Ending 'Resource Wars': Revenue Sharing, Economic Sanction or Military Intervention?

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There is a growing consensus that insurgent access to natural resource revenues prolongs armed conflicts and presents significant hurdles to peacekeeping missions. This article examines the effectiveness of resource-related conflict termination instruments, focusing on revenue sharing, economic sanction and military intervention. Observing the outcomes of these three instruments for 26 conflicts between 1989 and 2006, we suggest that military intervention and revenue sharing seem to have a better record of successful implementation than sanctions, but that sanctions and sharing agreements have a stronger correlation with durable peace than military interventions. We also note that the effectiveness of conflict termination initiatives seems to respond to the types of conflicts and resources involved, and discuss implications for mechanisms linking resources and conflicts.

Much attention has been devoted to the relationships between natural resource wealth and armed conflicts since the mid-1990s. The UN Security Council has taken an unprecedented number of measures to curtail access to revenues by targeted groups and help foster a durable transition to peace.[1] Natural resources do not have the monopoly of war financing, but this priority reflected an upward trend of resource-funded hostilities since the 1980s and a consensus that insurgent access to resource revenues tends to prolong conflicts.[2] Peacekeeping missions are frequently involved in addressing these issues. Special Representatives of the Secretary-General have used their 'good offices' to help negotiate revenue-sharing agreements between belligerents. Peacekeepers have assisted in investigating or stopping the trade in 'conflict commodities' and in ending hostilities around commodity production areas. In turn, conflict termination and peace-building strategies that focus on so-called 'conflict resources' have been criticized for their 'economizing' interpretation of war, ambivalent impacts on local livelihoods and contribution to a 'liberal peace' agenda.[3] Yet there is relatively little comparative assessment of the most effective way of ending armed hostilities financed by resources.

In this article, we provide a retrospective analysis of instruments targeting resource-financed hostilities since 1989, focusing on their effectiveness. If specific instruments are more effective for some resources than others, matching them may improve the chance of ending a conflict. The success or failure of resource-focused instruments may also inform arguments about the role of resources in the prolongation of conflicts. We first provide a short review of natural resources and conflict duration. We then present three main types of resource-focused instruments aiming at the termination of armed conflicts: revenue sharing between belligerents, economic sanctions and military interventions. We then

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identify 26 armed conflicts in which at least one instrument was used between 1989 and 2006, and attempt to assess their relative effectiveness, notably in relation to the types of conflicts and resources involved.

This preliminary assessment suggests that the individual effectiveness of instruments is difficult to assess in isolation from other factors. We observe that military intervention and revenue sharing have a better successful implementation rate than sanctions, but that sanctions and sharing agreements have a stronger correlation with durable peace than military interventions. Effectiveness also responds in part to the type of conflicts and resources involved. More broadly, we suggest that the choice of instruments should reflect the characteristics of commodities, the structure of the resource sector, as well as the motivations and capacities of actors along the commodity supply chain.

How Do Resources Prolong (or Shorten) Wars?

Several empirical studies have suggested that the availability of valuable resources in a conflict area tends to prolong hostilities and undermine peacebuilding efforts.[4] In contrast, Macartan Humphreys suggests that oil or diamond productions are in fact associated with shorter conflicts.[5] This finding has also come under criticism.[6] Yet both Michael Ross and Humphreys highlight the diversity of mechanisms possibly at play:[7]

- *feasibility* mechanism, with resources providing a flow of revenues enabling belligerents to continue fighting;
- *balance of power* mechanism, with resources prolonging wars when easily accessible to the weaker party, or shortening them when more exclusively accessible to the stronger party;
- *conflict premium* mechanism, with belligerents opportunistically pursuing economic agendas in a rewarding resource context;
- *fragmentation* mechanism, with economic interests and distrust over resource revenue sharing within armed groups fostering a breakdown of discipline, allegiance switching, or the crowding out of ideologically driven belligerents by opportunistic ones.[8] Hostilities may be prolonged through more diffuse economically-driven violence and undermining peace negotiations, but also shortened by military weakening fragmented groups if they face a more capable military force;
- *peace-buying* mechanism, whereby resource revenues can provide an incentive to participate in and abide by a peace process. Such redistribution may, however, provide an incentive for further fragmentation among armed groups and diffusion of armed violence;
- *international stakes* (or international conflict premium) mechanism, whereby resources can influence the interests and capacity of regional or international actors. Interest groups in neighbouring states in particular can economically benefit from a conflict and seek to prolong it, while major commercial interests can also seek to end a conflict to protect or access resources; and

- *resource enclave* (or sparse economic networks) mechanism, which argues that since economic sectors with dense economic linkages across divided communities would promote conflict termination, the enclave nature or sparse economic linkages of many resource sectors would tend to prolong conflicts.

Ross and Humphreys also find that these mechanisms may have divergent effects on conflict duration. Ross finds only weak support for the conflict premium mechanism and its negative effect on the success of negotiated settlement[9]. Humphreys finds support for the balance of power, fragmentation (through military weakening) and the international stakes mechanisms, but no support for the conflict premium and peace-buying mechanisms. Assessing the likely impact of different initiatives on the various mechanisms may assist to confirm this argument: some initiatives may be more suited to the types of mechanism at play in a conflict, and help realize their potential contribution to conflict termination.

Overall, recent studies on resources and conflict duration underline the relevance of commodity-related instruments for ending conflicts. They also point to the importance of distinguishing between different types of resources and conflicts involved, as well as the parties accessing resources and the mechanisms prolonging or shortening the conflict. Finally, they tend to suggest that conflicts involving resources are more likely to be successfully settled through military victory than negotiated settlements, and that policy initiatives should in general seek to deny resource access to the weaker party rather than accommodate its demands.

Resources and Conflict Termination Initiatives

Between the early 1980s and late 1990s, the number of conflicts financed through 'contraband goods' increased from two to about ten.[10] Although delayed, the commodity-focused responses by the UN Security Council increased sharply from 1998 onwards, mostly through the imposition of so-called 'commodity sanctions' and the creation of groups of experts charged with investigating and reporting on commodity-related sanction-busting and illegal activities. More generally, three main types of conflict termination instruments targeting resources have been used: military interventions taking over the control of resource production areas from belligerents, economic sanctions against targeted belligerents and revenue sharing agreements between belligerents.

