



Natural Resource Wealth, Conflict, and Peacebuilding

By Ingrid Samset¹

What connections exist between natural resource wealth and violent conflict? What do such connections imply for policies to build peace in resource-rich areas? This synthesis takes stock of what social science research has to say about these questions. In the first part, it reviews the academic literature on resource wealth and conflict. Key findings include that dependence of resource exports is more closely tied to conflict than resource abundance; that resource wealth is more important in explaining why civil wars endure than why they break out; and that resources with attributes that make them easy to extract and sell are more closely linked to civil war duration than other resources. The second part presents policy implications of these findings as well as other research on pro-peace resource management. Recommendations relate to conflict financing, war economies, fiscal transparency, conflict-sensitive business, and revenue sharing. In concluding the debate is summed up and an agenda for research and policy is outlined.

Over the last couple of decades, wars have taken place in many resource-rich countries – from Cambodia and Colombia, through West and Central Africa, to Indonesia and Iraq. How does resource wealth matter in these conflicts? To the extent that the wars are tied to resource wealth, why have some of the wars ended while others linger on? These questions have been much debated in academic and policy circles in the last decade. This synthesis examines key questions in this debate and how they have been addressed in social science research, and outlines implications of this literature for policy aimed at building peace in resource-rich areas emerging from armed conflict.

Natural Resource Wealth and Violent Conflict

The current scholarly debate on resource wealth and armed conflict was triggered in the late 1990s, when findings emerged of a statistical correlation between a measure for countries' natural resource endowment and the incidence of civil war (Collier & Hoeffler, 1998; Collier, 2000). This finding was initially interpreted as evidence that resource wealth makes armed conflict more likely. Academic research over the ensuing decade has questioned the assumptions underlying this claim and explored conditions under which it might apply. The debate has centered on the following questions:

Is there really a general connection between natural resources and violent conflict?
To the extent that such a connection exists, why does it exist?
How do different resources and different types of resources link up to conflict?
What types of conflict, and what aspects of conflict do natural resources help explain?

In the following I outline key findings and arguments related to each of these questions.

Are natural resources and violent conflict really connected?

The current debate on this question was triggered by the research of Paul Collier and Anke Hoeffler, who in various publications from 1998 onwards suggested that the answer to it was yes. Their affirmation was based on statistical analysis of data on civil wars and a range of other factors, one of which was a measure of countries' natural resource endowment. "Increased natural resources increase the risk of war", Collier and Hoeffler found, adding that "at a high level, natural resources start to reduce the risk of civil war" (Collier & Hoeffler, 1998: 571). This general argument largely held as they redid their analysis using bigger datasets (Collier & Hoeffler, 2004: 588).

Other research, however, adopting modified measures for resource wealth and/or using different data, does not find a general resource wealth-civil war connection. Two studies (Fearon & Laitin, 2003; Fearon, 2005) find little evidence of a relationship between civil war and primary commodity exports to the gross domestic product (GDP), which was the measure of resource bounty used by Collier and Hoeffler. Fearon thus concludes that "there is no clear evidence that high levels of primary commodity exports cause higher risk of civil war" (Fearon, 2005: 504). He suggests, however, that a connection exists between oil and conflict. This argument resonates with other statistical analysis, which finds that "[t]he

¹ Ingrid Samset is a researcher at the Chr. Michelsen Institute (CMI) in Bergen, Norway.

relative availability of total natural resources is unrelated to conflict, while the availability of mineral wealth predicts conflict significantly” (de Soysa, 2002: 407). Ross (2004) also finds that natural resources understood as the broad category of primary commodities are not linked to the outbreak of civil war. Recent research based on new data (de Soysa & Neumayer, 2007) confirms the finding that the more broadly natural resources are defined, the less they are related to civil war onset.

While Collier and Hoeffler’s finding of a connection between civil war and natural resources broadly defined thus hardly has been confirmed by other analysts, it prompted the formation of a literature that soon agreed that some types of natural resources – oil, and/or mineral resources – do connect to some aspects of conflict. A key question is what the nature of that connection is. If it is causal, then which side causes the other? The initial view that resources cause the violence has been challenged by the opposite argument, that escalating violence can cause resource exports to become a more important source of income. In zones of growing instability, the manufacturing sector is likely to shrink as investors and shareholders seek safer areas for production. This will cause a rise in the rate of primary commodity exports to GDP; a much-used measure of resource endowment. As a result of downscaling of production in the industrial and/or service sectors spurred by unrest, raw material exports will grow proportionally more crucial for national economies. Hence it may be conflict that causes resources to get more important, and not vice versa (Ross, 2006).

Other doubts about the validity of the presumed causal link between resource wealth and conflict grow out of the dearth and the quality of data to draw on. If it is mineral resources such as oil, gas, gemstones, metals, and timber rather than natural resources more broadly that matter for conflict, it makes more sense to study merely the countries that export or dispose of such minerals. This leads to a smaller number of country cases, even fewer of which have had civil war. A low number of cases makes statistical analysis more vulnerable to minor changes in the data, as Ross (2006: 296) neatly illustrates: “if the oil-rich country with the most civil wars (Russia) and the diamond-rich country with the most civil wars (DRC) did not exist, these correlations would lose statistical significance”. Moreover, the data on natural resource wealth were initially of rather low quality (Humphreys, 2005). Only in recent years is this being mended with the development of new datasets (e.g. Gilmore et al., 2005; Lujala et al., 2007; de Soysa & Neumayer, 2007) and more carefully designed qualitative and comparative studies (e.g. Soares de Oliveira, 2007; Englebert & Ron, 2004; Snyder, 2006).

