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Does Warfare Matter? Severity, Duration, and Outcomes of Civil Wars

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Abstract

Does it matter whether a civil war is fought as a conventional, irregular, or symmetric nonconventional conflict? Put differently, do "technologies of rebellion" impact a war's severity, duration, or outcome? Our answer is positive. We find that irregular conflicts last significantly longer than all other types of conflict, while conventional ones tend to be more severe in terms of battlefield lethality. Irregular conflicts generate greater civilian victimization and tend to be won by incumbents, while conventional ones are more likely to end in rebel victories. Substantively, these findings help us make sense of how civil wars are changing: they are becoming shorter, deadlier on the battlefield, and more challenging for existing governments—but also more likely to end with some kind of settlement between governments and armed opposition. Theoretically, our findings support the idea of taking into account technologies of rebellion (capturing characteristics of conflicts that tend to be visible mostly at the micro level) when studying macro-level patterns of conflicts such as the severity, duration, and outcomes of civil wars; they also point to the specific contribution of irregular war to both state building and social change.

Keywords

asymmetric conflict, civil wars, capabilities, conflict, rebellion

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The move toward disaggregating civil wars and combining the macro and micro research agendas has been among the most notable recent developments in the study of civil wars. It is now recognized that overaggregation has not always helped civil war studies (Cederman, Gleditsch, and Buhaug 2013, 5-6) and that it is necessary to scale up the burgeoning research conducted at the micro and subnational levels (Kalyvas 2012; Balcells and Justino 2014). So far, however, both disaggregation and scaling have been based almost exclusively on the distinction between ethnic and nonethnic civil wars (Cederman, Wimmer, and Min 2013; Wimmer 2013). Although this is a productive move, it is also a partial one, since ethnic civil wars constitute a subset of all civil wars. In addition, most work on ethnic civil wars has focused on one dimension, that is, onset.

Here, we propose a different way to disaggregate civil wars, one based on their "technology of rebellion," a term capturing both the relative military capacity of states and rebels and their interaction. We provide empirical evidence across four dimensions of civil wars (duration, severity, civilian victimization, and outcome) in support of our claim that this approach holds substantial potential. The main intuition is that civil wars are military contests, on top of being political ones. Though trivial on its face, this observation captures a missing dimension in the study of civil war. Indeed, how civil wars are fought ought to be as consequential as to why they are fought. In this vein, Kalyvas (2005) and Kalyvas and Balcells (2010) identify three basic types of civil war: those fought conventionally with pitched battles and clear frontlines, when both sides have the ability to deploy heavy weaponry against each other ("conventional civil wars"); those fought irregularly, in a guerrilla fashion, when the government's conventional military faces lightly armed rebels ("irregular civil wars" or insurgencies); and, finally, those fought by governments and rebels who are matched at a low level of military sophistication ("symmetric nonconventional" [SNC] wars).[1] To use recent examples, the civil war in Libya (2011) was fought conventionally with a clear frontline, as external support for the rebels and the use of North Atlantic Treaty Organization (NATO) air force allowed the opposition to match the government's initial military superiority and eventually defeat it; the civil war in Liberia was fought primarily as an SNC war by rival militias armed with light weapons; finally, the ongoing war in Afghanistan is an irregular war: the Taliban are militarily outmatched by the Afghan government forces and the NATO-led International Security Assistance Force and have resorted to fighting a guerrilla war.

There is compelling evidence suggesting that some of the key factors shaping the technology of rebellion that prevails in a given civil war are systemic and international. The end of the Cold War, in particular, is associated with a decisive shift in the technologies of rebellion used in civil wars, whereas civil wars were predominantly irregular wars during the Cold War, they became primarily conventional and SNC wars after its end (Kalyvas and Balcells 2010).[2] Indeed, rather than being the outcome of country-specific characteristics such as per capita income, rough terrain, or ethnic fractionalization, this shift appears to be linked to the transformation of the international system away from bipolarity and toward unipolarity. During the Cold

War, the two superpowers actively assisted both governments and rebels, thus lifting their respective military capacity. This allowed governments to maintain their military superiority vis-à-vis rebels, thus ensuring the military asymmetry between the two sides, but it gave militarily weaker rebels, who otherwise would have been unable to challenge these governments, the ability to do so using guerrilla warfare. When the Cold War ended, however, the flood of superpower assistance ended. As a result, many of these conflicts could no longer be sustained; in their place arose conventional civil wars fought by well-matched factions of formerly unitary militaries, often in countries undergoing processes of state disaggregation (e.g., the Soviet Union or Yugoslavia) or SNC wars fought by ragtag militias in countries experiencing state failure, where governments were so weak that they could not field a regular military.

Exploring what causes certain technologies of rebellion to prevail in particular historical junctures, however, begs a related question: How do these technologies impact civil wars? Exactly what difference does the shift away from irregular war make? The answer holds both substantive and theoretical significance. On one hand, we would like to know whether the civil wars of the post–Cold War era are likely to diverge significantly from their predecessors: Will they be deadlier, longer, and more biased toward the government or the rebels? These are questions at the forefront of the policy agenda, where thinking about the future is frequently informed by a simple extrapolation from the past. On the other hand, a more rigorous estimation of the impact of technologies of rebellion contributes to a fuller understanding of the ongoing process of global historical transformation and the deeper nature of the phenomenon of civil war.

There is one more reason to tackle this question. In recent years, a significant body of research has emerged, exploring the microdynamics of internal conflict, focusing among others on areas such as recruitment into armed groups (Petersen 2001; Kalyvas and Kocher 2007; Humphreys and Weinstein 2008), violence (Kalyvas 2006; Lyall 2009; Balcells 2010), and rebel governance (Mampilly 2011; Arjona 2014). The microdynamics research program has developed in parallel with the study of broad, aggregate, cross-national patterns (Fearon and Laitin 2003; Collier and Hoeffler 2004), yet the two research programs have rarely connected with each other. Specifying the impact of technologies of rebellion on civil wars allows us to connect recent advances on the microdynamics of civil war that deal with their organizational and military characteristics with more aggregate, cross-national, macro-level patterns. Furthermore, this move should ultimately help us reconcile contradictory findings that emerge from the analysis of a variety of subnational datasets, while qualifying aggregate findings that are time and place specific, yet are sometimes pitched as representing the entire set of civil wars.

Technologies of rebellion capture two key dimensions of civil wars: the relative military capacity of states and rebels (i.e., their military symmetry or asymmetry) and the specific way these two actors interact with each other (i.e., the form of their military symmetry).[3] Both dimensions reflect a combination of resources and constraints and are reflected in the distinct social profile of armed groups. It is well known, for example, that "popular support" is a key feature of guerrilla or irregular

war (Kalyvas 2006), so much so that this is taken to apply to all civil wars. However, references to the relative weight of popular support are much less common in conventional civil wars or SNC conflicts. This diverging relevance of popular support reflects the military asymmetry characterizing irregular war: consistent with the microdynamics research, it is precisely the military weakness of rebels vis-à-vis the states they challenge that makes them so dependent on the behavior of the civilian population and its willingness not to denounce them to the state forces. Obviously, this requirement has important implications. On one hand, irregular war "selects" potential rebel entrepreneurs who have the skills and proclivity to invest in civilian support; on the other hand, it calls for the implementation of practices that maximize this support and affect every aspect of the rebels' military effort: from their method of recruitment all the way down to the type of institutions they set up in the areas they control. Take recruitment: based on the logic sketched previously, we expect rebel groups in irregular wars to prioritize practices of recruitment that avoid alienating the civilian population—hence an emphasis on voluntary joining; in contrast, rebel groups fighting in conventional wars are more likely to rely on preexisting institutions, such as compulsory draft, whereas rebel groups fighting SNC wars are likely to privilege coercive practices, such as abductions, or rely on monetary incentives. Put otherwise, the narrowly opportunistic motivations that some researchers have emphasized as a necessary component in the formation of all armed groups may vary systematically with particular technologies of rebellion. In other words, technology of rebellion is an interface of micro-level organizational practices and macro-level dimensions of civil war.