These three types of instruments are not the only ones deployed to address the role of resources in prolonging conflicts. Many other instruments implement or complement the three main types of instruments examined in this study. Some have also been deployed according to conflict prevention or human rights abuse accountability objectives, rather than conflict termination per se. Although rare, litigation against resource companies or individuals suspected of trading in conflict commodities has occurred, in order to implement and give future credibility to UN sanctions. Dutch timber merchant Guus Van Kouwenhoven, for example, received an eight-year prison sentence for violating a UN arms embargo imposed on the Liberian government.[11] The Kimberley Process Certification Scheme was also set up to curtail the trade in 'conflict diamonds'. First initiated in order to consolidate UN sanctions, the certification scheme in effect established among its participants a trade prohibition of 'rough diamonds used by rebel movements or their allies to finance armed conflict aimed at undermining legitimate governments'. Several transparency instruments, most notably the Extractive Industries Transparency Initiative, have also been deployed to curb the likelihood of corruption and revenue embezzlement.

We first examine military interventions, economic sanctions and resource revenue sharing schemes in turn, and then assess the relative effectiveness of initiatives used in 26 conflicts involving resources. Curtailing wartime access to resource revenues can take two main forms: military interventions to capture resource production areas; or economic sanctions preventing investments, technical inputs or the trading of resources.

The three main categories of military interventions relevant to this discussion are: those conducted by domestic forces as part of the general conduct of war; those conducted by external mercenary forces (or private military companies, PMCs) working under contract from one of the belligerents; and those conducted by external military forces under a mandate from the UN, a regional organization, or in the form of a 'coalition of the willing'. These divisions are not always clear, especially when external governments intervene outside of a UN mandate using foreign mercenaries.

Economic sanctions, or 'commodity sanctions', seek to prohibit the import of resources under the control of the sanctioned party, an alternative being restricting investment for, or export of production technology to, the sanctioned party. Sanctioned parties have included governments (often through a country-wide sanction regime) or non-state groups (mostly rebel movements). Sanctions aiming at particular commodities (commodity sanctions) can be applied to a country but in effect only target the actor most benefiting from that commodity. Commodity sanction regimes have also been applied to a country but provide for the exemption of commodities certified by the government, once a credible system is in place. Sanctions targeting resources have been imposed by the Security Council, regional associations of states such as the Economic Community of West African States (ECOWAS), or individual governments such as the US, as well as business associations and NGOs – through market access restrictions through sectoral reforms or consumer boycotts, as in the case of the Kimberley Process Certification Scheme for 'conflict diamonds', or industry guidelines for coltan in relation to the conflict in the Democratic Republic of Congo. Sanctions have been the most studied among the three types of initiatives examined in this essay, and, as reviewed by Cortright and Lopez, findings generally suggest that sanctions most often fail to change the behaviour of their targets.[12] Andrew Mack and Asif Khan argue that, nevertheless, many sanctions had positive impacts in terms of stigmatizing and containing targets, notably in terms of funding opportunities.[13] Furthermore, the use of sanctions has much evolved since the end of the cold war, with a greater use of UN sanctions that are better targeted and implemented.[14]

Although sanctions have been imposed to alter the behaviour of their targets, they have increasingly been used with the objective of curtailing the financial means available to rebel groups. The growing use of so-called 'smart sanctions' has allowed for selective targeting to maximize the impact on the selected group, while lowering it on the general population. Measures such as the public 'naming and shaming' of sanction busters by UN expert panels and the threat or implementation of 'secondary sanctions' on sanction busting states have strengthened their implementation. UNITA, for example, lost logistical and diplomatic support in 2000 and 2001, following exposure by UN expert panel reports. The imposition of sanctions against the government of Liberia progressively eroded its support for the Revolutionary United Front in Sierra Leone. Resource smuggling, however, remained widespread under most sanction regimes, in part because of a lack of enforcement on the ground and effective judicial action against sanction busters. The characteristics of resources have also played a role, in terms of ease of transport, concealment, or low traceability. Yet the smuggling in the 1990s of vast quantities of petroleum from Iraq or logs from Cambodia illustrates that with the collusion of local authorities on both sides of an international border, the bulkiness of a resource is not always a strong factor.

Positive incentives can address the linkages between resources and wars. Rather than seeking to curtail revenue access to belligerents, revenue can be made accessible to 'former' belligerents. Sharing resource revenues, in other words, can 'buy peace'. This type of positive incentive encompasses a broad range of options. Resources constitute divisible goods, especially in terms of revenues and to a lesser degree in terms of ownership (especially if considering state sovereignty), and are thus amenable to self-enforcing sharing agreements. Divisibility can be arranged according to territorial, organizational, or commercial criteria. A first option is to simply leave the armed group in – at least partial – control of the territory and resources it is holding, for example as part of a local autonomy or secession agreement or even as part of a sanction regime, as in the case of the oil-for-food program in Iraq. A second option is to offer the armed group new resource concessions, the control of resource businesses, or lucrative government positions overseeing resource sectors. A third option is to establish a broad sharing agreement for resources through fiscal legislation. In this regard, any conflict settlement could be considered as involving a sharing of resource revenues as long as opposing parties are allowed to have an input into governing. However, in this analysis we consider only the cases in which natural resources constituted a major financial stake in the conflict and in which agreements had an important resource dimension (although not always incorporated into formal documents, see below). These agreements can take place at various levels, concerning an entire rebel movement as part of a comprehensive peace agreement, or only regional units as part of a local ceasefire or defection process.

As with military interventions and economic sanctions, there are ethical dimensions to the use of sharing agreements, since those benefiting from such agreements (or at least negotiating them) include individuals or groups bearing responsibility for war crimes and occupying positions of power through force rather than consent and popular representation. Buying peace, in other words, could be perceived as rewarding violence.[15] The trade-off is of course curbing further abuses that could result from the absence of such agreements. Although sanctions and military interventions should have the ethical advantage of punishing rather than rewarding war criminals, in practice both also often bring about suffering for the general population.