An emerging conclusion is therefore that natural resources and violent conflict – both broadly defined – don’t clearly connect. But available data do suggest connections between civil war and natural resource *wealth*, or *mineral* resources such as oil, gas, gemstones, metals and timber. The existence of such a link does not reveal, however, whether it’s the minerals that cause conflict or instability that makes mineral production more vital. Moreover, different minerals vary in their effects on conflict, and help explain different types and aspects of conflict. I return to that debate in section three.

To the extent that resources and conflict are linked, why is this so?

Why is it that some resources link up to some types and aspects of collective violence? Three kinds of explanations emerge from scholarly research: general frameworks; narratives about the effects of resources at the macro level of structures, and at the micro level of agency; and narratives about historical contingency and specificity.

General frameworks. Le Billon (2008) sorts explanations for the links between resources and conflict into three broad frameworks: the resource curse, resource conflicts, and conflict resources. While borderlines between them are sometimes blurred, each account points to distinctively different dynamics.

The resource curse. This explanation focuses on the negative effects of resource wealth at the country level. Slow economic growth, corruption and authoritarian rule, factors that tend to be associated with resource abundance; make for unstable domestic polities. The crowding out of the non-resource sector due to currency overvaluation and rent-seeking hinders the emergence of a middle class. The dominance of the state-controlled extractive sector renders the economy vulnerable to the volatility of commodity prices on the world market, which complicates long-term planning and exposes the resource-rich country to boom-and-bust cycles. This vulnerability, combined with the global peripheralization of commodity-exporting economies, can create breeding ground for conflict. Le Billon (2008: 347) sums up broader findings on these macro-level dynamics as follows: “the characteristics of countries most vulnerable to civil war since 1946 are low per capita income, declining economic growth rate, “weak” state coercive capacity and institutional authority, and political regimes in transition.” Countries that are rich in resources but where most of the population is poor tend to develop governance problems and weak institutions as they start depending on exporting high-value commodities. If such countries see falling economic growth and political transition they will be particularly vulnerable to conflict; or so the account goes. At the more micro level, in resource-dependent countries citizens have few economic opportunities outside of the extractive sector; they depend on an often corrupt public sector; and find few avenues to voice their concerns due to the repressive nature of the rentier state – all of which are traits that can be conducive to violent conflict.

Resource conflicts. In this framework, akin to the “grievance” account of civil war; conflicts arise in response to various actors’ attempts to control the finite pool of natural resources. In the analysis of Le Billon (2008: 349), such “resource conflicts” comprise both “livelihood conflicts pertaining mostly to renewable resources” and “national or military resource

security pertaining to mostly nonrenewable resources such as oil and ‘strategic’ minerals.” Resource conflicts hence arise because of the perceived importance of the resources in question, be they renewable or nonrenewable, and because of different actors’ seemingly incompatible claims to these resources.

Conflict resources. In this third account, resources connect to conflict because they constitute an opportunity for enrichment and profit for individuals and organizations. The high value of the resources attracts agents with an economic agenda who are willing to take up arms, and/or to encourage or force others to do so, in order to access the resources and the profits derived from extracting and selling them. While an early version of this argument focused on how resources chiefly attract civilians to take up arms as part of an insurgency (e.g. Collier & Hoeffler 2004), later accounts have focused on how resources can become “conflict resources” also as a result of activities by regular army soldiers and state agents more broadly, and by agents from beyond the conflict scene (Snyder & Bhavnani, 2005; Humphreys, 2005).

Effects of resources at the macro and micro levels. These general frameworks touch on a number of dynamics that may link natural resources to violent conflict. Over the last decade academic research has elaborated on how these dynamics work. Central foci in macro-level studies include how conflict relates to renewable vs. non-renewable resources; to resource abundance vs. dependence, and to rentier states and institutional weakness often associated with resource wealth. Micro-level studies have explored how resource wealth may provide incentives for peaceful or violent behavior.

Renewable v. non-renewable resources. Which of these types are more closely tied to armed conflict? The academic debate suggests that non-renewables are most clearly connected to large-scale violence. To the extent that the two types of resource figure in conflict narratives, focus is either on abundance of non-renewables that tend to have a high market value, or on scarcity of renewable resources with lower value. While several studies have found a connection between resource scarcity and conflict (Homer-Dixon, 1999; Kahl, 2006), recent statistical analysis has found the connection between resource scarcity and conflict to be fairly weak (Binningsbø et al., 2007; Theisen, 2008). A statistical study of the two types of resources finds the correlation between mineral resources and conflict to be far stronger than the one between renewables and conflict (de Soysa, 2002). It seems, however, that renewable resources may give rise to conflict at a lower level of violence (e.g. below the threshold required to define intra-state conflict as civil war), and that conflict may be more tied to the distribution of the limited resources than to scarcity as such (Theisen, 2008). Given the lack of consensus in the literature about the links between renewables and conflict (see e.g. Salehyan, 2008a), this synthesis focuses on the role of non-renewables.