Here, we explore whether technologies of rebellion have a distinct impact on the macro-level patterns of civil war as a first-cut, indirect test of the theoretical link between technologies of rebellion and armed group practices. To preview our results, we find that technologies of rebellion have a distinct impact on civil wars across four distinct dimensions. Irregular wars tend to last longer than the other two types; they also tend to be associated with higher levels overall of battlefield violence, which turns out to be an effect of their long duration. In addition, irregular wars generate greater civilian victimization as compared to the other types, which is consistent with their pronounced civilian input and the role of popular support in setting up and sustaining insurgencies. We also find (but our results are less strong) that these wars are predominantly won by incumbents, which is somewhat surprising, given that guerrilla war is perceived to be the most effective "weapon of the weak"—a perception we explain by pointing out that irregular war facilitates the onset and prolongation of rebellion rather than by raising the likelihood of a rebel victory. With regard to conventional wars, we find that they are shorter and, when controlling for duration, much more lethal on the battlefield compared to irregular ones; they tend to favor incumbents but are also the technology of rebellion that gives rebels their best shot at victory compared to the other two. Finally, SNC wars are short and the least lethal ones, both on the battlefield and (in contrast to their widespread perception as apocalyptic festivals of violence) against civilians. We also find that they are the most prone to end with a compromise between the two

sides, which supplies a new insight into the conditions favoring successful international mediation and intervention.

Since we control for a number of processes that are usually thought to be associated with the four dimensions we focus on, we interpret these findings as suggesting that technologies of rebellion have an independent effect on civil war severity, duration, civilian victimization, and outcome, in a direction that is consistent with their micro-level differences. Overall, our analysis suggests that technologies of rebellion are an important, and so far omitted, variable shaping civil wars. Furthermore, combining all these findings together, and taking the declining trend of irregular wars following the end of the Cold War into account, we are able to provide a set of conjectures about the future evolution of civil wars. If our analysis is correct, civil wars are likely to be shorter, deadlier on the battlefield but more sparring to civilians compared to the past, and more threatening to governments, either by handing them more outright defeats compared to the past or by forcing them to arrive at a negotiated agreement with their armed opposition.

The article is divided into three sections. We begin by discussing our data and hypotheses, follow up with the analysis and results, and conclude with a discussion of the findings.

Data and Hypotheses

Our empirical analysis relies on two datasets. The first one is the Technologies of Rebellion (thereafter referred as TR) dataset used by Kalyvas and Balcells (2010) and based on Sambanis's (2004) data, including 147 civil wars fought between 1944 and 2004, as determined by the 1,000 deaths threshold.[4] The second one is a novel dataset based on the Armed Conflict Database of the Uppsala Conflict Data Program (UCDP) and the Peace Research Institute of Oslo (PRIO) covering 903 conflict years that caused over 100 deaths per year, fought between 1946 and 2008 (thereafter referred as PRIO100 dataset).[5] We have supplemented these data by coding the technology of rebellion for each conflict/year, using the coding rules laid out in Kalyvas and Balcells (2010).[6] The PRIO100 dataset includes strict civil war cases but also cases that had been excluded from the TR dataset because they correspond more closely to communal violence than civil war (e.g., Somalia 1995), strong states confronting exceedingly weak insurgencies (i.e., Argentina 1974–1977, Malaysia 1958), urban warfare such as the Israeli–Palestinian conflict, or armed confrontations that generated fewer than 500 deaths in the first year or no more than 1,000 in the three first years of the war (e.g., Cameroon 1957–1959). Using these two datasets allows for a more robust set of tests than would otherwise be possible.

Our dependent variables are conflict duration, battle-related deaths (battle deaths), civilian victimization, and civil war outcomes. To measure duration in the TR dataset, we follow the rules and coding in Sambanis (2004).[7] In the PRIO100 dataset, we code conflict onset when an episode generates more than 100 deaths (and therefore enters our dataset), and we code the end following the PRIO variable

Episode End Date.[8] To measure conflict severity and civilian victimization, we rely on data from existing datasets (Lacina and Gleditsch 2005; Melander, Öberg, and Hall 2009). Finally, we measure conflict outcomes using the coding of Lyall and Wilson (2009), to which we made adjustments (see Online Appendix).

As explained previously, our understanding of the impact of technologies of rebellion on conflict duration, severity, and outcome draws from the microfoundations of both the relative military capacity of the rival sides and their interaction. To reiterate, a conflict is conventional when it entails a symmetric interaction at a high level of military capacity, SNC when it entails a symmetric interaction at a low level of military capacity, and irregular when it entails an asymmetric interaction. Using rebel group size data from Cunningham, Gleditsch, and Salehyan (2009), Figure A1 of the Online Appendix confirms the empirical basis of both our theoretical intuition and coding by showing that rebel groups fighting conventional wars tend to be much larger compared to those fighting both irregular and SNC wars.

Let us begin with the analysis of duration. So far, the duration of civil wars has been associated with a variety of factors: it has been found to be a function of the number of rebel organizations (Cunningham, Gleditsch, and Salehyan 2009; Akcinaroglu 2012), their longevity and strength, as well as their capacity to control territory Cunningham, Gleditsch, and Salehyan 2009), the weakness of the state (Mason and Fett 1996; Balch-Lindsay and Enterline 2000), and the conflict's origins in military coups or long-standing "Sons of the Soil" type of conflicts between natives and migrants (Fearon 2004). This is a widely diverse set of variables and findings. Nevertheless, it is possible to synthesize them by subsuming them under the distinct technologies of rebellion. We hypothesize that irregular wars are longer compared to conventional and SNC wars, primarily because they entail the emergence of higher quality rebels with the capacity to develop strong relations with civilian populations and build resilient institutions of governance (Arjona 2014). This is also consistent with the character of irregular wars as a technology of rebellion stressing attrition, evasion, and survival that erupt in isolated and peripheral regions with difficult terrain (Fearon and Laitin 2003). These characteristics are likely to make irregular wars long-lasting.

Unlike irregular wars, conventional ones are based on direct and frontal clashes between rival actors, causing a high intensity of fighting, which we argue is likely to lead to a faster resolution. Likewise, and consistent with the finding that military coups are associated with shorter wars (Fearon 2004),[9] a symmetric military contest is more likely to lead to a "mutually hurting stalemate" by providing clear evidence of military capacity, thus generating incentives for a faster end to the conflict. Finally, SNC wars could go both ways: on one hand, because they involve unsophisticated military technology, they are less likely than conventional wars to produce intense and decisive clashes; also, there is likely to be much more group fragmentation compared to both states and rebels fighting in conventional wars. On the other hand, the military symmetry that characterizes these conflicts could also make them shorter compared to irregular wars; likewise, rebels are less likely to generate

structures of governance and mobilize the population in supporting the rebellion. A way to combine these intuitions is to hypothesize that these conflicts are likely to occupy an intermediate position, that is, be shorter than irregular wars but longer than conventional ones.

Hypothesis 1: Irregular conflicts are likely to last longer compared to other conflicts; SNC conflicts are likely to last longer than conventional conflicts but likely to be shorter than irregular ones.