As the cases of Sudan (1997 Khartoum Agreement), Liberia (1995 Abuja Accord), Sierra Leone (1999 Lomé Agreement), or Angola (1994 Lusaka Protocol) illustrate, sharing revenue initiatives face in practice many risks of failure. The parties to the sharing agreement may not encompass all actors with a capacity to prolong the conflict. The incapacity of a party to enforce the agreement within its own ranks can lead to a resumption of the conflict by new factions rejecting the agreement. Finally, a party can be duplicitous and use such agreement for tactical purposes to rearm, reorganize or relocate troops to achieve its objectives by military means.

There remains much debate about the effectiveness of these strategies, and more generally about the use of force, sanctions or negotiations.[16] In the following section we present an assessment of initiatives conducted since 1989, before discussing possible factors influencing the relative effectiveness these initiatives.

Resource-focused Instruments (1989–2006)

Resource revenues did finance belligerents before the end of the Cold War, but in most cases their relative importance was much lower given the financial and military involvement of foreign powers. Furthermore, the number of international commodity-focused initiatives only sharply increased from the early 1990s onwards. We thus select commodity-focused initiatives taken between 1989 and 2006. We thereby identify 26 armed conflicts in which at least one resource-focused initiative was used. In total, we survey 45 resource-focused initiatives (see Table 5). A number of caveats and limitations to this data set need mentioning.

First, with regard to sharing initiatives, we only consider in this analysis the cases in which a reference to the control of a key resource by the opposing party is included in a publicly available settlement agreement, as in the options outlined above. Yet revenues are generally fungible and other types of economic incentives may be offered in addition to, or as a substitute for, resource revenues in a sharing agreement. Furthermore, not all financial deals appear publicly and any confidential agreement would not appear in this dataset. The selection criterion thus reflects the difficulty of identifying other types of agreements, either because they are clandestine or because they occur at a smaller scale and fail to be reported. The 14 selected revenue-sharing initiatives are listed in Table 1. These initiatives were concluded between opposing armed groups, with the exception of three cases that were set up unilaterally by central governments, in part to address secessionist agendas (in Angola for FLEC and in Indonesia for both GAM and OPM). Finally, we assess the effectiveness of these initiatives through only three main criteria: successful implementation, conflict outcome after one year, and peace stability after five years.

TABLE 1:
REVENUE SHARING INITIATIVES, 1989–2003

Conflicts	Instruments	Parties	Resources
Angola I	Lusaka Protocol (1994)	Government/UNITA	Diamonds, minerals
Angola II	Cabinda 'special budget' (1996)*	Government/Provinces	Oil
Cambodia	Unofficial (1996–98)	Government/PDK defecting units	Timber, gems
Chechnya	Khasavyurt Joint Declaration and Principles for Mutual Relations (1996)	Russian Security Council/Chechen Armed Forces	Oil and oil pipeline revenues (tacit recognition of independence)
Colombia	Putumayo agreement (1998)	Government/FARC	Cocaine
Indonesia (Aceh, West Papua)	Laws 22/99 and 25/99 (implemented 2001)*	Government/ Provinces	Oil, gas, minerals and timber
Iraq-Kuwait	UNSC resolution 986 (1995)	UN/Iraq	Oil
Liberia I	Abuja Accord (1995)	Factions	Timber
Myanmar/ Burma I-IV	Various (1989–97)	Government (SLORC)/ various	Minerals, timber, heroin
Papua New Guinea	Bougainville Peace Agreement (2001)	Government/BPG-BRA	Copper and other resources
Philippines II	Peace Agreement (1996)	Government/MNLF	Mines and minerals
Sierra Leone	Lomé Peace Agreement (1999)	Government/RUF	Gold and diamonds
Sudan	Khartoum Peace Agreement (1997) Naivasha Agreement (2004)	Government/UDSF Government/SPLM	Oil and metals Oil and non-oil revenues

Note: (*) revenue sharing agreements unilaterally passed by the government and not officially negotiated with the rebel groups.

Second, we limit our analysis of economic sanctions to those mandated by the Security Council. This selection is motivated by the fact that UN sanctions are currently the sole means of legally and internationally imposing a market access denial, with the exception of the prohibition of specific commodities through international agreements, as in the case of narcotics, or voluntary agreements and peer monitoring as in the case of the Kimberley Process Certification Scheme. UN sanctions can thus be considered more comprehensive than other types of sanctions and related initiatives, even if they have often been less strictly implemented than sanctions originating from individual states (for example US sanctions); and NGO advocacy was often key in bringing about a more effective implementation of UN sanctions, as in the case of 'conflict diamonds'. Table 2 lists seven sanction initiatives, one of which only involved a ban on the export of production material to the targeted group – the Taliban in Afghanistan – since narcotics were already illegal on the international market. Third, we only consider external military interventions, including major mercenary interventions and foreign government-mandated interventions that were publicly reported. Table 3 lists 17 selected military interventions, five of which involved mercenaries (or PMCs).

TABLE 2:
UN SANCTIONS AND OTHER INITIATIVES TARGETING RESOURCES, 1989–2003

Countries	Resolutions and targeted resources
Afghanistan	S/RES/1333 (2000) banned the provision to Taliban-controlled areas of acetic anhydride used in heroin production.
Angola I	S/RES/1173 (1998) on all diamonds outside governmental Certificate of Origin regime and the provision of mining equipment and services to non government-controlled areas; S/RES/1237 (1999) establishment of expert panels; S/RES/1295 (2000) establishment of a sanctions monitoring mechanism.
Cambodia	S/RES/792 (1992) on log exports, requests adoption of embargo on minerals and gems exports, and requests implementation measures by UNTAC.
Iraq-Kuwait	S/RES/661 (1990) on all resources; S/RES/665 (1990) calls for halt, inspection, and verification of all maritime shipping in the Gulf area to ensure strict implementation of S/RES/661.
Ivory Coast	S/RES/1584 (2005) establishment of a group of experts; S/RES/1643 (2005) on all rough diamonds, and re-establishment of group of experts.
Liberia II	S/RES/1343 (2001) on all rough diamonds, and establishment of an expert panel; S/RES/1408 (2002) establishment by government of Liberia of transparent and internationally verifiable audit regimes on use of timber industry revenues; S/RES/1478 (2003) on all round logs and timber products.
Sierra Leone	S/RES/1306 (2000) on all rough diamonds pending an effective governmental Certificate of Origin regime, and creation of expert panel on the implementation of sanctions.