Resource abundance and dependence. What is it about mineral resources that make them associated with conflict? One answer lies in the extent to which countries that have such resources display an abundance and/or dependence of them. Resource *abundance* or resource *wealth* means that there is a high production per capita of the resource(s) in question, while resource *dependence* implies that the resources constitute a high proportion of the country’s exports. As Le Billon (2008: 354) shows, an economy can be fairly dependent on a resource that it hardly has an abundance of (e.g. Sierra Leone, where diamonds make up 17-18% of exports but production is worth less than \$100 per capita), and vice versa – they can have abundance of a resource that they hardly depend on (e.g. Angola, where diamond production is worth more than \$100 per capita but makes up merely 5-6% of exports). Basedau and Lay’s study of oil and conflict finds that countries that are both resource-abundant and resource-dependent are more peaceful than those that are merely resource-dependent. They suggest the reason is that “only the availability of very high per capita revenues ... allows regimes to achieve internal stability” (Basedau & Lay, 2009: abstract).

Rentier state and institutional weakness. The argument that resource dependence is more problematic than resource wealth intertwines with the idea of the rentier state. Rent can be seen as income that accrues from fixed assets, in contrast to income that is generated from productive activities. The availability of bountiful rent from the extraction and export of mineral resources stimulates a dynamic of rent-seeking at the expense of risk-taking and entrepreneurship. If the state controls access to resources with a high market value, rent-seeking by politicians and bureaucrats tends to give rise to authoritarian regimes and weak institutions. This can in turn foster violent conflict, since avenues for peaceful dissent get blocked and institutions become poorly equipped to resolve disputes non-violently. Yet at Dunning (2008) shows, the extent to which the rentier character of mineral-exporting states gives rise to dictatorship and conflict varies, and is conditional upon a number of factors. One factor is the ownership of the mineral wealth, which tends to be assumed by the state although various public-private ownership models are conceivable (Jones Luong & Weinthal, 2006; Stiglitz, 2007).

Investors vs. consumers. How resource wealth impacts on micro-level behavior has been less explored than possible resource-conflict connections at the macro level. Jeremy Weinstein’s (2007) study of rebel movements in Uganda, Mozambique and Peru is a notable exception. The study explores variations in behavior between rebel groups, between different individuals who join them, and between recruits and those who opt to stay out. It finds that resource endowments have a significant impact on those behavioral patterns. Rebellions that have more easy access to finance, through the exploitation of high-value resources in their territory and/or through external support, are more prone to use violence indiscriminately or at random. Conversely, rebellions that depart from social rather than from economic endowments will use violence more selectively and exercise restraint in their relations with civilians, because they need their continued support. Such socially endowed ‘activist’ rebellions, Weinstein argues, contrast with the economically

endowed 'opportunistic' rebellions; and the two types of rebellion attract different types of individuals. Activist rebellions attract 'investors' ready to make sacrifices in the short term in order to gain in the longer term, while opportunistic rebellions attract 'consumers' more motivated by the potential of quick returns. So in this perspective, if rebellions occur in resource-rich areas, that resource wealth will make those who participate in the insurgency more likely to exert indiscriminate violence and be abusive toward civilians, than rebels operating in areas with a less stable inflow of finance. Yet in a more recent study of why individuals choose to fight in civil wars, the resource factor does not feature with the same importance. In the Sierra Leonean case explored in that study, participation in any of the warring factions depended on a number of factors: "an individual's relative social and economic position, the costs and benefits of joining, and the social pressures that emanate from friends and community members" (Humphreys & Weinstein, 2008: 452). So though resource wealth may lure individuals in pursuit of short-term gain to fight in civil wars, this dynamic is far from deterministic.

Historical contingency and specificity. This last set of explanations constructs the resource-conflict link as a result of special historical conditions in world politics. These accounts suggest that after the end of the Cold War, civil wars have taken on a distinctively economic character which is essentially new (Duffield, 2001; Kaldor, 1999; Keen, 1998). The new war argument ascribes the reasons for this economic turn not primarily to factors already mentioned, but rather to processes subsumed under the heading of 'globalization' that have gained sway since the early 1990s. These include the reduction or end of superpower financing of opposing civil war belligerents; the further liberalization of world trade; the growing demand and enhanced competition for certain materials in the wake of the rise of China, India and other regional powers. To the extent that resources and conflict connect, this is largely as a result of the increasing political and economic importance of natural resources in our time, both as a source of finance for belligerent groups (because they have few other options, and because they easily find buyers) and as a vital input to expanding industrial production which supplies a growing world market of consumers. This argument about historical specificity, while contested (see e.g. Kalyvas, 2001; Berdal, 2003), finds support in some statistical research. Ross (2006) finds that the importance of oil for civil conflict rose from the early 1970s to the late 1990s. Lujala and colleagues (2005: 538) assert a similar pattern for diamonds, which they find had a stronger impact on conflict in the post-Cold War era than earlier. Yet as Ross (2006) notes, the number of post-Cold War cases is still small, which leaves the thesis that resources matter more in the "new" wars hard to qualify.