Turning to conflict severity or lethality, we focus on combat or battlefield deaths,[10] on one hand, and on civilian intentional targeting, on the other. The literature on battlefield deaths has largely focused on the impact of variables such as regime type (Lacina 2006; Downes 2008), polarization (Esteban, Morelli, and Rohner 2011), or poverty (Lacina 2006). So far, existing work has either dismissed the effect of relative military capacity or reports no significant effects. This is surprising, since it is plausible to expect some kind of connection between how wars are fought and how many fatalities they produce. We posit a more direct link between technology of rebellion and conflict severity in the battlefield based on the effects of military symmetry and asymmetry: since they entail direct military clashes with heavy weaponry, conventional civil wars, controlling for duration, should be more lethal on the battlefield compared to either irregular or SNC wars, where clashes are more indirect and often even evaded (in irregular wars) or entail light weaponry and poor organization (in SNC wars).

Hypothesis 2: Conventional conflicts are likely to be more lethal on the battlefield compared to irregular or SNC conflicts.

Violence against civilians has been one of the research areas where micro-level research has made important headways. The literature has emphasized a number of variables, including coercion and territorial control (Kalyvas 2006), natural resources and foreign assistance (Weinstein 2007), signaling between rival actors (Eck and Hultman 2007), and political competition (Balcells 2010). Civilians are a crucial resource for armed groups in irregular wars, where control of the territory is fragmented and civilian collaboration plays a key role in helping rebels to counter the superior capacity of their rivals. Although violence and coercion are essential to gain territorial control, holding territory requires additional resources, including the ability to mobilize the population; this is why irregular wars have been traditionally associated with high levels of violence and depicted as "dirty wars" (Kalyvas 2006). Conventional wars could go both ways: highly trained and well-disciplined militaries could respect the laws of war and exercise restraint vis-à-vis the civilian population but could also prove particularly lethal if civilian victimization provides a way to victory (Downes 2008) or political or ethnic polarization primes them toward extreme acts of mass violence against (Balcells 2010; Esteban, Morelli, and Rohner 2011). As for SNC wars, they have been depicted as particularly lethal (Kaldor

2006), a description that often has been informed by sensationalist reporting rather than hard data (Kalyvas 2001). Many SNC wars are fought by ill-disciplined groups and opportunistic groups that do not screen or control their members (Weinstein 2007), but at the same time, poor organization and low operational capacity could well limit the range of damage that these highly fragmented militias could actually inflict. Controlling for duration, we therefore expect irregular wars to produce higher levels of civilian victimization.

Hypothesis 3: Irregular conflicts are more likely to produce higher levels of civilian victimization compared to the other two types.

Our last dependent variable is the outcome of civil wars. Following Lyall and Wilson (2009), we distinguish between three outcomes: *incumbent victory*, *draw*, and *rebel victory* (equivalent to their *incumbent loss*). An incumbent victory (or incumbent win) occurs when the rebels are militarily defeated and their organization destroyed or the war ends without any political concessions granted to insurgent forces. A draw occurs when an incumbent is forced to concede some rebel demands via a settlement and neither side obtains its maximal aims. A rebel victory occurs when the incumbent unilaterally concedes to all, or nearly all, insurgent demands. Note that this coding is based on political rather than purely military outcomes. This means that the outcome is not endogenous to the military balance of power, which would be a concern when linking the technologies of rebellion to the conflict outcome.

The literature on civil war outcomes has focused primarily on the effects that a certain outcome has on other variables, such as war recurrence (Fortna 2008; Toft 2010). Insofar as the emphasis has been on the determinants of civil war outcomes, the literature has highlighted several potential factors, including mechanization (Lyall and Wilson 2009), the combined military strategy of the rival actors (Arreguín-Toft 2005), the type of organization and the availability of safe havens (Sinno 2009), conflict duration (Mason and Fett 1996; Mason, Weingarten, and Fett 1999; Cunningham, Gleditsch, and Salehyan 2009), regime type (Getmansky 2013), and the role of international organizations (Walter 2002). These divergent variables and findings can also be subsumed into our technologies of rebellion framework. The outcome of civil wars can be thought of as being primarily a result of the respective military capacity of the rival sides and the type of their interaction. Intuitively, strong rebels directly confronting strong governments should have a better chance to win victories compared to weak rebels indirectly fighting strong governments; hence, conventional civil wars ought to produce more victories for rebels compared to irregular wars. Based on the same logic, SNC wars ought to be more advantageous for rebels than irregular wars.

Hypothesis 4: Conventional and SNC conflicts are likely to produce more rebel victories compared to irregular conflicts.

Note that although this hypothesis is logically plausible, it is not trivial. In fact, it clashes directly with an intuition based on a popular and long-held view. Going as far back as T. E. Lawrence, and reinforced by the experience of the Cuban Revolution and the Vietnam War, this view posits guerrilla war as the most effective weapon of the weak, one that can neutralize actors that are much stronger military, making counterinsurgencies a potentially losing proposition (Nagl 2005). Indeed, as famously suggested by the Algerian War of Independence, rebels can be defeated on the battlefield, only to emerge victorious through a combination of tenacity and attrition combined with the ability to attract and maintain domestic and international support. Comparing irregular civil wars to the two symmetrical types allows us to also test this popular view.

Empirical Analysis

Duration

Beginning with civil war duration, we find that the average length of the 142 civil wars in the TR dataset that have ended is 80.19 months; among them, conventional wars last on average 39.82 months, irregular wars last on average 113.32 months, and SNC wars last 49 months.[11] Figure 1 displays the Kaplan-Meier survival function for the three technologies of rebellion coded in the TR dataset. The graph is consistent with Hypothesis 1, indicating that irregular conflicts last significantly longer compared to both conventional and SNC conflicts. Also, SNC are slightly (although not significantly) longer than conventional conflicts.[12]

In order to test Hypothesis 1, we run a Weibull regression, estimating the effect of technologies of rebellion on the hazard of a civil war ending. We use the accelerated failure time specification, which indicates the effect of the covariates on the log survival time. In model 1 of Table 1, we test for the impact of each of the technologies of rebellion on civil war duration (conventional is the base category) with the TR dataset. We then include three different sets of control variables, in different steps; in model 2 (M2), we include some of the standard controls in the literature on civil war duration: a post-1990 dummy to capture the end of the Cold War,[13] Rough Terrain (measured with log of percentage of estimated mountainous terrain), Population (Log), Ethnic Fractionalization, Democracy (lagged one year), Oil Exporter, and gross domestic product (GDP) per capita (per capita income); all these variables are obtained from Fearon and Laitin (2003). In model 3, we include Military Personnel from Correlates of War (Singer, Bremer, and Stuckey 1972), which is a clear measure of state and military capacity, and two dummies measuring external support for governments and rebels, respectively;[14] in model 4, we also incorporate regional dummies that allow checking whether there are any regional effects on civil war duration (these dummies are also taken from Fearon and Laitin 2003).[15]

The results, in Table 1, show that irregular conflicts last significantly longer than the other two, a result that is very robust to the inclusion of controls. In M2, the post-

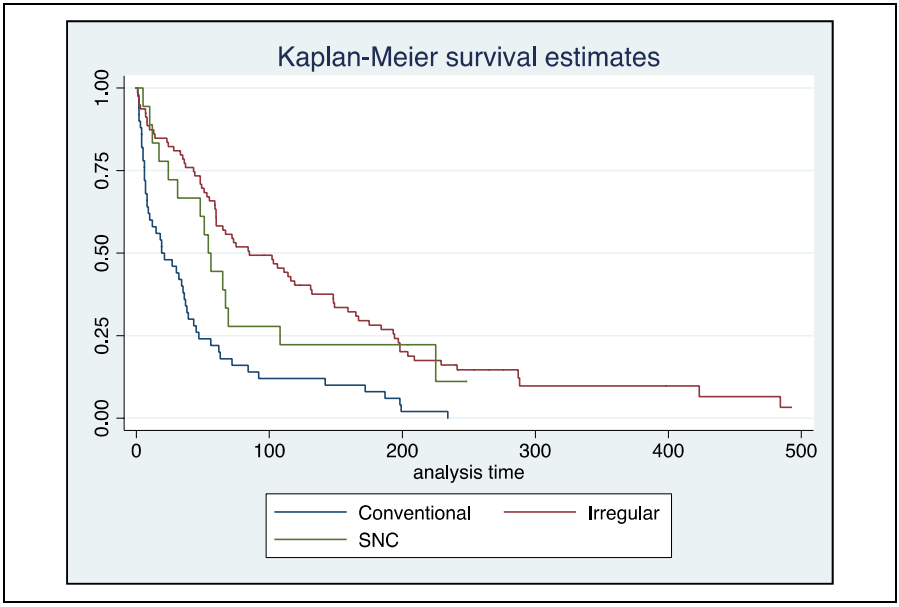

Figure 1. Duration of civil wars by technology of rebellion, in months (TR dataset).