Among the 26 armed conflicts examined over the period 1989–2006, external military intervention was the most frequent, followed by revenue sharing and UN sanctions. Two conflicts were addressed through all three types of instruments, and nine through two types of initiatives. To assess their potential effectiveness in terms of conflict settlement in general, we use three criteria: effective implementation, status of the conflict after one year, and status after five years. Implementation success represents the achievement of operational objectives, specifically: the institutionalization of the agreement in the case of sharing; curtailment of trade in the case of sanctions; and control of resource production area in the case of military interventions. Effectiveness has been assessed through a review of UN situation reports and expert panel investigations, as well as think tank, civil society and press reports. As such these assessments remain tentative and at times subjective. The one and five year lags assess the immediacy and sustainability of a potential effect on conflict termination. We do not argue that peace is the result of the implementation of instruments, but simply assess the occurrence of both events.

We find that among the different types of instruments, those most successfully implemented were military interventions (89 per cent) and revenue sharing mechanisms (83 per cent), while sanctions were lagging at 57 per cent (see Table 5).[17] This result is not surprising since sharing involves willing – if sometimes duplicitous – parties; military intervention is generally used when there are

TABLE 3:
EXTERNAL MILITARY INTERVENTIONS, 1989–2003

Countries	Intervening forces	Targeted groups	Resource objectives
Afghanistan	US/NATO	Taliban, Al Qaeda	Heroin revenues (2001)*
Angola I	PMC	UNITA	Oil fields and diamond mines (1993)
Cambodia	UNTAC	Khmer Rouge	Timber export points (1992–93)
Colombia	US forces and PMC	FARC, ELN	Heroin production and trafficking (1999), oil pipelines (2001)
Congo, Rep.	Angola	Congolese government	Oil revenues, diamonds trafficking (1997)
D.R. Congo	PMC	Uganda, Rwanda, ADFL	Copper and diamond mines (1997)
D.R. Congo	Angola, Namibia, Zimbabwe	RCD, Uganda, Rwanda, Burundi	Copper and diamond mines (1998)
D.R. Congo	MONUC	Militias	Diamond and coltan mines (2002)
East Timor	Australia, UNTAET	Militias	Oil revenues (1999)
Iraq-Kuwait	UN mandated coalition	Iraqi government	Oil fields (1991)
Iraq	US-led coalition	Iraqi government	Oil fields (2003)
Lesotho	South Africa, Botswana	Lesotho Defense force mutineers	Water dam (1998)
Liberia I	ECOWAS forces	NPLF and other rebel groups	Iron ore and timber shipping route, rubber plantation, diamonds (1990)
Liberia II	UNMIL	Militias	Idem (2003)
Papua New Guinea	Regional peace-keeping forces, PMC	BRA	Copper mine (1997–aborted)
Philippines I-II	US forces	NPA, MNLF	Extortion of logging firms (2001)*
Sierra Leone	PMC and ECOWAS forces	RUF	Diamond areas, bauxite mine (1995)
Sierra Leone	British forces and UN peacekeeping troops	RUF	Main diamond trading areas (2000)*

Note: (*) Military interventions in which resource control represented a minor objective or indirect consequence.

reasonable chances of success, especially in the case of military interventions by western powers; and sanctions represent a limited instrument of coercion which has furthermore been criticized for being poorly enforced and used as a default policy option. When examining the potential effect of instruments on a resolution of a conflict, however, peace was achieved within a year for about half of the successfully implemented revenue sharing agreements (53 per cent), sanctions (50 per cent), and military interventions (47 per cent). This proportion increases for all instruments after five years, but sanctions were associated more frequently with durable peace (66 per cent) than were revenue sharing (57 per cent) and military interventions (50 per cent). This suggests that whereas military interventions are the most frequently used and successfully implemented, their potential contribution to peace seems lower than that of the two other instruments when these are also successfully implemented. Military interventions were more successfully

TABLE 4:
RESOURCE CATEGORIES AND RISK OF ACCESSIBILITY BY REBEL FORCES

	Risk of accessibility by rebel forces			Price range ($/Kg)
Resources	Exploitation	Theft	Extortion	
Illegal lootables				
Drugs	High	High	High	5–6,000
Other lootables				
Alluvial gems and minerals	High	High	High	20–500,000
Timber	Medium	Medium	High	0.1
Agricultural goods	Medium	Medium	Medium	1.5 (coffee)
On-shore oil	Low	Medium	High	0.12
Non-Lootables				
Kimberlite diamonds	Low	Medium	Medium	20–500,000
Deep-shaft minerals	Low	Low	Medium	2 (copper)
Water dams	Low	Low	Medium	n/a
Off-shore oil	Low	Low	Low	0.12

Note: Approximate prices in producing countries during the 1990s, adapted from industry sources, pers. com. from Gavin Hayman at Global Witness, and Auty (2004).

implemented against states than against non-state groups, but these successes were more frequently followed by war than for non-state armed groups. Sanctions seem to have been more successfully implemented and followed by peace in the cases where they targeted whole countries or governments, rather than non-state groups. Sharing agreements all involved state and non-state groups (or the separatist government).

A Discussion of Possible Factors

In this study, we concentrate on two possible factors influencing the effectiveness of commodity-focused measures: the type of resources and type of conflicts involved. We also discuss the mechanisms at work. By better defining the context in which commodity-focused measures are to take place, their effectiveness could be improved.

Resource Type

Two main criteria can help define financial opportunities afforded by resources to belligerents in conflict situations: the legality of a resource, and its accessibility or 'lootability'.[18] The legality of a resource refers to its legal status in domestic and international markets. This legal character shapes specific opportunities for belligerents. In the case of an illegal resource, a rebel group is advantaged compared to a government that risks losing its international legitimacy and associated sources of support if it engages in trafficking. In the case of a legal resource, a government is advantaged since the market will offer higher prices to a recognized authority rather than an illegal one.