How do different resources and different types of resource link to conflict?

The findings on how and why high-value resources and conflict connect differ across studies of different resources. Oil and diamonds have been most widely researched. Resources also come with varying attributes as regards where they are located and how they are extracted, which in turn make for diverging linkages to war.

A. Different resources

Oil and gas. Three contrasting findings emerge from studies of how oil and gas relate to civil wars: oil increases the risk of conflict; oil does not increase and may even reduce that risk; and oil's impact on conflict depends on other factors. De Soysa (2002: 409) and Fearon and Laitin (2003: 85) echo the first argument, finding that the risk of civil war in oil-exporting countries is roughly double that of other countries. A more recent study by de Soysa and Neumayer (2007: 215) reaffirms that oil is associated with violence, but only with conflicts that have 25 casualties or less per year, that is conflicts that are below the threshold of deaths commonly associated with civil war. Other studies find that oil wealth reduces the likelihood of civil war (Smith, 2004: 232) and that the oil-conflict link is relatively weak (Humphreys, 2005: 527; Di John 2007: 975).

While partly due to differences in methods and data, these contrasting findings also derive from variations in other factors that shape how oil and conflict are linked. One factor is time, with oil and conflict being more intertwined today than earlier (Ross, 2006; de Soysa & Neumayer, 2007). Another factor is the nature of the state. Humphreys (2005: 527) finds that the stronger the oil-producing state is, the less likely it is that it will be caught in civil war. This resonates with research by Basedau and Lay (2009), who assert that oil exporters tend to be prone to violence as a group, but countries that are more oil-rich in per capita terms are spared from internal violence despite being highly dependent. A country that depends on exporting oil but doesn't have a lot of it is hence more prone to conflict than a oil-dependent country with relatively greater oil wealth.

Diamonds. The literature on how diamonds and conflict are linked is almost as inconclusive as the one on oil and conflict. Using slightly different measures for diamonds, several studies (Humphreys, 2005; Lujala et al., 2005) find that countries that have diamonds are more likely to experience civil war than countries that don't. Regan and Norton (2005), by contrast, find that diamonds make civil war less likely. Other statistical research finds simply that diamonds, in general, and civil war onset are not correlated (Ross, 2006: 286). Some of the differences relate to different interpretations of what it means that diamonds connect to conflict. One study thus finds diamond-related conflicts only in Congo/Zaire, Russia, and South Africa (Ross, 2006: 286-287), another only in Congo/Zaire, Sierra Leone, Angola, and Namibia (Le Billon, 2008: 350). The number of conflicts in diamond-producing countries is so small, moreover, that statistical research only can give tentative conclusions about a diamond-conflict link (Ross, 2006; Le Billon, 2008).

Diamonds' impact on conflict also depends on time – the link being stronger in our era than earlier (Lujala et al., 2005; Ross, 2006) – and on the type of diamond involved. Kimberlite diamonds are extracted from mines in capital-intensive processes; while alluvial diamonds are picked up from riverbeds in more labor-intensive processes. In line with a commonly held assumption, some research finds that alluvial diamonds are more closely tied to civil war than are kimberlite diamonds (e.g. Lujala et al., 2005). But other studies reach different conclusions: that alluvial diamonds are more associated with peace than with war (Snyder & Bhavnani, 2005), and that alluvial diamonds are less related to civil war outbreak than are kimberlite diamonds (Ross, 2006).

B. Different types of resource

The research on different types of diamonds is part of a larger debate on how characteristics of mineral resources matter for their links to violent conflict. Whether oil is produced offshore or onshore, whether diamonds are mined from rocks or picked up from riverbeds are features that shape the opportunity structures of armed groups.

Point vs. diffuse resources, distance to state power. Auty (2001) suggests that the impact of resources on conflict will depend on whether the resources are *geographically concentrated* (so-called “point” resources) or *spread* (“diffuse” resources). Le Billon (2001; 2005) adds a second geographical criterion: the *location of the resource sites in relation to centers of state power*. Cross-tabulating these, he develops a typology of conflicts that are associated with different types of resources. If the resources are point resources and located close to centers of state power, the civil war (if it occurs) is likely to be a struggle over state power. If resources are diffuse and distant from centers of power, warlordism is likely to be characteristic of a possible war. Point resources distant from centers of power, thirdly, produce secessionism, while diffuse resources close to centers of power generate mass rebellion (Le Billon, 2005: 36).