1990 variable also has a significant effect indicating that the end of the Cold War is associated with shorter conflicts, but this effect is not robust to the inclusion of the variables measuring external support. Indeed, both support for rebels and for governments make conflicts more protracted, which points to the importance of taking into account the foreign policy dimension of civil wars, as well as highlighting the parallel logic that often motivates external support. Among the remaining variables, only ethnic fractionalization and per capita income have a significant effect on duration, both of them making conflicts last longer. Yet, compared to the irregular war category, these variables are less robust to the inclusion of controls and less significant from a statistical point of view.

We replicate the analysis with a similar Weibull regression model using the PRIO100 dataset (also in Table 1).[16] We find again that irregular conflicts are significantly longer than the other two types and this effect is also very robust to the inclusion of controls. The dummy measuring the end of the Cold War is negative and significant across models. In these regressions, we cannot control for external support, so this dummy is probably capturing its effect, given the large flows of material and ideological support that was provided to Marxist insurgencies and anti-Marxist states during the Cold War (Kalyvas and Balcells 2010). The remaining variables in the models are not statistically significant.[17]

In substantive terms, the survival analyses indicate that, with all other variables in their means, civil wars that are fought irregularly last more than twice as much as

Table 1. Weibull Regression on Civil War Duration.

	M1 (TR)	M2 (TR)	M3 (TR)	M4 (TR)	M5 (PRIO)	M6 (PRIO)	M7 (PRIO)	M8 (PRIO)
Irregular	1.20***	0.85**	0.93***	0.87**	0.85***	0.82***	0.80***	0.75***
	(0.23)	(0.33)	(0.32)	(0.35)	(0.16)	(0.20)	(0.20)	(0.23)
SNC	0.83**	0.51	0.63	0.58	−0.12	−0.20	−0.19	−0.24
	(0.38)	(0.40)	(0.42)	(0.45)	(0.30)	(0.43)	(0.43)	(0.43)
(Conventional is base category)								
Post 1990		−0.55*	−0.33	−0.29		−0.32*	−0.32*	−0.37*
		(0.31)	(0.31)	(0.32)		(0.18)	(0.18)	(0.19)
Rough Terrain		0.039	0.11	0.16		0.14	0.13	0.060
		(0.10)	(0.098)	(0.099)		(0.093)	(0.093)	(0.10)
Population (Log)		0.078	0.11	0.077		−0.027	0.037	0.11
		(0.10)	(0.11)	(0.11)		(0.074)	(0.11)	(0.11)
GDP per capita		0.16	0.20*	0.29*		−0.0067	−0.0077	−0.014
		(0.13)	(0.12)	(0.15)		(0.042)	(0.043)	(0.044)
Oil exporter		−0.28	−0.13	−0.11		−0.38	−0.39	−0.48
		(0.39)	(0.36)	(0.35)		(0.27)	(0.27)	(0.30)
Ethnic fractionalization		0.84*	0.75*	0.56		0.30	0.17	0.28
		(0.46)	(0.41)	(0.49)		(0.45)	(0.48)	(0.51)
Democracy		0.12	0.14	0.12		0.0016	0.0016	0.00097
		(0.38)	(0.35)	(0.37)		(0.0033)	(0.0033)	(0.0033)
Military personnel			−0.000053	0.000014			−0.00025	−0.00030
			(0.000061)	(0.000070)			(0.00030)	(0.00025)
External Support for Government			0.53*	0.54*				
			(0.30)	(0.31)				
External Support for Rebels			0.78***	0.74**				
			(0.27)	(0.30)				

Western D. & Japan				−0.63				−0.97*
				(0.57)				(0.58)
Eastern Europe				−0.26				−0.11
				(0.50)				(0.42)
Asia (− Japan)				0.50				−0.46
				(0.48)				(0.45)
Sub-Saharan Africa				0.47				−0.31
				(0.48)				(0.49)
Latin America				0.23				0.11
				(0.54)				(0.51)
(MENA is base category)								
Constant	3.68***	2.55**	1.05	0.93	3.44***	3.35***	2.90***	2.63***
	(0.19)	(0.99)	(1.00)	(1.13)	(0.11)	(0.69)	(0.94)	(0.97)
ln_p								
Constant	−0.17***	−0.19***	−0.11*	−0.10	−0.0056	−0.00085	0.0021	0.031
	(0.061)	(0.068)	(0.068)	(0.070)	(0.053)	(0.059)	(0.059)	(0.054)
Observations	1,206	906	906	906	902	611	611	611

Note: TR = technologies of rebellion; PRIO = Peace Research Institute of Oslo; SNC = symmetric nonconventional; GDP = gross domestic product; MENA = Middle East and North Africa. Standard errors in parentheses.
*$p < .10$. **$p < .05$. ***$p < .01$.

Table 2. Average Battlefield Deaths per Month, by Type of Warfare.

	Conventional		Irregular		SNC	
Dataset	TR	PRIO100	TR	PRIO	TR	PRIO
Mean battle deaths/month	3,038.13	1,614.86	1,257.91	510,34	1,015.1	109.24
Standard deviation	(7,527.21)	(5,145.78)	(3,737.4)	(1,690)	(2,446.43)	(169.87)
Observations	36	121	53	757	9	24

Source: Lacina and Gleditsch (2005).
Note: SNC = symmetric nonconventional; TR = technologies of rebellion; PRIO = Peace Research Institute of Oslo.

conventional and SNC wars.[18] We do not, however, find that SNC conflicts last longer than conventional ones,[19] suggesting that the logic of symmetry possibly undermines the dynamics of attrition irrespective of the level of intensity in war fighting. It is important to stress here that the effect of technologies of rebellion is robust to the inclusion of the Cold War variable, as well as the external support variable (in Table 1), which suggests that their effect operates through two channels. One is indirect—historical and systemic (the end of the Cold War)—and the other is more direct (irregular conflicts are longer across historical periods).

We conclude that the technologies of rebellion are an important and robust variable in explaining the duration of civil wars and that the decline in irregular conflicts following the end of the Cold War is turning civil wars from seemingly "never-ending wars" (Hironaka 2005) into much more tractable conflicts.

Severity

To test Hypothesis 2, we use data on battlefield deaths collected by Lacina and Gleditsch (2005),[20] which include combatants and civilians killed by means of violence (vis-à-vis deaths in rioting, genocide, or one-sided violence).[21] Table 2 displays the average values of this variable by technology of rebellion, normalized by months of conflict, for the TR and the PRIO100 dataset, respectively.

