewhat, all four countries have a potential oil income per capita that is well below the high threshold of approximately US\$2,000 per capita per annum identified by Basedau and Lay (2009) as generally being connected to internal peace. Moreover, resources are mainly produced in the peripheral regions of these countries, each of which has a primarily state-owned resource sector that is hampered by

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11 All Annex Tables are available in the Web Appendix I and II (alternatively, see Basedau et al. 2011, Table A3.2), online: <[www.giga-hamburg.de/dl/download.php?d=/content/publikationen/excel/wp175\\_Appendix\\_II\\_RevisitingResourceConflict\\_Final.xls](http://www.giga-hamburg.de/dl/download.php?d=/content/publikationen/excel/wp175_Appendix_II_RevisitingResourceConflict_Final.xls)> and at: <[www.giga-hamburg.de/dl/download.php?d=/content/publikationen/pdf/wp175\\_Appendix\\_I\\_RevisitingResourceConflict\\_Final.pdf](http://www.giga-hamburg.de/dl/download.php?d=/content/publikationen/pdf/wp175_Appendix_I_RevisitingResourceConflict_Final.pdf)>.

corruption. Overall, governments in these countries have had very limited success in tackling the negative economic effects of resource production.

There is also a wide range of socioeconomic, historical, and political similarities, in particular classical risk factors and conditions identified by the GIGA project as being problematic when combined with resource production (Web Appendix I, Table A3.2). All of these countries are not micro-states but have a considerably large population and are culturally heterogeneous (including the exclusion of at least one cultural group). These societies also suffer in a comparable way from substantial inequality and other social problems such as unemployment; the latter problem can be reasonably traced back, at least partially, to resource production. None of the countries shows a higher level of income (at least for 1989). Finally, each country experienced periods of instability before 1990, although the respective levels vary substantially, something which also holds true for a number of other differences we should bear in mind (see below).

Yet, despite these similarities, the level of internal violent conflict in the four countries since 1990—the dependent variable—has differed substantially. Given the gross incompatibilities between various conflict databases on civil war onset or the cases in question,<sup>12</sup> we have decided to use the broader concept of “internal violence.” This concept not only captures civil war in the strict sense—that is, armed conflict with the involvement of government forces and with more than 25 battle deaths in a single year (UCDP/PRIO definition, see Gleditsch et al. 2002)—but also addresses intercommunal violence, and violence realized by an organized group against civilians without the involvement of state actors. We believe that this variable is more adequate for capturing *politically* and *socially* relevant violence. Given the imperfections of single indicators, we have determined the level of internal violence using a combination of indicators, including data on conflict onsets and the absolute and relative (to population size) number of battle deaths from civil war, and of victims of one-sided violence, utilizing data from the Uppsala Conflict Data Programme and the Peace Research Institute Oslo (UCDP/PRIO) as well as from the Major Episodes of Political Violence (MEPV) database at the Center for Systemic Peace. We have also added relative and absolute numbers of refugees and internally displaced persons (IDPs) in order to capture the civilian cost of internal conflict.

Our resulting index for internal violent conflict includes 12 variables (see Table 3.1 and Web Appendix I, Table A3.1) and has produced clear-cut differences between the countries. While Algeria has experienced massive internal violence (44 accumulated violence indicator

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12 Data on Nigeria from UCDP/PRIO and MEPV in particular differ dramatically in terms of the number of victims. UCDP/PRIO data on Nigeria was not easily reconciled with country-expert knowledge and several qualitative analyses of national and international non-governmental organizations.

ranks: 44),<sup>13</sup> the level of violence in Venezuela has been fairly low (20). Iran (30) and Nigeria (32) find themselves in between these cases, at roughly equal levels.

All the similarities outlined above are unable to explain these differences; hence, if we can identify further differences in the RS or NRS variables—combined in causal mechanisms as outlined in Section Two—then we have substantial evidence that the mechanisms in question are the causes of the differences in the independent variable. The general logic of comparison is as follows: if causal mechanisms can explain the variation in internal violence, we expect that the most peaceful country—Venezuela—will demonstrate few risks and few elements of our causal mechanisms, while the most violent of the four—Algeria—should display the opposite. Iran and Nigeria should find themselves in between the two cases at an approximately equal level.