“Lootability”. This debate on resource characteristics and conflict has also been framed in terms of “lootability,” or the ease with which resources can be appropriated. A resource tends to be more “lootable” the less capital-intensive the process of extracting it is, the higher market value it has per unit of weight, and the further it is located from centers of state power. As one study notes however, the term “lootability” implicitly assumes that the main motivation for looting is economic. But looting in the context of violent conflict is spurred not only by the promise of profit. Such *economic* looting is merely one of four types: in *symbolic* looting, “the principal utility derived from the activity is non-material”; *strategic* looting is “part of a wider politico-military project”, while *selective* looting “indicates that particular attention is paid to target selection” (Mac Ginty, 2004: 866–868). The term “lootable resource” may hence mislead since it implies that the looting is purely an economic activity, while the dynamics at play tend to be far more complex. The way these dynamics play out on the macro level are elaborated on in another study, which shows that high-value resources that are easy to appropriate can be associated with either political order, as in Myanmar, or civil war, as in Sierra Leone. The outcome depends on the institutions of extraction in the country in question, and the extent to which these institutions enable rulers to control the revenue stream from the extracted resources (Snyder, 2006).

What types and what aspects of conflict do resources help explain?

Turning to the conflict side of the resource-conflict nexus, the question is what types and aspects of conflict resource wealth is associated with. Academic literature on this issue has been concerned mainly with three questions.

- Are resources mainly linked to international conflict or to conflicts within single states?
- If the resource-related conflicts are within single countries, do these conflicts constitute civil wars or some other type of violence?
- If the resource-related conflicts are civil wars, does the resources explain why the wars break out, why they endure, or both?

Inter- vs. intra-state conflict. While scholarly writing mostly has focused on how resource wealth affects intrastate conflict, some studies find resource abundance to be associated with international wars as well. Klare (2001a; 2001b) outlines what he sees as a new landscape of global conflict in the post-Cold War era, shaped by the growing strategic value of certain mineral resources. The international community's attention to the resource-rich regions of Central Asia, the Middle East, and Africa is seen as a sign of this shift. Writing before the outbreak of the Iraq war, the scholar asserts that “[b]ehind this shift in strategic geography is a new emphasis on the protection of supplies of vital resources, especially oil and natural gas ... with global energy consumption rising by an estimated two percent annually, competition for access to large energy reserves will only grow more intense in the years to come” (Klare, 2001a: 50). Klare further argues that the moves powerful countries make to ensure access to key resources can give rise to clashes in resource-rich areas (Klare, 2001a: 59). The assumption that powerful countries intervene elsewhere in pursuit of valuable resources is also the point of departure for another study, which finds that “wars over oil further destabilize faltering regimes” (Kaldor et al., 2007). This contrasts with other research which argues that policy and context will determine whether and to what extent oil connects to conflict (Humphreys et al., 2007). The assertion that global competition for resources gives rise to

international wars is relatively weakly supported by evidence. Inter-state wars have been on the decline in recent years, and the extent to which the international wars that have taken place are resource-related remains contested.

Yet a country's resource bounty can relate to international conflict not only through global, but also through regional competition for resources. Some of the civil wars that broke out after the end of the Cold War saw involvement of armed groups from neighboring countries, some of which were active in extracting and selling resources from the country at war. Such groups can be state or non-state. As regards non-state armed groups, one study finds that rebel sanctuaries across borders do increase the probability of an international conflict (Salehyan, 2008b). It is less known to what extent resource extraction and trade by such foreign militias cause international conflict or internationalization of internal strife. The argument has also been made that resource bounty can prompt international conflicts by attracting agents representing neighboring states or business corporations, but one study finds little evidence of such a dynamic (Humphreys, 2005). Yet given the relative dearth of research on resource wealth and international and internationalized wars, these conclusions remain tentative.

Within-country conflicts: civil war vs. other violence. The focus of the resource-conflict literature to date has been on how resource wealth is associated with civil war. Most statistical studies analyze data on civil wars, which often is defined as a conflict over government or territory that involves a minimum of battle-related deaths per year –standard thresholds are 1,000 for civil war and 25 for lower-intensity internal armed conflict. Yet examining conflict only defined in this way reveals merely one part of the resource-conflict picture. As Le Billon (2008: 347) notes, “the narrow definition of violence used in much of the literature ... overlooks multiple forms and scales of violence enacted through resource exploitation and regulation ... War is not the only (or even the primary) type of violence associated with resource-extractive industries”. His review of the geographical literature suggests that violence in countries of extraction should be understood in relation not only to local dynamics, but also to the global chain of extraction, production and consumption, the peripheralization of the extraction site, and the “dispossession regimes” that these processes imply (Le Billon, 2008).