Consistent with our expectations, in these descriptive tables, we find that conventional conflicts are the most lethal technology of rebellion (with an average, 3,038 deaths per month of conflict in the TR dataset and 1,615 in the PRIO100 dataset); they are followed by irregular civil wars (with 1,258 deaths in the TR dataset and 510 in the PRIO100 dataset) and SNC (1,015 deaths in the TR and 109 in the PRIO100 dataset).[22] We then estimate the determinants of battle deaths in a multivariate setting. Because this is a count variable, we use negative binomial models.[23] Again, we use the variable normalized on the duration of the conflict (deaths per month) because we are interested in the relative rather than the absolute lethality of conflicts, which is going to be largely shaped by duration. Table 3 displays the results. Models 1 through 3 are with the TR dataset, and models 4 through 6 are with the PRIO100 dataset. As before, a first model only includes the technologies of

Table 3. Negative Binomial on Battle Deaths/Month.

	M1 (TR)	M2 (TR)	M3 (TR)	M4 (PRIO)	M5 (PRIO)	M6 (PRIO)
Conventional	0.88	0.86**	0.90**	0.49	0.42*	0.53*
	(0.58)	(0.37)	(0.42)	(0.31)	(0.22)	(0.30)
SNC	−0.21	0.27	0.73	−1.60***	−0.28	−0.38
	(0.86)	(0.53)	(0.52)	(0.40)	(0.41)	(0.39)
(Irregular is base category)						
Population (Log)		0.15	0.13	0.055	0.20***	−0.038
		(0.10)	(0.13)	(0.066)	(0.054)	(0.071)
Democracy		−1.03**	−1.33***	−1.87***	−1.80***	−1.16***
		(0.46)	(0.48)	(0.28)	(0.19)	(0.19)
Oil exporter		0.58	0.16		0.34*	0.65***
		(0.38)	(0.47)		(0.20)	(0.24)
Ethnic fractionalization		−2.42***	−1.99***		−2.49***	−2.58***
		(0.64)	(0.66)		(0.41)	(0.42)
Rough terrain		0.0060	0.0060		0.12*	0.27***
		(0.0069)	(0.0074)		(0.068)	(0.083)
GDP per capita[a]		−0.15	−0.17		−0.15***	−0.10***
		(0.14)	(0.27)		(0.016)	(0.027)
External support for government		−0.52	−0.65*			
		(0.32)	(0.35)			
External support for rebels		0.89***	0.86**			
		(0.33)	(0.41)			
Post 1990		−0.66	−0.71		−0.56***	−0.48***
		(0.42)	(0.59)		(0.15)	(0.18)
Western D. & Japan			1.35			0.19
			(1.12)			(0.28)
E. Europe			−0.14			0.53
			(0.90)			(0.55)

(continued)

Table 3. (continued)

	M1 (TR)	M2 (TR)	M3 (TR)	M4 (PRIO)	M5 (PRIO)	M6 (PRIO)
Asia (− Japan)			0.077			1.48***
			(1.01)			(0.46)
Sub-Saharan Africa			−0.62			1.00*
			(0.95)			(0.53)
Latin America			−0.41			−0.27
			(0.75)			(0.30)
(MENA is base category)						
Constant	7.14***	6.35***	6.70***	6.29***	5.94***	6.70***
	(0.41)	(0.99)	(1.33)	(0.66)	(0.49)	(0.72)
ln alpha						
Constant	0.85***	0.36***	0.34***	0.82***	0.44***	0.36***
	(0.12)	(0.10)	(0.11)	(0.054)	(0.041)	(0.043)
Observations	98	92	84	631	573	573
Pseudo R^2	.005	.035	.040	.022	.049	.057

Note: TR = technologies of rebellion; PRIO = Peace Research Institute of Oslo; SNC = symmetric nonconventional; GDP = gross domestic product; MENA = Middle East and North Africa. Standard errors in parentheses.

[a]For the PRIO100 dataset, data are from Penn World Table 7 (thousands of 2005 int. $).

*$p < .10$. **$p < .05$. ***$p < .01$.

rebellion variable. In a second model, we include the control variables suggested by the literature: Population (in log), Democracy (lagged one year), Oil Exporter, Ethnic Fractionalization, Rough Terrain, and GDP per capita (Fearon and Laitin 2003). We also include a Post Cold War dummy and the dummies measuring external support for rebels and for states. We include the regional dummies in a third model.[24]

Models 2 and 3 in Table 3 indicate that conventional civil wars are more deadly on the battlefield, as compared to irregular ones, which matches our expectations. SNC is not statistically significant. These models also show a few more interesting patterns: democracy appears to reduce the level of battle deaths (consistent with Lacina [2006]), perhaps surprisingly ethnic fractionalization reduces battlefield severity, while (predictably) external support for rebels significantly increases it. In contrast, external support for governments seems to reduce battlefield severity of civil wars.

The results with the PRIO100 dataset remain consistent. Conventional wars are significantly more deadly in the battlefield as compared to irregular wars. Model 4 indicates that SNC conflicts are significantly less lethal than irregular, but this variable loses significance once we include the control variables in models 5 and 6. In these models, the end of the Cold War dummy is significant across models, indicating that civil wars were less deadly in the battlefield after 1990 (consistent with Lacina [2006]). Like before, this is likely to be at least partly capturing the effect of external support for rebels, which we cannot measure in the PRIO100 dataset.[25]

Civilian Victimization

In order to examine the intentional victimization of civilians, we use data from Melander, Öberg, and Hall (2009), who have compiled an indicator of civilians intentionally victimized in civil conflicts between 1956 and 2004. They built their dataset on top of the UCDP/PRIO dataset, which allows us to merge their data with our PRIO100 dataset in order to test whether technologies of rebellion have an impact on civilian victimization.[26] Their indicator is called genocide/politicide, as defined and coded by the State Failure project. It is very broad and includes selective and indiscriminate (as well as direct and indirect) forms of violence: "massacres, unrestrained bombing and shelling of civilian-inhabited areas, declaration of free-fire zones, starvation by prolonged interdiction of food supplies, forced expulsion ('ethnic cleansing') accompanied by extreme privation and killings" (Marshall et al. 2006, 15, cited in Melander, Öberg, and Hall 2009, 516). The index goes from 0 to 5, and it captures the degree of intentional victimization of unarmed civilians in conflict. Hence, violence against combatants is excluded. We transform the victimization variable into a three-category ordinal variable and run an ordinal logit, and the results are displayed in Table 4.[27] As before, we run three different models with different set of control variables each.

Table 4. Ordinal Logit on Intentional Victimization of Civilians (1956–2004; PRIO100 Dataset).

	M1	M2	M3
Conventional	−0.48**	−0.72**	−0.93***
	(0.20)	(0.29)	(0.34)
SNC	−0.88*	−1.33*	−1.43
	(0.48)	(0.78)	(0.91)
(Irregular is base category)			
Population (Log)		−0.13	−0.23**
		(0.097)	(0.11)
Democracy		−0.32	−0.21
		(0.36)	(0.38)
Oil exporter		1.33***	1.57***
		(0.28)	(0.29)
Ethnic fractionalization		−0.083	0.28
		(0.46)	(0.52)
Rough terrain		0.24**	0.21*
		(0.098)	(0.11)
GDP per capita[a]		−0.51***	−0.64***
		(0.10)	(0.15)
Post 1990		−1.26***	−1.60***
		(0.28)	(0.34)
Western D. & Japan			4.13***
			(0.78)
E. Europe			3.14***
			(0.57)
Asia (− Japan)			0.94*
			(0.56)
Sub-Saharan Africa			0.58
			(0.58)
Latin America			1.12**
			(0.51)
(MENA is base category)			
Constant	0.20***	−1.14	−1.28
	(0.070)	(0.86)	(1.18)
cut2			
Constant	0.50***	−0.44	−0.53
	(0.071)	(0.86)	(1.19)
Observations	979	624	624
Pseudo R^2	.005	.157	.200

Note: SNC = symmetric nonconventional; MENA = Middle East and North Africa. Standard errors in parentheses.