**Table 2: Levels and Dynamics of Internal Violence in Four Major Oil Exporters, 1989–2009**

	Algeria	Iran	Nigeria	Venezuela
Levels (1989–2009)	High (44)	Medium (30)	Medium (32)	Low (20)

Source: Authors' own compilation on the basis of UCDP/PRIO and MEPV conflict data on conflict onsets, battle deaths, and numbers of refugees and IDPs. Numbers in parentheses represent "cumulated violence indicators ranks." For further details, see Web Appendix I, Table A3.1 and the main text.

We have to concede that there are several limitations to this approach. First, the conditions that are held as constant, such as degree of dependence or resource type, cannot explain the differences in the sample right from the outset but may have explanatory value in larger samples. External validity is therefore limited. The results apply to the given conditions. Second, there are still differences in the cases beyond the similarities outlined above. Differences are principally intended, and even necessary, since there have to be differences if we want to explain the divergent levels of internal violence. However, it may become difficult to isolate possible causes if there are competing explanatory variables or mechanisms. Moreover, we can never exclude the possibility that other conditions not captured through the analysis are superior in explaining the differences in the dependent variable. However, this is a challenge common to research and we have tried to take the idea of "few cases, many variables" (Przeworski/Teune 1970)—basic to small-N controlled comparisons—seriously, while maintaining a systematic approach. Hence, we have included as many relevant variables as possible, well beyond what the causal mechanisms outlined above explicitly suggest. Particularly, we included NRS conditions found to be classical civil war risks, and, if data allowed, variables assigned to subnational units.<sup>14</sup>

<sup>13</sup> Violence indicator ranks are assigned in a reverse order. The most violent value receives rank 4.

<sup>14</sup> The latter variables have been included to mitigate the problem of a national-level data bias (Snyder 2001).

## 4.2 The Operationalization of Causal Mechanisms and Contextual Conditions

In order to systematically capture all of the above conditions and the related causal mechanisms, we developed a comprehensive questionnaire with a total of 150 questions/variables systematically subdivided into the four clusters: “Resource-specific” (RS); “Non-resource-specific” (NRS); “Domestic;” and “International” conditions, which was designed to capture all theoretically relevant variables. The variables were primarily selected according to the causal mechanisms as discussed in Section Two, but were supplemented by variables known from the study of civil war in general—which until now have been neglected by the resource curse literature and the rentier state theory (for example, Hegre/Sambanis 2006; Dixon 2009).

Variables were then systematically assigned to causal mechanisms. For example, a lootable mode of extraction was assigned to the economic opportunity mechanism, while abundance per capita and distributional and clientelistic policies were included in the motive mechanism at the national level; we assigned the location of resources in culturally distinct regions and ecological stress to the subnational (or secessionism) motive mechanism (see Table 1, and Web Appendix I, Table A 4.3).

Some of the RS variables were assigned to several mechanisms at the same time. Dependence and price shocks, for instance, are equally important for motive (national level) and the indirect “economic crisis” mechanism. Especially for the indirect mechanisms, particular NRS conditions are necessary complementary conditions. The “economic crisis” mechanism requires not only price shocks or other resource-related economic distortions but also that NRS social and economic problems—such as inflation and slow growth—occur. For the direct mechanisms, NRS conditions can reinforce the functioning of a particular mechanism but are not necessary conditions.

The identification of a causal mechanism followed strict rules. We defined which value of the respective indicator would be considered to indicate the presence of this element of the causal mechanism. Generally, we fixed thresholds for these elements of the mechanisms, which we call “risks.” As a rule, these were over or below the world’s median respectively (depending on the construction of the variable), when quantitative data were concerned. We deviated from this principle only when there were established categories, such as the level of human development (Human Development Index: low, medium, high) or income (World Bank income groups: low income, middle income, high income). In the case of the expert assessments, the risk thresholds commonly corresponded to the worst assessment on our scales for a particular item, which were mostly constructed as binary.<sup>15</sup> All risk thresholds are presented in Web Appendix II.<sup>16</sup>

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<sup>15</sup> In the case of three (or, rarely, four) option scales, we deviated in a couple of cases from our general rule of defining the worst assessment as a risk when it seemed theoretically justified. For instance, we already consider medium, not just strong, levels of protest against resource production as a risk. A risk already exists when we have a record of minor civil war, not just of a major one. It

Once we had assessed the individual “risks” of which a particular mechanism consists we then assessed the evidence for its over-all presence: if at least 75 percent of all such risks for a particular causal mechanism are present (= 75 percent consistency), we believe that there is “strong” evidence that the causal mechanism is functioning. Fifty percent of the required risks in the respective mechanisms or more consistency but less than 75 percent represents “some,” 25 percent “little,” and less than 25 percent “no” evidence for the causal mechanism in question. In the case of mostly indirect mechanisms that combine RS and (necessary complementary) NRS conditions—such as the economic crisis mechanism—we calculated the consistency separately, with the possible result of “in-between” assessments (for example, “little to some”). After assessing the evidence regarding the presence of causal mechanisms in an individual country—and at several points in time—we compared the four country cases, assessing whether the causal mechanisms could explain the divergent levels of violence.