Civil wars: onset vs. duration. Does resource wealth explain why wars break out, why they continue, or both? As we have seen, countries that are rich in natural resources do seem to be more prone than resource-poorer countries to seeing civil war *break out*, and more prone to doing so in our era than earlier; yet these findings are based on a small number of cases and are therefore tentative (Ross, 2006). Further, the literature suggests that resource-rich countries that do see civil war breaking out will see the war *last* longer than wars in resource-poorer countries. An early proponent of this argument was David Keen, who argued that “[c]onflict can create war economies, often in the regions controlled by rebels or warlords and linked to international trading networks; members of armed gangs can benefit from looting; and regimes can use violence to deflect opposition, reward supporters and maintain their access to resources. Under these circumstances, ending civil wars becomes difficult” (Keen, 1998: 6). Keen's perspective has been validated by statistical research on some mineral resources but not on others. A literary review and statistical study thus finds that “the only resource variable robustly linked to conflict duration is a measure of ‘contraband’, which includes gemstones, timber, and narcotics” (Ross, 2006: 265, echoing Fearon, 2004). Several studies of diamonds find that they tend to prolong civil wars (Ross, 2004; Lujala et al., 2005; Buhaug & Lujala, 2005), but diamonds have also been found to shorten wars (Humphreys, 2005). On oil there is even less consensus: one literature review finds that oil increases the probability of civil war onset (Ross, 2004); another that oil is not associated with onset but rather with duration (Di John, 2007), which again is contested by a third study, which finds that oil shorten civil wars (Humphreys, 2005). The above-mentioned finding that a certain set of resources – gemstones, drugs, and timber – is most associated with conflict duration resonates with the idea that the characteristics of resources matter more than what resource we're talking about. Gemstones, timber and drugs are more easily extracted and traded than e.g. oil, and this may facilitate armed groups' appropriation of these resources for purposes of self-finance. Yet as Le Billon (2008) alludes to, the explanation of why such resources relate to conflict duration depends on the view adopted. Global rules of trade in these materials, for instance, will also impact on the degree to which they constitute an opportunity for insurgency.

Policy Implications

This review of the literature on natural resource wealth and conflict echoes another review which finds that the presumed link between resources and conflict “is not automatic” and “deserves a nuanced understanding” (Wennmann, 2007: 431). We now know that under certain circumstances, some valuable resources may help explain some aspects of civil war. We know less about the impact of lower-value, renewable resources on conflict, and about the impact of mineral resources on other forms of conflict than civil war. We further know that dependence on exporting high-value resources connects more to conflict than resource abundance – cases like Australia, Canada and Norway illustrate the point. Resource wealth is also more important in explaining why civil wars last than why they break out. Finally, resources with attributes that make them easy to extract and sell appear more closely linked to conflict duration. While the literature has grown increasingly sophisticated over the last decade, it is worth keeping in mind that many of these conclusions remain vulnerable to changes in methods and data, due to the low number of cases that existing research is based on.

Where do these findings lead us in terms of policies for building peace in resource-rich areas emerging from armed conflict? The literature points to the following broad areas of policy intervention to address the resource-conflict nexus.

- Curbing conflict financing
- Transforming war economies
- Fiscal transparency
- Conflict-sensitive business practices
- Revenue sharing

Curbing conflict financing. The early finding that resource wealth seemed linked to civil war fueled an already ongoing policy of targeted sanctions against armed groups and their supporters. United Nations sanctions against the diamond trade of Angola's rebel group UNITA, for instance, started in 1998 and added to a pre-existing travel ban and asset freeze. Beyond such "smart" sanctions, implemented measures have included legal attempts to reduce impunity of actors involved in resource trade with armed groups, and efforts to restitute and repatriate ill-gotten gains. UN-appointed expert panels have also been appointed to monitor the implementation of commodity-oriented sanctions, and UN peacekeeping missions have been given the mandate to identify sanctions violators. While many of these measures are currently in use in relation to some conflict zones, such as the DRC; and to certain commodities, most prominently diamonds; their efficiency remains contested. Sanctions termed "targeted" or "smart", such as asset freezes and travel bans that intended to avoid hurting civilians; have been found to involve serious operational challenges, due to "technical inadequacies, legal loopholes, institutional weaknesses, budgetary and staff scarcities, and political constraints" (Tostensen & Bull, 2004: 40). Another study finds that "sanctions have a poor overall record" for conflict termination and peacebuilding, but adds that "major improvements have been noted since the late 1990s in terms of monitoring and enforcement" (Le Billon & Nicholls, 2007: 629). Studies on the so-called Kimberley process to regulate the global trade in diamonds conclude on a note of cautious optimism, yet agree that major challenges remain to solidify the tracking and labeling process (Grant & Taylor, 2004; Wright, 2004).

Beyond measures that clearly have been or are being tested out, academic literature has suggested a number of other policy initiatives to address resource-related conflict financing, tools that are available mainly to governments and multilateral organizations (Ballentine & Nitzschke, 2005; Pugh et al., 2004; Le Billon, 2005; Turner, 2006):

- To premise sanctions initiation upon the prior completion of a feasibility study on the likely effects of sanctions and on what is needed to ensure their implementation;
- To improve coordination of efforts to curb conflict financing with policies to enforce bans on drug trade, money laundering, arms smuggling, and to counter terrorism;
- To further pursue regional approaches to regulation and monitoring of sanctions and commodity trade regulations;
- To rely not only on voluntary measures, but also include mandatory ones to spur businesses to shy away from trading in commodities that have been extracted and sold by armed groups; and
- To prosecute sanctions violators and/or actors who allegedly aid and abet in the commission of war crimes and crimes against humanity; which will require the adoption of enabling legislation by national jurisdictions.