[a]Data are from Penn World Table 7 (thousands of 2005 int. $).

*$p < .10$. **$p < .05$. ***$p < .01$.

The results in Table 4 indicate that irregular wars (the base category) are significantly more harmful to civilians compared to the other two types, which have negative and significant coefficients across the models. Interestingly, in models 2 and 3,

we observe that the end of the Cold War has a negative effect on civilian victimization, which goes against the idea that "new wars" are more harmful to civilians. Also, civil wars in poorer countries, oil exporter, and countries with rough terrain are more likely to lead to high levels of civilian victimization. Interestingly, democracy has no effect in this case (in contrast with battlefield violence).[28] Setting all the variables in model 3 at their sample means, the probability of high levels of civilian victimization is 12 percent for irregular wars, while it is 5 percent for conventional wars and 3 percent for SNC wars.

In short, we are able to confirm our hypothesis that irregular wars are most likely the "dirtiest" civil wars of all, targeting civilians and causing extensive humanitarian damage. Our findings are consistent with an understanding of irregular wars as being uniquely dependent on the behavior of civilians (Kalyvas 2006). They also suggest that despite all their apocalyptic iconography, post–Cold War civil wars are not necessarily more violent vis-à-vis the civilian population compared to their predecessors. If anything, they appear to be less so.

Civil War Outcomes

Observers have noted a striking change in the patterns of civil war termination following the end of the Cold War. In earlier periods, civil wars were more likely to end in a decisive way, with military victory for incumbents (Walter 1997); in the 1990s and onward, however, negotiated settlements have become much more common (Toft 2010). At the same time, the last decade has witnessed a progressive increase in incumbent victories, apparently reversing a trend favoring rebel actors. The technologies of rebellion framework helps us make sense of these diverse trends. Figure 2 shows the relationship between Technologies of Rebellion (at the year of the end of the conflict) and civil war outcomes (coded as Incumbent Victory, Draw, and Rebel Victory), with both the TR and the PRIO100 datasets.

Both graphs in Figure 2 suggest that irregular conflicts are much more likely to be won by incumbents compared to the other two types of conflict; furthermore, rebels face the best odds in conventional civil wars. Indeed, in the TR dataset, 66 percent of irregular wars are won by incumbents, while only 11 percent of irregular wars are won by the rebels, and 22 percent end in draws. In contrast, about 40 percent of conventional conflicts end with an incumbent defeat, while 38 percent end in incumbent victory. It is also interesting to note that SNC conflicts are the ones most likely to end in draws: 50 percent of them do. These patterns are confirmed by the PRIO100 data and are largely consistent with the evolution of civil wars following the end of the Cold War, as the rise in negotiated settlements appears to correspond to the rise of SNC conflicts. Likewise, the conventional conflicts of the 1990s appear to have worked much more in favor of the incumbents than in the past.

To further explore these trends, we run a set of logistic regressions to test the impact of technologies of rebellion on civil war outcomes. Using the TR dataset, in Table 5, we present the results of three binomial logit regressions with each of the

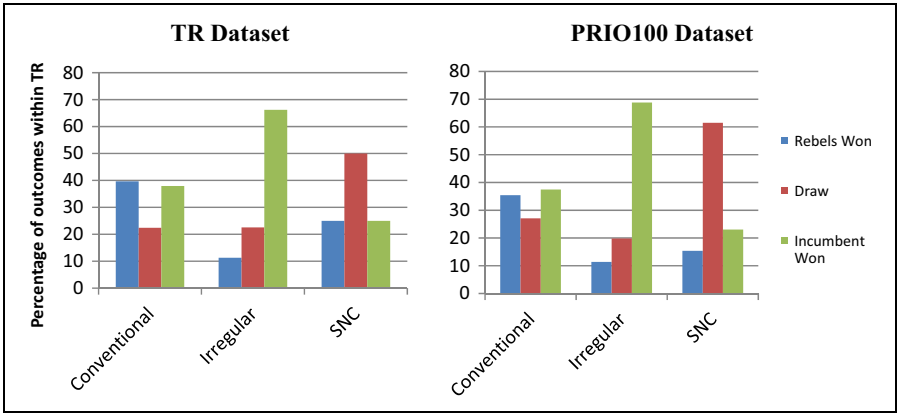

Figure 2. Technologies of rebellion and civil war outcomes TR dataset PRIO100 dataset.

outcomes coded as a dummy variable (thus, the baseline in this case is the sum of the two remaining categories).[29] As before, in addition to the technologies of rebellion (conventional and SNC, irregular is the base category), we include a set of controls (the usual suspects, including External support and duration in months—in the TR dataset—and a post-1990 dummy).[30]

In Table 5, we see that, compared to irregular conflicts, conventional conflicts generate fewer incumbent victories and more rebel victories. This result is robust to the inclusion of the post-1990 dummy, which indicates that the effect of TR is independent of the changes in the international environment associated with the end of the Cold War. In fact, the end of the Cold War has a negative impact on incumbent victories and a positive impact on rebel victories and draws, suggesting an additional (and overlooked) dimension of how the Cold War was "won" by the West. Interestingly, in Table 5, we observe that external support does not have an impact on outcomes.[31]

The results for outcomes are less robust when we use the PRIO100 dataset. In the binomial logit specification (Table 6), we find that TR are only significant for incumbent victories, which are less likely in the case of conventional wars compared to the other types of conflicts. The multinomial logit specification (Table A6 of the Online Appendix) provides similar results (i.e., conventional civil wars more likely to be won by rebels), but they again are not robust across specifications.

Overall, the effect of the technologies of rebellion on civil war outcomes is less robust compared to the effects observed on our other dependent variables. In particular, these results are more sensitive to the use of two different datasets.[32] In general terms, we find that incumbents fighting symmetric (conventional and SNC) wars are more vulnerable to either defeat or some kind of concessions compared to incumbents fighting asymmetric (irregular) wars, a finding that supports an interpretation of the outcomes of civil conflicts as being a function of the relative military capacity of the rival sides.[33]

Table 5. Binomial Logits on Outcomes (TR Dataset).

	Incumbent won	Draw	Rebels won
Conventional (end year)	−1.12**	−0.057	1.40**
	(0.49)	(0.57)	(0.59)
SNC (end year)	−1.19	1.21	0.11
	(0.92)	(0.79)	(0.93)
(Irregular is base category)			
New State	0.62	−0.066	−0.37
	(0.65)	(0.76)	(0.56)
Duration (months)	−0.0093**	0.0079***	0.00036
	(0.0038)	(0.0029)	(0.0036)
Oil exporter	1.66**	−1.02	−0.50
	(0.77)	(0.89)	(0.75)
Ethnic fractionalization	0.23	0.31	−0.38
	(0.81)	(0.91)	(0.89)
Democracy	0.60	−0.35	−0.56
	(0.53)	(0.56)	(0.73)
Rough terrain	−0.000037	0.00083	−0.0015
	(0.0022)	(0.0011)	(0.0011)
Population (Log)	0.46*	−0.44*	−0.056
	(0.25)	(0.24)	(0.19)
GDP per capita	0.0089	−0.037	−0.12
	(0.20)	(0.28)	(0.18)
External support for governments	0.084	0.32	−0.77
	(0.67)	(0.70)	(0.52)
External support for rebels	−0.57	0.080	0.85
	(0.44)	(0.45)	(0.61)
Post 1990	−2.31***	0.79	1.23**
	(0.79)	(0.63)	(0.55)
Constant	−2.79	1.74	−1.16
	(2.13)	(2.15)	(2.09)
Observations	131	131	131
Pseudo R^2	.316	.204	.188

Note: TR = technologies of rebellion; SNC = symmetric nonconventional; GDP = gross domestic product. Standard errors in parentheses.
*p < .10. **p < .05. ***p < .01.