Generally, it remained possible to test all NRS and RS risks and variables as clusters or individually, and without explicit reference to a causal mechanism, allowing for a substantial element of inductive control.<sup>17</sup> As detailed above, the period of investigation starts in 1989. In order to be able to control for the developments in the following two decades, we measured the variables not only in 1989 but also in 1999 and 2009. This also allowed us to measure the dynamics of the variables.<sup>18</sup>

We used a mixed approach with regard to data type. If possible and reasonable, we used quantitative data or indicators (that is, objective data) for the questionnaire. This was mainly feasible with socioeconomic indicators but was also partly possible for relations between ethnic groups. If valid quantitative indicators were not available, which was the case for about half of all variables, we made use of expert assessments—which we do not judge as second best. Two researchers within the project have studied the four countries under investigation for more than two years and have carried out extensive field work in all four country cases; this has resulted in detailed studies (for example, Mähler 2009; 2010; Shabafrouz 2009; 2010).<sup>19</sup>

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is sufficiently risky to have mixed relations with neighboring countries. Not all bilateral relations have to be hostile in order to constitute a risk.

16 The Web Appendix II is accessible at: <[www.giga-hamburg.de/dl/download.php?d=/content/publikationen/excel/wp175\\_Appendix\\_II\\_RevisitingResourceConflict\\_Final.xls](http://www.giga-hamburg.de/dl/download.php?d=/content/publikationen/excel/wp175_Appendix_II_RevisitingResourceConflict_Final.xls)>.

17 Due to space constraints, the results on the explanatory value of individual variables and their clusters, as well as the dynamics of violence, are not reported in this paper. These results are detailed in Basedau et al. (2011) (and Web Appendix I).

18 A number of variables were measured only at one point in time. These included variables capturing events before 1989 and some variables for which changes were not expected (such as the presence of other substantial resources or the geographical dispersion of resources, see Web Appendix I, Table A4.3).

19 The qualitative or quantitative type of data is presented in Web Appendix II (questionnaire).

The questionnaires were completed by the country experts. A thorough review process within the project group confirmed the validity and reliability of the assessments. After the questionnaires were completed, we analyzed the variables vis-à-vis the causal mechanisms, other clusters of variables, and individual variables, as well as country-specific findings according to the logic outlined in the previous subsection.

## 5 Results

The results will be presented as follows: First, we assess the evidence regarding the individual causal mechanisms and assess whether they meaningfully distinguish the cases according to the levels of violence. Second, we present a combined mechanism including several resource-specific and non-resource-specific variables, which may help to explain better the variance in our dependent variable. These results are then discussed against the backdrop of country-specific evidence and the current state of the debate on the resource–conflict link.

### 5.1 Causal Mechanisms

The assessment of the causal mechanisms follows a two-step procedure. First, we have to assess whether evidence of the proposed mechanisms is present in a country and a year or, more precisely, whether there is potential that they are working. Second, we have to evaluate whether or not the evidence differentiates the country cases according to the level of violence.

As evidenced in Table 3 (see also Web Appendix I, Table A4.3), for all the various causal mechanisms there is at least one instance in which there is “strong” evidence of the presence of the mechanism.

However, differences in the evidence of causal mechanisms are mostly unable to explain the *differences in levels of violence* (see Table 3, last column). This is true of motive at the national and international level and all opportunity mechanisms. The subnational motive mechanism works insofar as Venezuela, as the most peaceful country, shows little evidence while all the others have more pronounced risks. The two countries with medium levels of violence both display strong evidence of such a mechanism. The indirect economic mechanism also displays this finding. Venezuela<sup>20</sup> again shows less evidence than all other cases, each of which shows at least some evidence. This is also roughly true for the indirect institutional mechanism.