Targeted sanctions and efforts to regulate trade in certain commodities remain narrow and technical measures, however, to address the broader dynamic of conflict financing. Natural resources constitute only one out of many sources of finance for armed groups; groups that tend to flexibly adapt to changing circumstances (Wennmann 2007; Le Billon & Nicholls 2007). There is also an increasing questioning in the literature of the assumption underpinning sanctions and commodity-focused measures, namely that the civil wars are mainly about these resources. As the above review of the literature suggests, a consensus has yet to emerge about how different high-value resources are connected to civil war, and on questions where some findings seem to get consolidated, such as the link between resource wealth and conflict duration; conclusions remain tentative. Wennmann (2007: 440) sums this up: "the question is whether money follows motivation or motivation follows money". The idea undermining the sanctions-regulations approach is the latter: money is the motivation, and once the promise of gain is reduced the conflicts will somehow die out. Yet as e.g. Weinstein's (2007) perspective suggests, some insurgencies are "activist" and draw on a social rather than an economic endowment to soldier on. And as Wennmann (2007) points out, rebellions in our time can be done on the cheap and/or link up to organized crime networks that provide easy funding. The limit to the effectiveness of resource-focused policies is hence political: such measures are not likely to be effective unless the other reasons why individuals and groups fight are thoroughly addressed. Wennmann (2007: 431) concludes that natural resources "ultimately are just one way of financing conflict" and calls for a broadening of the perspective to conflict economies.

War economies. Research on war or conflict economies tends to depart from a criticism of the sanctions/regulations approach, arguing that the targeting of specific groups and commodities risks being counterproductive if this is not part of an effort to transform the economies that are shaped by prolonged violent conflict. Efforts to curb rebel finance risk affecting civilians who have little choice but to make their living in the war economy, it is argued. Warlords who control it, by contrast, tend to be part of cross-border and international networks and can shift to other areas and sources of finance if one avenue is blocked – and/or intensify the preying on the local population (Pugh et al., 2004; Wennmann, 2007). Another limitation of a regulatory approach is that a tightening of the laws simply risks driving illicit economic activities

further underground. As argued by Le Billon (2005: 60), “ineffective enforcement [of sanctions] can favor criminal groups by forcing more legitimate companies out of resource sectors, with potentially negative consequences in terms of conflict prevention.”

Recommendations hence focus on transforming the economy of the conflict zone, especially in the following ways (Ballentine & Nitzschke, 2005; Le Billon, 2005; Muggah, 2008; Nitzschke & Studdard, 2005; Pugh et al., 2004; Turner & Pugh, 2006):

- By generating decent jobs and income-generating activities for the civilian population, with a particular attention to the reintegration of demobilized combatants;
- By formalizing informal economic activities, thus enabling better tax collection by the government and the provision of rights protection to more workers and peasants; and
- By diversifying the economy to make it less dependent on exporting one or just a few primary commodities, including by protecting and subsidizing nascent industries.

The feasibility of these measures will partly depend on measures being taken beyond the countries embroiled in conflict. It has also been suggested that:

- Countries importing goods from post-conflict countries should reduce the scope of possible protectionist trade policies; and
- The international community should seek to stabilize commodity prices and to establish fair pricing mechanisms and compensatory financial instruments.

Finally, war economies can only be transformed into less militarized economies if the armed groups' sources of finance are dealt with in an integrated manner, beyond natural resources and beyond the war zone (Wennmann, 2007; Le Billon, 2008).

Fiscal transparency. In resource-rich environments, key actors often have an interest in secrecy. Governments may want to hide figures on natural resource and other revenues in order to maximize their bargaining power vis-à-vis foreign investors, while firms may have a similar interest since their market position may deteriorate if they “publish what they pay” while other companies do not (Ballentine & Nitzschke, 2005). Fiscal transparency, on the other hand, can enhance the accountability of the regime and of their business partners toward the citizenry, and thus strengthen state-society relations and societal trust deemed crucial for state- and peacebuilding. Possible resistance against transparency from governments and companies should therefore be addressed. In this vein, it has been suggested (Ballentine & Nitzschke, 2005):

- To make disclosure of natural resource revenues by governments and/or companies a condition:
 - for the resource-rich state to receive development aid; and
 - for the national export credit agencies where investors are based to give lending, insurance, and project finance to the resource-rich state.

As regards aid, the effectiveness of conditionality will depend on how important the aid is as a source of revenue for the recipient state. In many resource-rich countries, such as Angola, the generous revenue streams from resource endowments make aid less important. Yet in post-conflict settings, such external assistance might prove unusually important even in well-endowed states, given the extra costs of reconstruction and postwar development. Le Billon (2005) proposes that this aid instrument also can be used towards a neighboring state that continues to thrive on a surviving war economy of its neighbor. Aid conditionality was brought to bear on Thailand in the 1990s, for example, targeting its trade with resources from neighboring Cambodia. While this measure apparently did help reduce illicit activities, timber trade still represents a major challenge for peace consolidation in post-war Cambodia (Smoke & Taliercio Jr., 2007).

Conflict-sensitive business. In spite of emerging corporate social responsibility standards, business actors continue to face a number of dilemmas when operating in conflict zones. One is the difficult balancing act between living up to local expectations for welfare provision, and not relieving the government of its service-provision duties toward its citizenry (Zandvliet, 2005). Emerging recommendations in this area, beyond the issue of transparency, include the following (Le Billon, 2005; Zandvliet, 2005):

- Extractive industry companies should:
 - undertake conflict impact assessments of their activities prior to launching, and throughout the period of operation;
 - improve their engagement and dialogue with local communities, since this helps build trust and put in place well-adapted welfare benefits; and
 - engage with other stakeholders, such as NGOs, UN agencies, and government representatives, to reduce chances that their activities provoke or stoke local tensions.

