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Measuring the Societal Impact of War

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War is perhaps the most distinctive, dramatic, documented, and studied phenomenon in the social sciences, yet it remains one of the most problematic concepts to quantify and compare, rivaling the concept of the "state" in its capacity to confound analysis. In order to better understand the problem of warfare from a systemic perspective, so that systemic conflict management and prevention strategies may be better designed, implemented, and evaluated, it is necessary to develop measures of the societal and systemic impact of warfare that can better inform analyses of social conflict and political violence at the global level. The conventional analysis of warfare that evolved during the era of state-centric internationalism unduly prioritizes state sovereignty, military strategy, and international anarchy in its preoccupation with issues of national security. These priorities are clearly inadequate for defining security analysis in the emerging era of globalization.

The contemporary period has been characterized mainly by protracted civil warfare, intense humanitarian crises, and regional disorder; outbreaks of classic interstate warfare have largely been avoided. Strategies for increasing global security in this century must take into account the full range of effects of episodes of warfare on individuals, local societies, regional communities, and the world system. The success of global security policies will be evaluated not by measuring individual successes and failures but by a systematic assessment of net systemic gains and losses in terms of human security concerns and global resources expended. Global conflict management demands answers to the questions: Is there more or less warfare in the world today than yesterday? Is global human security improving or deteriorating? Who and where are the winners and the losers under the current policies?

Under the tenets of conventional security analysis, few attempts were made to measure the general societal and systemic impact of warfare (Lewis Richardson made a notable, early attempt).[1] Tabulations of military victories, threats, and defeats were compiled individually by states under the conditions of global anarchy, but the world system is much more than simply a sum of its parts and cannot be adequately assessed from a particularistic perspective. A global organization that could apply a broader perspective to common concerns was envisioned. Although charged at its inception with "maintaining international peace and security," the United Nations (UN) was largely precluded from developing a proactive global conflict management system by the predominance of the state-centric Cold War between rival superpowers. The fortuitous end of the Cold War has reinvigorated the impetus to globalization and reinfused the need for a global perspective on human security.

This chapter proposes and applies a measurement scheme to major episodes of political violence in the contemporary era, 1946–1999, to facilitate assessment of progress toward greater global security. The study presents an elaboration and update of ideas and research originally published by the author in the book *Third World War*.[2] The first section explains the impact of warfare (or warfare magnitude) measurement scheme for individual episodes of warfare, that is, the societal impact of warfare. The second section uses the warfare measures to compile and examine global warfare trends; special attention is given to the controversies surrounding perceptions of Cold War and post–Cold War trends in warfare. The global aggregation of the number and magnitude of societal warfare effects gives us a sense of the more general, systemic impact of warfare and how the problem of warfare affects the further development of an effective, global conflict management and prevention regime. The third section focuses on an assessment of the current trend in global warfare and examines the claims by some researchers that the observed, substantial decrease in global warfare levels and events since the end of the Cold War has been reversed in the late 1990s and that warfare is increasing once again. The final section provides concluding remarks.

Measuring the Societal Effects of Warfare

The conventional measures used to capture the magnitude of warfare for application in quantitative analysis typically include an event count (identifying individual actors), a duration count (a time span usually measured in months or years), and some form of casualty count directly associated with fighting among organized combatant groups (battle deaths, battle-related deaths, or total deaths). The resulting figures appear to be comparable

across cases (as actors, time, and violent death comprise the most distinguishing, common, and fundamental traits of warfare), but their implied precision is in most cases little more than an illusion, especially when used in combination. Although the identification of an event, the relevant actors, and its duration are by far the least controversial measures applied to the study of warfare phenomena, even these attributes are not immune to measurement errors. These types of measurement errors and an alternative measurement scheme will be discussed below.

A related issue concerns the categorization of warfare events according to actors, actor types, and relational status (e.g., distinguishing interstate events from intrastate or systemic events, ethnic wars from revolutionary wars, terrorism from genocide, etc.). These distinctions inject nuanced meanings to the analysis of warfare that shift the focus away from generalizations concerning warfare's effects on societies toward more particular, specialized foci on means, methods, and the changing nature of relationships (i.e., applied technologies of warfare). These issues have been the subject of an earlier study and will not be repeated here.[3] The measurement of a warfare event's time span is, perhaps, the least problematic of the conventional measures of a warfare episode, yet the identification of an event's beginning and ending point is not without controversy. Episodes often escalate and deescalate incrementally over time, and the intensity of the interaction fluctuates substantially over its course. Analysts very often disagree over the date, even the year, that pinpoints the outbreak and termination of war. Disagreement also surrounds the significance and method of accounting for variations in intensity over time: how does it matter that there are lulls and flurries, escalations and shifting locations, sustained and erratic conduct by the opposing forces? What is of particular concern in this regard is the measurement of the magnitude of a warfare event: the death count. Estimates of warfare death counts vary wildly, as such counts are often purely speculative and always political.

Death counts are the least accurate and least reliable measure of the impact of warfare. The intensive analysis of warfare based, in whole or in part, on this measure is fundamentally flawed on this account. Few cases provide accurate, reliable, and comprehensive body counts of combatants, and in most cases the incentives to distort such reports are enormous. The deaths measurement is most often little more than a rough estimate of the intensity, duration, and course of warfare based on observations and evaluations of the event with only the most rudimentary, comparative perspective. And the death of combatants, although important to military-strategic analysis, is arguably the least problematic and least enduring effect of warfare for the larger societies consumed by these events. By far, the overwhelming majority of the victims of warfare are those directly and indirectly affected by the far-reaching ravages of warfare, short of outrageous

death. War ends abruptly for the dead but gains immortality in the disturbed minds of the survivors. A simple accounting of the dead trivializes and distorts war's impact on societal systems, violates statistical assumptions, and does a grave injustice to the full, humanistic analysis of war.