TABLE 5:
RECORD OF RESOURCE-FOCUSED INITIATIVES AND CONFLICT SETTLEMENT (1989–2006)

Armed Conflicts*			Revenue Sharing				UN Resource-related Sanctions				Military Intervention by External Forces			
					Peace or War?				Peace or War?				Peace or War?	
Location	Most Recent Parties	Dates**	Start of mechanism	Mechanism implemented?	1 year on	5 years on	Start of mechanism	Mechanism implemented?	1 year on	5 years on	Start of mechanism	Mechanism implemented?	1 year on	5 years on
Afghanistan	Afghanistan, Canada, UK, USA, others vs. Taleban	1978–2001; 2003-	–	–	–	–	2000	No	n/a	n/a	2001	Yes	Peace	War
Angola I	Angola, Namibia vs. UNITA	1975–1995; 1998–2002	1994	Yes	Peace	War	1998	Yes	War	Peace	1993	Yes	War	War
Angola II (Cabinda)	Angola vs. FLEC-R; FLEC-FAC	1994; 1996–1998; 2002; 2004	1996	Yes	War	Peace	–	–	–	–	–	–	–	–
Cambodia	Cambodia vs KR	1978–1998	1996	Yes	War	Peace	1992	Yes	War	War	1993	No	–	–
Colombia	Colombia vs. FARC, ELN, EPL, M-19	1966-	1998	Yes	War	War	–	–	–	–	1999	No	n/a	n/a
Congo-Brazzaville	Congo-Brazzaville, Angola, Chad vs. Cobras, Ninjas, Cocoyes, Ntsiloulous	1997–1999; 2002	–	–	–	–	–	–	–	–	1997	Yes	War	War
DRC (Zaire)	Congo/Zaire, Zimbabwe, Angola, Namibia vs. AFDL, RCD, RCD-ML, MLC, Rwanda, Angola, Uganda	1996–2001	–	–	–	–	–	–	–	–	1997	Yes	War	Peace
			–	–	–	–	–	–	–	–	1998	Yes	War	Peace
			2002	Yes	Peace	?					2002	Yes	Peace	Peace

(*Continued*)

TABLE 5: CONTINUED

Armed Conflicts*			Revenue Sharing				UN Resource-related Sanctions				Military Intervention by External Forces			
					Peace or War?				Peace or War?				Peace or War?	
Location	Most Recent Parties	Dates**	Start of mechanism	Mechanism implemented?	1 year on	5 years on	Start of mechanism	Mechanism implemented?	1 year on	5 years on	Start of mechanism	Mechanism implemented?	1 year on	5 years on
Indonesia I (Aceh)	Indonesia vs. GAM	1990–1991; 1999–2005	2001	Yes	War	Peace	–	–	–	–	–	–	–	–
Indonesia III (W. Papua)	Indonesia vs. OPM	1965, 1976–1978	2001	Yes	Peace	Peace	–	–	–	–	–	–	–	–
Indonesia II (E. Timor)***	Anti vs. pro-independence supporters	1999	–	–	–	–	–	–	–	–	1999	Yes	Peace	Peace
Iraq-Kuwait	Iraq vs. Kuwait, USA & others	1990–1991	–	–	–	–	1990	Yes	Peace	Peace	1991	Yes	Peace	Peace
Iraq	Iraq vs. USA, United Kingdom, Australia	2003–2004	–	–	–	–	–	–	–	–	2003	Yes	War	?
Ivory Coast	Ivory Coast vs. Forces Nouvelles & others	2002–2004	–	–	–	–	2005	Yes	Peace	?	2003	Yes	Peace	?
Lesotho	South Africa, Botswana vs. Lesotho army mutineers	1998	–	–	–	–	–	–	–	–	1998	Yes	Peace	Peace
Liberia I	Liberia vs. NPFL, INPFL	1989–1995	1995	No	n/a	n/a	–	–	–	–	1990	Yes	War	War
Liberia II	Liberia vs. LURD	2000–2003	–	–	–	–	2001	Yes	War	Peace	2003	Yes	Peace	?
Myanmar I (Shan)	Myanmar vs. SSNPLO, SSRA, MTA, PSLO, SSA/s	1976–1988; 1993–2002; 2005-	1991	Yes	Peace	War	–	–	–	–	–	–	–	–
Myanmar II (Kachin)	Myanmar vs. KIO	1961–1992	1994	Yes	Peace	Peace	–	–	–	–	–	–	–	–
Myanmar III (Karenni)	Myanmar vs. KNPP	1992; 1996; 2005	1995	Yes	War	Peace	–	–	–	–	–	–	–	–
Myanmar IV (Mon)	Myanmar vs. NMSP	1990; 1996	1995	Yes	War	Peace	–	–	–	–	–	–	–	–

Papua New Guinea	Papua New Guinea vs. BRA	1992–1997	2001	Yes	Peace	Peace	–	–	–	–	1997	No	n/a	n/a
Philippines I	Philippines vs. CPP	1999-	–	–	–	–	–	–	–	–	2002	Yes	War	War
Philippines II (Mindanao)	Philippines vs. MNLF, ASG, MILF, MNLF faction	1993-	1996	Yes	n/a	n/a	–	–	–	–	2002	Yes	War	War
Russia (Chechnya)	Russia vs. Republic of Chechnya (Ichkeria)	1994–1996; 1999-	1996	Yes	Peace	War	–	–	–	–	–	–	–	–
Sierra Leone	Sierra Leone vs. RUF, AFRC, Kamajors	1991–2000	1999 –	No –	n/a –	n/a –	2000	No	n/a	n/a	1995 2000	Yes Yes	War Peace	War Peace
Sudan	Sudan vs. SPLM, SPLM-faction, SAF, NDA	1983–2004	1997 2004	No Yes	War Peace	War Peace	– –	– –	– –	– –	– –	– –	– –	– –
		Success / Total	–	15/18	8/15	8/14	–	5/7	2/4	3/4	–	17/19	8/17	7/14
		UNSC Success/ Total	1/1	1/1	1/1	0/1	–	5/7	2/4	3/4	–	7/8	7/7	4/5

*Data on conflict location, parties and dates drawn from Uppsala/Human Security Centre Conflict Terminations Dataset, 2006 (to be published in October 2006.)
**Dates are for relevant epsisodes of conflicts only. Some earlier episodes have been excluded.
***Not in the Uppsala/Human Security Conflict Terminations Dataset, because this is not coded as a state-based conflict.
Note: We found several conflicts in which natural resources played a role but in which none of the above mechanisms were employed, including Algeria, Nigeria, and Peru.