Despite their relative weakness, these findings are theoretically suggestive because they challenge what is perhaps the fulcrum of counterinsurgency studies: the insight that irregular wars are ideally suited to rebels, constituting the supreme weapon of the weak, and conversely, the Achilles' heel of states, setting a very high barrier for them to overcome (Nagl 2005; Polk 2007; The U.S. Army/Marine Corps 2007; Kilcullen 2010)—indeed, one that has become harder for states over time (Lyall and Wilson 2009). In contrast, our findings suggest that irregular wars may actually be much closer to terrorist campaigns than previously thought, insofar as

Table 6. Binomial Logits on Outcomes (PRIO100).

	Incumbent won	Draw	Rebels won
Conventional	−1.09**	0.47	0.91
	(0.54)	(0.56)	(0.57)
SNC	−0.88	1.29	−0.67
	(0.77)	(0.79)	(1.28)
(Irregular is base category)			
New State	−0.37	−0.69	0.91
	(0.99)	(1.40)	(0.98)
Oil exporter	0.52	−0.79	0.23
	(0.56)	(0.71)	(0.65)
Ethnic fract	0.95	0.64	−1.84**
	(0.84)	(0.94)	(0.92)
Democracy	0.93*	−0.23	−1.90
	(0.55)	(0.60)	(1.18)
Rough terrain	0.21	−0.13	−0.090
	(0.17)	(0.17)	(0.20)
Population (Log)	0.083	−0.18	0.029
	(0.14)	(0.18)	(0.19)
GDP per capita[a]	−0.011	0.077	−0.11
	(0.052)	(0.052)	(0.082)
Post 1990	−0.55	0.58	0.059
	(0.43)	(0.45)	(0.53)
Constant	−1.37	−0.032	−0.20
	(1.35)	(1.54)	(1.90)
Observations	130	130	130
Pseudo R^2	.111	.093	.143

Note: PRIO = Peace Research Institute of Oslo; SNC = symmetric nonconventional; GDP = gross domestic product. Standard errors in parentheses.
[a]Data are from Penn World table 7 (thousands of 2005 int. $).
*$p < .10$. **$p < .05$. ***$p < .01$.

they are comparably prone to produce rebel defeats. From this perspective, it appears that the perception of irregular war a type of conflict particularly likely to produce rebel victories is a flawed generalization derived from a combination of influential early theorizing (E. T. Lawrence), a comparison with pre–World War II (WWII) counterinsurgencies that favored almost always the state and the outsize visibility of a few prominent and widely publicized post-WWII cases such as China, Cuba, or Vietnam.

Conclusion

Our analysis makes several contributions to the study of civil war. First, we confirm the relevance of technologies of rebellion as an omitted variable that could be gainfully incorporated into the study of civil wars. By conceptualizing civil wars as military contests, capturing the type of interaction between rebels and states in a

simple way, and subsuming several dimensions of civil war often approached in isolation of each other, we show how the technology of rebellion improves our understanding of several dependent variables of the literature on civil wars: duration, battlefield severity, civilian victimization, and war outcomes. In some cases, technologies of rebellion play a significant role along other variables, and in others, they are capable of subsuming previous findings and shed light on how to interpret them. Altogether, technologies of rebellion supply a new and valuable angle from which to approach civil conflicts.

Second, technologies of rebellion provide us with a useful handle for anticipating the possible evolution of civil conflict in the near future. If our analysis is correct, it would suggest a world in which civil wars are becoming shorter, more intense, yet less victimizing vis-à-vis civilians compared to the past; although they are less likely to be biased toward the status quo compared to the past, civil wars are also more likely to end with some kind of compromise. All these factors should enhance the ability of international actors to intervene in some productive capacity (Doyle and Sambanis 2006)—and provide additional insight about why they are increasingly able to do so. To put it in a different and more forceful way, civil wars look increasingly less like the "forever wars" and "endless quagmires" we have long been accustomed to depict. Two implications follow: On one hand, governments appear to be losing the overwhelming advantage they used to enjoy vis-à-vis rebels in the past, because irregular wars (and the related huge incumbency advantage) have declined; instead, these days, states fighting civil wars are weaker compared to the past (Kalyvas and Balcells 2010). On the other hand, however, the rise of conventional and SNC wars is associated with more draws between governments and rebels, which provides an additional (or alternative) explanation for the observed success of negotiated agreements in the post–Cold War period.

Third, our analysis opens novel avenues for further theoretical development based on the cross-fertilization of the micro and macro research programs. To begin with, we can draw scope conditions for some of the recent findings in the literature. For instance, Mueller's (2000, 139) observation that ethnic wars are the realm of undisciplined thugs who are no match for the professional armed forces of developed countries—an observation that has been frequently and effectively critiqued (Cederman, Gleditsch, and Buhaug 2013, 223), could be rescued if recast as a claim applicable mainly to SNC wars. The same could be said about insights about the gratuitous nature of extreme violence, including rape (Kaldor 2006; Weinstein 2007; Cohen 2010), which could also apply primarily to SNC wars rather than all civil wars in general. Likewise, leading debates, such as the one positing a dichotomy between "greed" and "grievance" could also be revisited once technologies of rebellion with their distinct characteristics are brought into the picture. In a similar vein, our analysis opens up several avenues for further research, including the social profile of armed groups under the three technologies of rebellion, as well as the type of governing institutions and recruitment practices they setup. It would be interesting, for instance, to examine whether the relationship between the reliance of

natural resources to finance a war and the behavior of rebel groups is contingent on the technology of rebellion.

Fourth, by combining our findings on duration and outcomes, we can dismiss (but also explain) the widespread perception of irregular wars as an effective rebel weapon. In fact, this perception blends two dimensions: "quagmire" (on the duration side) and "ideal weapon of the weak" (on the outcome side). We find that irregular wars are indeed quagmires in terms of their duration, but they tend to fail to produce significant rebel victories; perhaps, the perception about their effectiveness on behalf of the rebels has been shaped by the reality of their long duration more than by their outcomes.

Finally, our analysis contributes to a deeper understanding of how civil wars may affect societies and states. As Tilly (1992) famously quipped, wars make states. Our analysis suggests how civil wars may fit into this perspective. On one hand, by erupting in countries with relatively stronger states, which they challenge by means of peripheral state building, irregular wars may serve to (perversely, from the rebel perspective) reinforce ultimately the states they challenge. On the other hand, conventional and especially SNC wars tend to challenge states that are already weak or are on the cusp of failing: hence, they degrade them further, consistent with Herbst's (2000) insights. In other words, Tilly's intuition about wars between states may travel to wars within states, but only if these wars are fought by means of a specific technology of rebellion: irregular warfare.

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Notes

1. This typology yields a fourth category of conflict: successful military coups (Kalyvas and Balcells 2010). This type emerges when rebels are able to outmatch governments in terms of military capacity. While these coups may generate significant fatalities and are often followed by waves of state repression (e.g., Chile 1973–1975), they fall short of wars.