- The international community should make prior conflict impact assessments a requirement for all financing of extractive projects in war-torn areas.

Sharing of resource revenues. The governance problems associated with resource bounty can be addressed through revenue sharing, which can be part of peace agreements, and institutionalized in so-called natural resource funds.

Wealth sharing. Le Billon and Nicholls (2007) examine 14 revenue-sharing deals part of peace accords from 1989–2006, and find revenue sharing to a deceptive quick fix: quickly followed by peace, but rarely by a lasting peace. When revenue sharing is combined with sanctions, however, peace implementation seems more likely to succeed – at least more likely than in cases where only military intervention was implemented. Here too, however, conclusions are tentative due to the small number of cases involved and the dearth of research on the effects of wealth-sharing agreements.

Natural resource funds. It is commonly held that a wise way of managing bountiful revenue streams from resources is to establish so-called natural resource funds, which serve to smooth expenditure patterns over time. Models for such funds vary as regards how they should be managed and by whom. One study argues that the fund’s decision-making body should operate according to clear rules and with transparency; and involve representatives of diverse political constituencies (Humphreys & Sandbu, 2007). This finding is supported by other research, which argues that funds dominated by national stakeholders risk being captured by politicians and be subject to corruption (Le Billon 2005); while funds dominated by international and/or non-governmental actors risk becoming insulated and relieving governments of the need to undertake social spending, thus undermining the potential for a strengthened social contract (Ballentine, 2005, see also Boyce & O’Donnell, 2007). In spite of the risks involved in bypassing the state however, even resource funds led by actors other than the national government may prove helpful in an early phase of a war to peace transition where reconstruction needs are urgent, state institutions initially are weak, and the local population eagerly expects a “peace dividend.” Humphreys and Sandbu (2007: 227) thus suggest that where state institutions are weak, “policy makers in resource-rich countries can consider a series of creative ways of drawing on the strength of external institutions” to smooth spending patterns over time. A nationally run resource fund could then take over at a later stage, once state institutions are deemed strong enough to make it work efficiently.

Conclusion

The current debate on resource wealth and armed conflict has evolved in three phases. The issue first gained prominence roughly a decade ago, with the unfolding of a number of civil wars that seemed resource-related – Sierra Leone, Liberia, DR Congo, and Angola to mention but a few; provocative research interpreting such wars primarily as a result of “rebel greed”; and policy developments seeking to isolate rebel groups involved in the resource trade. The second phase set in around five years ago, when several of the seemingly resource-related wars drew to a close; the issue of terrorism came to dominate the international agenda; and policy processes consolidated of regulating trade in “conflict commodities” while other of the war-related processes rounded up in response to ended conflicts and the focus shifted to integrated packages for postwar peacebuilding. In this phase it may even have looked like that the problem of resources and conflict was fixed, but the academic and policy debates on the issue in fact split ways: within social science, work continued to determine conditions under which resources may be tied to conflict; while in policy the early findings of a resource-conflict link continued to set the terms of an increasingly technical search for policy solutions. The third and current phase is marked by new questioning of the resource-conflict connection and represents an opportunity for a new meeting point of the academic and policy debates. It has been prompted by several powerful momentums: the rise of the climate change agenda; continued turmoil in oil-producing countries like Iraq and opium-producing countries like Afghanistan; new instability in other resource-rich areas such as the Niger Delta, Venezuela, Bolivia, and Myanmar; simmering violence in resource-rich areas termed “post-conflict” such as the eastern DRC; the rocketing and ensuing fall of oil prices; the hike in food prices, and last but not least, the world financial crisis. It is illustrative of these developments that key policy-making bodies such as the the UN Peacebuilding Commission and Security Council has signaled new importance to the issue or resources and conflict; and that in the fall of 2008 the *New York Times* started a new series of investigative journalism on the same issue.

Now is therefore the time to learn from a decade of academic and policy developments, as we have entered the third and a more mature phase of resource and conflict discussions. This synthesis of the literature and its implications for policy suggests a threefold agenda for research and policy to facilitate such learning in the time to come.

- A. To bring the scholarly research together, through continued work to determine conditions under which certain resources or types or resource are connected to certain types and aspects of conflict, including work to explore how renewable and nonrenewable resources interact in their impact on violence; and to specify more clearly what these findings mean for policy to build peace in resource-rich areas.
- B. To broaden the policy agenda to try out more of the recommendations emerging from the literature on resources and conflict, conflict financing, war economies, fiscal transparency, conflict-sensitive businesses, and revenue sharing; in order to address the resource-conflict linkages in a more comprehensive and hence efficient way.

C. To evaluate the effects of the policy measures taken to date to address the resource-conflict nexus, now that more than a decade has passed since the first measures were initiated; in order to learn from experience and make for more knowledge-based, context-specific, integrated, and hence successful interventions in the future.

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