The accessibility of a resource is defined by the ease with which an armed group can generate revenues from it, through exploitation, theft, as well as taxation or extortion (see Table 4).[19] Several factors influence this accessibility. Some relate to the production and commercial characteristics of a resource: a resource is more accessible when its exploitation requires less financial, technological or labour inputs, and when the high price per volume ratio facilitates transportation. Other factors relate to the geographical context and mode of exploitation of a resource: a resource is more accessible when it is spread over a vast territory, in a terrain propitious to insurgency, and along an international border, as well as when it is exploited by high number of businesses vulnerable to protection rackets and protected by ineffective or corrupt security forces.[20] Together, the legality and accessibility criteria may be used to define four categories of resources: illegal lootables (e.g. narcotics), legal lootables (e.g. alluvial diamonds), legal non-lootables (e.g. off-shore oil), and illegal non-lootables. Illegal non-lootables could include uranium, which exploitation is mostly conducted by tightly controlled industrial mines and which trade comes under regulation through the Nuclear Non-Proliferation Treaty and the national legislation of Nuclear Suppliers Group members (akin to the voluntary agreement of participants to the Kimberley Process Certification Scheme). In practice, however, uranium from the Democratic Republic of Congo was identified by a UN group of experts as both 'lootable' through artisanal exploitation, and somewhat 'legal' given the total absence of control on the site and the porous borders of the country.[21] Some commodity-focused instruments may better address specific resources given these distinctions; we review each type of instrument in turn.

Revenue sharing agreements have been used for all three types of resources. Their implementation success rate is highest for illegal lootables and non-lootables, but their association with a stable peace is strong only in the case of illegal lootables. Sanctions have also been used for all three types of resources, but mostly for lootable goods. Sanctions failed to be implemented in the only case of illegal lootable resource; they have a low implementation success rate for other lootables and a medium one for non-lootables. Association with peace stability is also nil for illegal lootables, but medium for the other two categories. Military interventions have also been used for all three types of resource categories. Military intervention has been successfully implemented in most cases, but most strongly for non-lootable resource, a result that also appears to be associated with peace stability.

Overall, our survey of instruments indicates that *illegal lootable resources* have been most successfully dealt with through revenue sharing mechanisms.[22] The only successful case of military intervention recorded seems to be that of the US-led military campaign against the Taliban in 2001, but US policy prior to 2005 was to not target heroin revenues actively.[23] In the case of *legal lootable resources*, sanctions appear to be the most successful with regard to peace stability, despite a low implementation success rate. Although sharing appears as a second best option, with a higher rate of implementation success, all successful cases were only part of broader negotiated peace agreements, rather than prior to a settlement of the conflict. Revenue sharing in Papua New Guinea, for example, was part of a comprehensive agreement signed after a three-year truce between belligerents. Military interventions to control legal and lootable resources, while highly successful in terms of implementation, were very often followed by a resumption of the conflict within the next five years. In the case of *non-lootable resources*, military intervention was most successful, followed by sanctions. This could be explained by the fact that these resources were controlled by central governments unwilling to respond to sanctions (e.g. Iraq) or facing politically motivated secessionist groups with which sharing agreements were not respected or proved unsatisfactory (e.g. Aceh in 1999, Chechnya in 1996 and Sudan in 1997).

Conflict Type

Previous work on primary commodities and armed conflicts has suggested a possible relation between resources (their location, characteristics and modes of production) and the type of armed conflicts.[24] As found by Paul Collier and Anke Hoeffler, rebellions in oil regions almost always have a secessionist character.[25] The type of conflict involved may play a part in the effectiveness of specific initiatives. If rebellion in an oil region is secessionist, for example, a sharing agreement may be more successful than a military intervention. We follow here a broad categorization of conflicts in terms of territorial (i.e. secessionist) or governmental incompatibilities, using UCDP/PRIO Armed Conflicts Dataset.[26]

Revenue-sharing agreements have been used in both territorial and governmental incompatibilities, with a higher rate of success for territorial ones. Sanctions have been rarely used for territorial incompatibilities (except for Kuwait) and have been rarely successful in governmental ones (with the exception of Angola and Iraq). Military interventions have been mostly used in governmental incompatibilities, and have been relatively successful in both types of conflict in terms of implementation. Peace stability records, however, are only positive in the case of territorial incompatibilities. Moreover, these cases appear deceptively successful, as the only occurrences of stable peace took place in an international war context (Kuwait) or as the result of an unintended political crisis triggered by the recruitment of a foreign mercenary group by the government (Papua New Guinea).

Overall, these preliminary findings suggest that *territorial incompatibilities* appear to be best addressed through sharing, while *governmental* ones are best addressed through sharing and sanctions. This points to a potential dilemma in the choice of initiatives, given Ross' argument that lootable commodities are more generally associated with governmental incompatibilities and non-lootable commodities with territorial incompatibilities.[27] As such, territorial conflicts would be best addressed through sharing, but the non-lootable commodities financing or motivating them would be best addressed through capture or sanctions. The sequencing of different initiatives may solve part of this dilemma, but this study does not address this question in detail, and future research should examine this further.[28]

Mechanism Type

As suggested by Ross and Humphreys, different mechanisms relate resources and conflicts.[29] In turn, resource-focused initiatives may affect these mechanisms in different ways and thereby influence the duration of conflicts. We discuss each one in turn.

Sharing agreements should reduce the need to use violence to access resources and thus could shorten hostilities through the feasibility, conflict premium and peace-buying mechanisms. Sharing could also hasten a transition to peace through the positive aspect of the fragmentation mechanism, by selectively rewarding some groups (and thereby 'divide and rule'). Moreover, sharing could also help create economic linkages across divided communities (although arguably revenues may remain at the mercy of predatory belligerent elite groups). Yet sharing could play a detrimental role through the balance of power mechanism, by facilitating resource access to a weaker opposition group that would prove to be duplicitous (regrouping and rearming while pledging peace).