2. During the Cold War, 66.34 percent of all major civil wars were irregular; after 1991, 47.83 percent of major civil wars were fought conventionally and 26.09 percent were SNC wars; only 26.09 percent were irregular wars (Kalyvas and Balcells 2010, 9)
3. Note here that technologies of rebellion capture two dimensions: the relative capabilities of each side and the type of interaction between them; hence, they cannot be operationalized just as relative capabilities.
4. See Kalyvas and Balcells (2010) for a description of the adjustments.
5. From the original UCDP/PRIO dataset (Gleditsch et al. 2002), we selected only those cases with over 100 deaths/year because the technologies of rebellion framework does not apply to small-scale conflicts (e.g., those generating less than 100 deaths per year). To generate this selection, we used version 2009-4 of the UCDP/PRIO dataset, which includes conflicts from 1946 to 2008, supplemented by the battle deaths data in Lacina and Gleditsch (2005). We exclude interstate armed conflicts but not anticolonial wars (e.g., Algeria 1954–1962). To be consistent with our theory, we took out cases of failed coups that generated over 100 casualties (although we include coups in an alternative coding used in robustness checks). More details are included in the Online Appendix.
6. The coding rules are listed in the Online Appendix. The codebooks of the two datasets are available at the corresponding author's website (www.laiabalcells.com).
7. For those cases not included in Sambanis or for which Sambanis did not include an end date, we have coded the end date following this author's criteria (Sambanis 2004, 830).
8. When PRIO does not explicitly mark the end date for the episode, we code the episode as ended if there is no conflict entering the dataset in the subsequent year and there is not a relapse of the same conflict in subsequent years. (When we do not have a precise date of finalization, we follow the coding rules in the UCDP/PRIO dataset and code it as ending the last day of the year.) If there is a relapse, we code as the end of the conflict only the final year in which the conflict ends. Among the total of 903 conflict years covered in the dataset, we compute at total of 212 conflict terminations. In alternative specifications, we have run the analyses considering that the war ends if there is a gap in conflict/years in a country; in other words, if there are years in which the conflict does not reach the 100 deaths threshold. Following this procedure, we code 220 terminations. The results with the alternative coding of duration are overall consistent. Details on the coding of the different specifications are included in the Online Appendix.
9. As shown in Table A2 of the Online Appendix, civil wars that start with a coup (as coded in Fearon [2004]) are more likely to lead to conventional civil wars.
10. Note that we are not considering combat effectiveness, which is usually measured as battle deaths over total combatants. We thank Joseph Grieco for this caveat.
11. If we use the estimated mean approach in Stata, which provides estimates for those conflicts that have not ended, the results we obtain are slightly different, although the patterns remain the same. The total average civil war duration is 103 months; the mean is 140 months for irregular wars, 99 months for SNC, and 44 months for conventional wars.
12. The duration graph for the PRIO100 dataset displays a very similar pattern and is included in the Online Appendix (Figure A2).

13. Despite a likely correlation between this variable and technologies of rebellion (Kalyvas and Balcells 2010), this allows to capture potential unobservables before and after the end of the Cold War (e.g., international mediation). We have run the analyses without this dummy and the results are consistent.
14. For the TR dataset, we have coded external support ourselves, with the aid of research assistants. We have taken into account military, financial, and ideological support and have used an ordinal scale (none, low, medium, and high), but we include this variable as a dummy in our analysis: 0 if the rebels/government receive no support or low support and 1 if they receive medium and high levels of support. The codebook of the external support variable is included in the Online Appendix. Unfortunately, we do not have data on external support for the PRIO100 dataset.
15. We have also run robustness checks with ethnic war (Sambanis 2004) as a control variable. This variable does not have any effect on duration, and the results do not change.
16. For the analyses with the PRIO100 dataset, we use Maddison's (2008) thousands of 1990 international $, or Penn World Tables 7 (Heston, Summers, and Aten 2011), interchangeably. Here, we use the former because it minimizes the number of missing cases. We also run the same regressions with Fearon and Laitin's (2003) GDP per capita, which we have expanded to 2008 with World Bank data. The results are broadly consistent with the three measures of income and they are available upon request.
17. The only exception is the dummy for Western Democracies and Japan, which indicates that civil wars in this region are significantly shorter than those taking place in the MENA.
18. For example, with the TR dataset, the time ratio of the variable Irregular takes values 2.5 (M3) and 2.38 (M4). In the analyses with the PRIO100 dataset, the time ratio for Irregular is 2.21 (M7) and 2.11 (M8). This indicates that these wars last at least two times longer than the base category (conventional). And the results are similar if we compare irregular to SNC (for example with the PRIO100 dataset, if we run the analyses with irregular as the base category, the time ratio for SNC wars is 0.34 [M6], 0.35 [M7], 0.36 [M8]).
19. The results with the PRIO100 suggest that SNC wars are shorter compared to conventional wars. However, the duration differences between these two types are not statistically significant.
20. The "Battle Deaths Dataset" version 3.0 extends their original 2005 dataset to 2008.
21. This variable takes a minimum value of 50 (for the case of Djibouti 1991), a maximum value of 2,097,705 (for the case of Vietnam 1960–1975), and a mean of 70,329. We have data on battle deaths for only ninety-eight cases in our sample of 147 civil wars. The missing cases are distributed the following way: fourteen conventional wars (or 28.5 percent of the total), twenty-six irregular wars (or 33.3 percent), and nine SNC wars (or 45 percent). We do not think that there is any systematic bias in these data; in other words, that the data in one type of conflict are systematically more reliable than in others.
22. The reason why the figures are lower in the PRIO100 dataset is because this dataset has a lower battlefield threshold.
23. We run robustness checks with ordinary least squares on the log of the total number of deaths, following Lacina (2006). The results are available upon request.

24. We have also included Ethnic War (Sambanis 2004) in a set of robustness checks. Our results do not change.
25. This table also provides significant results for control variables such as Democracy, Population, Per capita income (negative), Oil and Rough Terrain (with a positive effect), and Ethnic Fractionalization and GDP per capita (with a negative effect). The Asia and sub-Saharan Africa dummies also take a positive sign.
26. Unfortunately, we cannot merge their data with our TR dataset because there are too many mismatches between these two datasets.
27. We give value 0 (no victimization) to their 0 value, value 1 (medium victimization) to their values 1 and 2, and value 3 (high victimization) to their values 3, 4, and 5. We run robustness checks with the original five-category variable and the results are consistent. See Table A10 of the Online Appendix.
28. The regional dummies indicate that, except for sub-Saharan Africa, civil wars in all regions are more violent against civilians than in the Middle East and North Africa.
29. In Table A5 of the Appendix, we present the result of a multinomial logit on the categorical dependent variable Outcomes (Rebels Won, Draw, and Incumbent Won).
30. In order to explore the impact of TR on outcomes, it makes sense to look at the TR at the end of the war rather than the TR at its onset. Thus, here, we include the TR coded at the end of the war for the main analyses, and we run the analyses with the TR at the onset in robustness checks. There are only twelve cases which TR changes during the war (listed in Table A1 of the Online Appendix). Also, we include New State as a control for outcomes as newer are more fragile states which might be less likely to defeat rebellions. As before, we include Ethnic War in robustness checks: this variable is not significant and does not change our results.
31. In the multinomial specification in Table A5 of the Appendix, external support for rebels does have a positive significant impact on rebel victory.
32. We agree with Sambanis (2004) that the best empirical tests involve the use of different datasets, which also sets a high bar.
33. In Tables A3 and A7 of the Online Appendix, we test the effect of symmetric vis-à-vis non symmetric war. The results, which are again more significant for the TR dataset than for the PRIO100 dataset, indicate that symmetric wars are more favorable to rebels than asymmetric ones. Also, when we include Draw and Insurgent Victory under the same category (i.e., building a dummy distinguishing incumbent victories from other outcomes), we observe that SNC and conventional wars are more likely to lead to concessions to rebels. See Tables A4 and A8 of the Online Appendix.

Supplemental Material

The online appendix is available at http://jcr.sagepub.com/supplemental.

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