In looking at the countries, we should discuss not only the evidence of the causal mechanisms in the individual countries but also whether they match the kind of violence that we actually find. In particular, support for the “subnational motive” mechanism should coincide

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20 It is true that the instability around 1990 can be explained well by an economic crisis mechanism. However, this level of violence was very low compared to the other cases.

with fighting in the producing region, while motive at the national level should, in contrast, be associated with no apparent geographical concentration of fighting.

**Table 3: Evidence of Individual Causal Mechanisms Linking Resources to Conflict (1989–2009)**

Causal mechanisms	Submechanisms	N of indicators*	Algeria	Iran	Nigeria	Venezuela	Does mechanism explain different level of violence after 1989?
Motive	National	10	Some ↓	Some ↓	<b>Strong</b> ↓	Some ↓	No***
	Subnational*	16 (8/8)	Little to some →	<b>Strong</b> →	<b>Strong</b> →	None to little →	Weak tendency (Venezuela best)
	International*	15 (8/7)	None ↑	<b>Strong</b> ↓	Some to strong ↓	None to little ↑	No***
Opportunity	Financial	4	Little →	Little→	<b>Strong</b> →	<b>Strong</b> →	No
	Military	6	Some ↓	Some ↓	<b>Strong</b> →	Some ↔	No
Indirect	Economic*	23 (8/15)	Some to strong ↓	Some to strong ↓	<b>Strong</b> ↓	Some ↓	Weak tendency (Venezuela best)
	Institutional/weak state*	14 (4/10)	Some to strong ↓	Some to strong ↓	<b>Strong</b> →	Some ↑	Weak tendency (Venezuela best)

Source: Authors' own compilation.

\* Causal mechanism combines RS and NRS risks. First number indicates total number, second and third (both in brackets) indicate RS and NRS, respectively.

\*\* Several indicators summarized in index.

Arrows indicate development of evidence of causal mechanisms in 1999 and 2009 (↓ less; ↑ more; → approximately equal).

\*\*\* If percentages and not levels (25%/50%/75%) are taken into account there is a weak tendency (Venezuela best). For further details on operationalizations, see Web Appendix I, Table A 4.3 and the main text.

*Nigeria* is, apparently, the case with the highest risk stemming from resource-related causal mechanisms (Mähler 2010). Nigeria demonstrates clear evidence of more than one causal mechanism; namely, motive at the subnational level, combined with strong support for all opportunity mechanisms and two indirect mechanisms—the “economic crisis” and “institutional damage” transmission channels. There is also strong evidence of the national motive mechanism for 1989; however, this decreases to “some” in the following years. This certainly matches with the findings of country experts, which suggest that resources have been harmful in multiple ways for Nigeria, but particularly with respect to violence in the producing region (Niger Delta) (Watts 2008; Obi 2004).<sup>21</sup> This finding, however, has to be put in perspective. Violence in the Niger Delta has been of a rather low intensity. The most extreme bloodshed since 2001 has resulted from ethno-religious clashes in the north, due to which, according to MEPV data, 55,000 people have perished.

21 Anecdotal evidence also reveals that the selling of arms to rebels by the military (and the availability of small arms in general) has contributed to the feasibility of rebellion, though this kind of opportunity is not captured by the questionnaire.

The second strongest evidence for resource-related mechanisms is found in *Iran*. The results return strong evidence of motive at the subnational level, reflecting the problems in several resource-rich regions between Kurdish and Arab Iranians. However, opportunity mechanisms find very limited support, which possibly explains the relatively low salience of actual violent conflict in these regions. For 1989, evidence of international motives proves strong (and only decreases to “some to strong” for 2009); this is generally in line with the anecdotal evidence. Kurds and other groups probably receive outside support, and Iran’s external relations are chronically problem-ridden. History also offers numerous examples of indirect or direct external interventions, in particular the CIA-sponsored coup in 1953 and Saddam Hussein’s attack on Iran in 1980. Otherwise, we find rather limited support for causal mechanisms related to resources in Iran.

In the case of *Algeria* there is surprisingly little evidence of pronounced resource-related causal mechanisms being at work. We do not find strong, uncontested evidence of any causal mechanism. It is only for the indirect economic and institutional mechanisms that we find “some to strong” evidence. This finding matches with general assessments that the bloody Algerian civil war was facilitated by, rather than caused by, resources (Shabafrouz 2010, Lowi 2004)—namely, as a result of price shocks and the decreased oil revenues in the 1980s. Due to the dependence on these resources, a shrinking “honey pot” had to be distributed among a growing population. Opposition was channeled into Islamism, but a transition to democracy was blocked in 1992 by an inflexible regime that tried to stay in power at any cost, once it had become clear that the Islamists would win that year’s elections.