Sanctions should reduce the revenues available to belligerents and their international commercial backers, and thus shorten hostilities through the feasibility, conflict premium and international stakes mechanisms. Targeted sanctions should also promote the positive role of balance of power by selecting which parties can legally export resources and which ones cannot. Sanctions can also act through the enclave mechanism by redirecting the economy away from resource sectors towards other ones with more linkages. Yet sanctions could also play a negative role through the fragmentation and enclave mechanisms, by criminalizing the resource sector and promoting conflict-dependent (rather than peace-building) economic linkages between groups. Sanctions could also play a negative role by preventing peace buying, although their removal or re-imposition could become a tool to ensure that peace-buying arrangements are abided by.

Like sanctions, but in a more direct way, military interventions should reduce belligerent access to resource revenues, and thus have a positive role through feasibility, balance of power, conflict premium and international stakes. Yet force could have an ambiguous effect on fragmentation: positive by providing the force that will militarily defeat weak fragmented groups, but possibly negative by dispersing violent actors in the absence of adequate disarmament, demobilization and reintegration programmes, or by steering nationalist mobilization and escalating the conflict.

The choice of instruments should thus be dictated not only by the type of resources and conflicts involved but also by the type of mechanisms at play. In turn, the selected instruments could be articulated with other conflict resolution measures so as to sustain or amplify the positive impacts of instruments on a possible return to peace. Furthermore, agencies seeking to curtail revenue access for belligerents should also consider the structure of the industry as well as the capacity and motivations of intermediaries and authorities along the resource supply chain – as demonstrated in the case of 'conflict diamonds' and the creation of the Kimberley Process.[30]

Discussion

The analysis suggests three preliminary findings of relevance to international peacekeeping.

First, and mostly based on a review of the literature and anecdotal evidence from the case studies reviewed, the analysis provides qualified support to the argument that access to resource revenues by belligerents generally prolongs armed conflicts, thereby justifying that conflict settlement initiatives should address this relationship. This argument is supported by the relatively short delay within which a number of conflicts are settled after resource-focused initiatives are implemented. Yet renewed hostilities after many of these 'successful' interventions indicate that curtailing financial opportunities is not a panacea. It suggests, rather, that the importance of resource revenues for the viability and motivation of rebellion in these conflicts may be overemphasized. In this regard, resources are rarely the only source of revenues and motivation for belligerents who often find ways to adapt their struggle to more difficult economic conditions resulting from effective resource-focused initiatives.[31]

Second, resource-focused initiatives have different levels of association with implementation success and peace stability. Military interventions appear to be a deceptive 'quick-fix': often successfully implemented, these appear to force the targeted party into a settlement but fail to be followed by a stable peace. Military intervention would thus require significant follow-up to avoid the recurrence of hostilities. In the light of the Angolan and Sierra Leonean cases, the deployment of peacekeeping forces with weak mandates following interventions by external mercenary groups warrants attention in this regard. Revenue sharing is as successful as military intervention in terms of implementation and is more rapidly followed by conflict settlement, but it is also rarely followed by a stable peace. This finding, however, may reflect a timing issue since agreement on revenue sharing is often concluded as part of a settlement of a conflict. Given the asymmetry between belligerents and the risks of duplicity characterizing many of these sharing agreements, third parties may have a role in guaranteeing these arrangements. Adequately mandated peacekeeping forces and an international supervising mechanism for the resource sector can help provide such guarantees. Sanctions have a poor overall record in terms of implementation for the period examined, but major improvements have been noted since the late 1990s in terms of monitoring and enforcement. Sanctions are furthermore generally lifted only once a conflict is comprehensively settled, possibly contributing to a lasting peace.

Third, the characteristics of the resource sectors targeted and the type of conflict involved may affect the effectiveness of these instruments. These findings not only argue in favour of contextualizing responses but also point to some of the dilemmas and limits of resource-focused instruments. Conflicts involving primarily illegal lootable resources seem best addressed by sharing arrangements; legal lootable resources by sanctions; and non-lootable resources by military intervention. Responding to conflicts related to narcotics poses a dilemma: sharing arrangements are rarely an official option for governments and even less so for conflict responding countries. As noted earlier, however, a number of governments have nevertheless taken this option unofficially to secure a conflict settlement or to support local allies, hoping that nareotics policing will deal with the problem once 'peace' and the state are consolidated.

The above analysis is admittedly tentative, as it does not address the many other conditions that affect the settlement of a conflict and the likelihood of war recurrence. In the absence of a multivariate analysis that controls for these other factors, the findings of this article should be treated as hypotheses for further investigation, rather than definitive statements about the causal link between conflict resolution mechanisms and outcomes. A more precise analysis would result from a standardization of the assessment of instrument effectiveness (e.g. standard questionnaires sent to conflict specialists) and a measure of the potential impact of instruments on conflict duration for all wars since 1946 (e.g. using the PRIO/Uppsala conflict dataset). A more comprehensive analysis would require: an examination of the effectiveness of military interventions by domestic groups; a more detailed analysis of different types of economic sharing agreements, including at different scales; and an examination of regional and unilateral sanction regimes. Analyses could also examine the influence of the timing and complementarity of these various initiatives, as well as the influence of resources on the capacity and will of external interveners (including the question of commercial interests among interveners).[32] Finally, further research could focus on the means by which to establish a credible and enforceable sharing agreement, and examine how credibility and enforceability might vary according to the type of resources involved. Learning more about the context in which conflict termination instruments are deployed may improve their effectiveness and reduce the risk of renewed conflicts.

NOTES

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2. Michael Ross, 'A Closer Look at Oil, Diamonds, and Civil War', *Annual Review of Political Science*, Vol.9, 2006, pp.265–300.
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4. Michael W. Doyle, and Nicholas Sambanis, 'International Peacebuilding: A Theoretical and Quantitative Analysis', *American Political Science Review* Vol.94, No.4, 2000, pp.779–801; Stephen J. Stedman, 'Implementing Peace Agreements in Civil Wars: Lessons and Recommendations for Policymakers', IPA Policy Paper Series on Peace Implementation, May 2001, New York: International Peace Academy, 2001; James D. Fearon, 'Why Do Some Civil Wars Last So Much Longer Than Others?', *Journal of Peace Research*, Vol.41, No.3, 2004, pp.275–302; Michael Ross, 'How Do Natural Resources Influence Civil War? Evidence from 13 Cases', *International Organization*, Vol.58, No.1, 2004, pp.35–67; Paivi Lujala, Nils Petter Gleditsch and Elisabeth Gilmore, 'A Diamonds Curse: Civil War and a Lootable Resource', *Journal of Conflict Resolution*, Vol.49, No.4, 2005, pp.538–62.
5. Macartan Humphreys, 'Natural Resources, Conflict, and Conflict Resolution', *Journal of Conflict Resolution*, Vol.49, No.4, 2005, pp.508–37.

6. Paul Collier and Anke Hoffler, 'Resource Rents, Governance and Conflict', *Journal of Conflict Resolution*, Vol.49, No.4, 2005, pp.451–82.
7. Humphreys (see n.5 above).
8. Jeremy Weinstein, 'Resources and the Information Problem in Rebel Recruitment', *Journal of Conflict Resolution*, Vol.49, No.4, 2005, pp.598–624.
9. Ross (see n.4 above), pp.35–67.
10. Ross (see n.2 above), pp.265–300.
11. 'Profile: Liberia's "Mister Gus"', BBC News, 7 June 2006, accessed at http://news.bbc.co.uk/2/hi/africa/5055442.stm.
12. David Cortright and George A. Lopez, *The Sanctions Decade: Assessing UN Strategies in the 1990s*, Boulder, CO: Lynne Rienner, 2000.
13. Andrew Mack and Asif Khan, 'The Efficacy of UN Sanctions', *Security Dialogue*, Vol.31, No.3, 2000, pp.279–92.
14. David Cortright and George A. Lopez, *Sanctions and the Search for Security: Challenges to UN Action*. Boulder, CO: Lynne Rienner, 2002; Philippe Le Billon, 'Getting It Done: Instruments of Enforcement', in *Natural Resources and Violent Conflict: Options and Actions*, in Bannon and Collier (eds) (n.1 above), pp.215–86.
15. Philippe Le Billon, 'Fuelling War or Buying Peace: Corruption and Armed Conflicts', *Journal of International Development*, Vol.15, No.4, 2003, pp.413–26.
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17. As noted above, these results are tentative since they derive from somewhat subjective and non-standardized measures. Furthermore, in part because of the small number of cases, we do not control for the influence of one initiative on the implementation effectiveness of the other. Arguably military interventions can be more effective following sanctions that have weakened a party. Such military intervention, in turn, can affect the likelihood of a successful sharing agreement. We note that in 14 cases only one instrument was used; in 8 cases two were used; in 4 cases three instruments were used (Angola-UNITA, Cambodia, Liberia, and Sierra Leone).
18. On the potential importance of the specific characteristics and modes of production of different types of resources on the likelihood, type, or duration of armed conflicts, see Le Billon 2001 (see n.3 above); Michael Ross, 'Oil, Drugs, and Diamonds: The Varying Roles of Natural Resources in Civil War', in Karen Ballentine and Jake Sherman (eds.) *The Political Economy of Armed Conflict: Beyond Greed and Grievance*, Boulder, CO: Lynne Rienner, pp.47–70; Richard Snyder, 'Does Lootable Wealth Breed Disorder? A Political Economy of Extraction Framework', *Comparative Political Studies*, Vol.39, No.8, 2006, pp.943–68.
19. It should be noted, however, that many 'non-lootable' resources are nevertheless 'obstructable', Ross (see n.18 above). For a discussion of the case of a water dam, see Fako Johnson Likoti, 'The 1998 Military Intervention in Lesotho: SADC Peace Mission or Resource War?', *International Peacekeeping*, Vol.14, No.2, 2007, pp.251–63.
20. The low traceability of resources can also facilitate trading and the collaboration of business intermediaries with rebel groups. Difficulties over the identification of the origin of diamonds, for example, delayed the effective application of sanctions and required significant reforms in rough diamond trading, notably through the Kimberley Certification Process Scheme.
21. Letter dated 18 July 2006 from the Chairman of the Security Council Committee established pursuant to resolution 1533 (2004) concerning the Democratic Republic of the Congo addressed to the President of the Security Council, S/2006/525, accessed at http://daccessdds.un.org/doc/UNDOC/GEN/N06/391/16/PDF/N0639116.pdf?OpenElement.
22. Although sanctions move a commodity from a legal to an illegal category, for the purpose of analysis we maintain the pre-sanction legal status of the commodity. This allows us to measure the effect of the sanctions on commodities with pre-existing systems of trade controls (i.e. against illegal commodities), from systems specifically established against legal commodities under sanctions. Since the Kimberley Process Certification Scheme was established in 2003, conflict diamonds are in effect illegal commodities. We have nevertheless maintained conflict diamonds, even after 2003, in the same category 'legal' category for this analysis.
23. Vanda Felbab-Brown, 'Afghanistan: When Counternarcotics Undermines Counterterrorism', *Washington Quarterly*, Vol.28, No.4, pp.55–72.
24. Le Billon (see n.3 above); Lujala et al. (see n.4 above).
25. Collier and Hoeffler (see n.6 above).

26. Uppsala Conflict Data Project and Peace Research Institute, Oslo, accessed at http://new.prio.no/CSCW-Datasets/Data-on-Armed-Conflict/UppsalaPRIO-Armed-Conflicts-Dataset.
27. Ross (see n.18 above).
28. There appears not to be any particular trend resulting from the specific number or sequencing of initiatives, with the exception that a series of initiatives starting with military intervention, rather than sanction, is on average more likely to be associated with a rapid settlement of conflict.
29. Ross (n. 4 above) and Humphreys (n.5 above).
30. Ian Smillie, 'What Lessons from the Kimberley Process Certification Scheme', in Ballentine and Nitzschke (n.1 above), pp.47–67.
31. François Jean and Jean-Christophe Rufin., *Economie des Guerres Civiles*, Paris: Hachette, 1996.
32. Dylan Balch-Lindsay and Andrew J. Enterline, 'Killing Time: The World Politics of Civil War Duration, 1820–1992', *International Studies Quarterly*, Vol.44, No.4, 2000, pp.615–42.