A look at *Venezuela* generally confirms the low-risk profile of the country vis-à-vis resources, and that the rather low evidence for resource-related causal mechanisms is in line with the actual conflict level. We do not find any instances of a strongly supported causal mechanism throughout all points of observation, except in the case of opportunity. This result is somewhat puzzling because Venezuela is usually not one of the showcases for resource looting. However, we have to keep in mind that our indicators mainly point to a potential (not necessarily direct evidence that the activity in question is occurring); there is indeed military opportunity in connection with resources in Venezuela. As there is little evidence of motive, particularly at the subnational level, it comes as little surprise that Venezuela has not suffered from such a conflict.

Summing up our comparative results, we find that three mechanisms are of some explanatory value. First, motive at the subnational level explains why Venezuela has experienced little violence whereas Nigeria and Iran have seen *medium* levels of violence. However, only in the case of Nigeria is there also a pro-rebellion (financial) opportunity structure. Second and third, the indirect economic and institutional mechanisms also hold some explanatory power: (limited) institutional and economic problems as a result of resource production also explain the limited violence in Venezuela as compared to the other cases. Generally, however, the comparative explanatory value of our causal mechanisms remains limited.

None of the mechanisms can explain why violence reached such high levels in Algeria. Hence, according to our approach, resources and the related causal mechanisms are insufficient to explain the different levels of violence.

## 5.2 A Combined Perspective

In order to identify a causal mechanism that does not exclusively rely on natural resources as the direct or indirect cause of violence, we make use of the findings of the individual variables that partly explain the differences between the cases (for details, see Web Appendix II). These 30 variables serve as a starting point for a combined mechanism that may be able to explain the differences between the cases. In order to find a more parsimonious mechanism, we omitted all variables that were some sort of double measurement (particularly with regard to the deprivation of the resource region or the relations between identity groups), and which had proved somewhat contradictory (two measures for inequality had opposite results).<sup>22</sup>

This procedure resulted in altogether 13 variables which represent a mix of several clusters of variables that are also well-known from the study of civil war: resource-specific variables (mainly dealing with the resource region), geographical characteristics, and socio-economic problems—as well as data on intergroup relations, political institutions, and elite behavior. The selected variables also show an equilibrated mix of structural variables and variables covering agency—such as protest by the population, political exclusion from ethnic groups, and government reactions to protest. The data type, however, is imbalanced. There are only three variables measured by quantitative indicators; this suggests that more explanatory variables have to be captured qualitatively.<sup>23</sup>

As it turns out, the combined mechanism explains the divergent levels of violence after 1989 fairly well: Algeria demonstrates the presence of 100 percent of the risks, while Iran and Nigeria display 62 percent. Venezuela has merely 8 percent of the risk factors. The combined mechanism leaves space for different country profiles. Algeria displays all risks (this might be debatable with regard to the actual problems in the resource region). Iran and Nigeria differ from one another with regard to severe ideological conflicts (only in Iran) and the politicization of the military (for 1989, only in Nigeria), though subsequent events reverse the findings for later years (for 2009 the military in Iran is more politicized than in Nigeria).

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22 Some refinement proved inevitable: We added one variable—nationwide protest against the conditions of oil production—in order to include the national level of resource politics in the mechanism.

23 The variables measured by quantitative indicators are: *ethnic dominance*, *exclusion from power of cultural groups*, and *illegitimate political institutions*.

**Table 4: Indicators of a “Combined Mechanism”**

Risk indicators/countries	Algeria	Iran	Nigeria	Venezuela
Resources located in regions with historical intercultural problems?	Yes	Yes	Yes	No
Substantial nationwide protests against the distribution of oil money?	Yes	No	No	No
Protest against conditions of oil production (resource region)?	Yes	Yes	Yes	No
Resource region less developed than the country?	Yes	Yes	Yes	No
High nationwide unemployment?	Yes	Yes	Yes	No
National geographical characteristics highly favorable for rebellion?	Yes	No	No	No
Ethnic dominance?	Yes	No	No	No
High level of tension between social groups?	Yes	No	No	Yes
Severe ideological conflicts?	Yes	Yes	No	No
Exclusion from power of cultural groups nationwide/resource region?	Yes	Yes	Yes	No
Strong politicization of the military?	Yes	No	Yes	No
Illegitimate political institutions??	Yes	Yes	Yes	No
Mainly repressive government reactions to protest?	Yes	Yes	Yes	No
N of “risks”	13	9	9	1
Percent of risk factors	100%	62%	62%	8%
Level of violence after 1989	High	Medium	Medium	Low

Source: Authors’ own compilation.

## 6 Conclusion

Despite a large body of literature on the resource–conflict link, little systematic empirical research on the exact causal mechanisms linking resources to violence has been carried out. Engaging in a controlled small-N comparison, this paper has attempted to contribute to the filling of this gap. It has compared four major oil exporters that: (a) share a number of key resource-specific and other similarities that are, according to the literature and to our own previous studies, relevant for the resource–conflict link but (b) differ substantially with regard to the levels of violence. Thus, we have been able to, at least partly, isolate crucial contextual conditions and related causal mechanisms. As the various large-N and medium-N studies suggest that a much broader set of variables than commonly tested may be important, we created a comprehensive questionnaire, totaling more than 150 questions. We ordered variables theoretically by distinguishing between domestic and international—as well as resource-specific (RS) and non-resource-specific (NRS) conditions. We particularly tested a number of causal mechanisms presented in the literature on the resource–conflict link. We carefully operationalized the altogether seven mechanisms by assigning RS and NRS indicators to them and measuring them at several points in time.

The results suggest that the role of resources may be less prominent in the outbreak and intensity of violence than even the most recent quantitative studies on the resource–conflict

link assume. Only three resource-related causal mechanisms have some explanatory value (motive at the subnational level, indirect economic and institutional ones). However, they only distinguish Venezuela, the most peaceful case, from all the others; Nigeria, which shows the most RS risks and evidence of resource-related causal mechanisms, displays only a medium level of violence. The rather limited evidence of resource-related causal mechanisms in Algeria suggests that massive internal violence does not directly result from conflict over resources, but rather from conflict over resources in conjunction with other variables. Price shocks contributed to the outbreak of violence in Algeria, but they are insufficient to explain this development because other countries were equally affected by them. Other factors—such as failed development strategies, demographic developments, and a blocked democratic transition—have, therefore, to be taken into account.

The need to combine factors is supported by the fact that only a mixed mechanism can convincingly explain the differences in the dependent variable between the countries. This mechanism does include resources, but they are only one element among others, and a rather minor one at that. It seems that only the combination of resource-related risks with economic and geographic characteristics, identity intergroup relations, and political and institutional variables—including elite behavior—can sufficiently explain internal violence.

Our results are far from being perfect and should not be overestimated. Holding important resource-specific variables such as dependence and resource type as relatively constant facilitated the isolation of the role of other phenomena but did not allow us to judge the general impact of these constant variables. Nevertheless, it seems that it would be fruitful to proceed further with this path in order to systematically address complexity. Future research should expand the sample by looking at additional countries, something which was clearly beyond the scope of this paper given the extensive time needed to conduct research for every country within our sample.

The operationalization of a number of mechanisms can probably be refined, though it will be difficult to obtain the necessary data. For instance, looking at institutional quality before and after the discovery/beginning of resource production will facilitate the study of whether resources really weaken institutions and the state, and thus whether they render internal violence more likely. However, it proved impossible to obtain such data for our cases as they have been resource producers for several decades.

Further, other and new variables may be included in the studies or our questionnaire. As it has proven difficult to directly measure motive—we would have to know the intentions of actors—it may make sense to expand efforts to study the discourse of rebels and governments or to directly ask leaders, as well as the rank and file, about their motivations, something which has only been done in a limited number of cases (see Hoefler, forthcoming). Generally, it might be useful to systematically expand a multilevel analysis beyond the differentiation of the motive mechanisms (looking at both the micro- and macro-levels).

It will be also important to test different forms of violence (for example, civil war in the narrow sense or international conflicts) and to further elaborate on the dynamics of violence within causal mechanisms. We have concentrated on conditions and context as part of causal mechanisms, not so much on sequence (though we mainly looked at 1989 and what happened afterwards).

Finally, more specific methodological challenges persist. This refers not only to the ongoing need to systematically collect data at the micro- and the subnational level, and on actual behavior rather than structural variables, but also to questions regarding how thresholds can be fixed or scales constructed. In any case, the complexity of the resource–conflict link still leaves many questions unanswered and will continue to pose a number of difficulties for future research. We should not, however, give in to this complexity but should rather rise to the challenges of it.

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