There have been few attempts to quantify the full range of event-related casualties among combatants and noncombatants, even though that measure can be argued to contain a quality of the broadest and most enduring effect of warfare, that is, its meta-effect on normal social dynamics and societal systems. Our greatest insight into the full spectrum of warfare's ravages comes from accounts of World War II, but few events since that catastrophe have been recorded in such open, broad, and vivid detail. Casualties among noncombatants have not been systematically counted and so are rarely included in quantitative analyses. War has both direct and indirect effects on the living as well as the dead; injuries to human agents and damage to social structures may not be remedied for many years after the actual battles have ceased; some effects are even considered generational, as they cannot be fully remedied for the individuals so afflicted.

Some recent studies have examined and attempted to quantify a much wider range of the effects of warfare on societies and systems. Researchers at Saferworld have attempted to calculate the true cost of conflict by examining a broader range of war externalities and applying cost-benefit analysis to several contemporary warfare events.[4] In that groundbreaking treatment, researchers examined the negative impact of war on various aspects of societal development, civil and political rights, and the economy of affected states and involved third parties. Michael Brown and Richard Rosecrance applied similar analysis and accounting techniques to examine systemic responses to warfare events.[5] They focused their analyses of the costs of conflict on the costs to outside powers in order to press their concern for prioritizing conflict prevention strategy alternatives over conflict reaction alternatives to systemic (or third-party) conflict management techniques. Brown and Rosecrance examined five general, categorical effects on outside parties: refugee costs; direct economic costs and economic opportunity costs; military costs; instability costs; and the costs of international peacekeeping operations.

Both studies provide thought-provoking rather than systematic analysis; both studies make strong contributions by revealing the importance of expanding the scope of inquiry and revealing the enormity and complexity of comprehensive cost accounting in assessing the rationality of societal warfare and systemic conflict management. However, systematic compilation and measurement of these broad societal and systemic effects remains an abstract and challenging goal. And even if such a precise and comprehensive measure could be developed, it could not be readily applied to historical cases. Yet the importance of this information is crucial to a full com-

prehension and accounting of war and the establishment of appropriate systemic priorities and policies.

In order to overcome the problems associated with quantitative analysis of poorly measured social phenomena, such as warfare events, this study has undertaken an extensive analysis, comprising both theoretical and empirical components, that establishes patterns of corroborating evidence for effects and trends. Applying this methodology to the study and measurement of warfare requires the consideration of the full range of known conditions and effects in the assessment of the magnitude of warfare events. Among the societal effects that must be considered in such an assessment are the following:

- *Human resources:* direct deaths (combatant and noncombatant); indirect deaths (e.g., from collateral fire, induced famines and droughts, epidemics, medical shortages); direct injuries (both physical and psychological, permanent and temporary); indirect injuries (e.g., crime and victimization, experiential trauma, grief, diminished health and capabilities, increased insecurity); sexual crimes and intimidation (e.g., rape, prostitution, child molestation, gender domination).
- *Population dislocations:* costs, traumas, inefficiencies, and indirect effects associated with the displacement, whether for personal safety, logistic, predatory, retaliatory, or strategic policy considerations, of large numbers of domiciled people, either within the parameters of the affected society (e.g., internally displaced, forcibly relocated, or sequestered persons) or across societal borders (e.g., refugees, asylum-seekers, emigrants). The practice commonly known as "ethnic cleansing" contains elements of both as group boundaries are redrawn by conflict.
- *Societal networks:* damage and distortions to the fragile fabric of interpersonal associations and the disintegration of relationships and identities based on amity, trust, exchange, mutual benefit, comity, reciprocity, and deferred gratification; relations necessary for the proper and effective functioning of normative systems (social cooperation, cohesion, coherence, and coordination in politico-legal, economic, professional, and sociocultural subsystems).
- *Environmental quality:* direct and indirect damage and destruction to general ecosystem; use or release of explosive, corrosive, and devegetative chemical compounds and mechanical devices that limit utilization of agricultural resources, foul surface and subterranean water resources, pollute atmosphere, disseminate toxic substances and hidden explosive devices, and destroy wildlife and habitats.
- *Infrastructure damage and resource diversions:* direct damage, destruction, and overconsumption of material and mechanical infrastructure, resources, and surpluses such as production facilities, storage, trans-

port networks, vehicles, water supplies, croplands, food, medical supplies, and the like; indirect damage to the society's resource and infrastructure bases (opportunity costs) through the official diversion of resources and funding to the war effort and away from infrastructure construction and maintenance and the provision of social services and unofficial diversions to illicit trade in tangible, transportable commodities such as drugs, gold and diamonds, labor and sex, weapons, art and treasures, and the like.

- *Diminished quality of life and nonreciprocal resource transfers:* tangible and intangible losses (both short- and long-term) associated with general deterioration in the immediate, aesthetic quality of life, access to basic needs, and future prospects in affected societies; humanitarian crises; capital outflows (e.g., "brain drain," "capital flight"); devaluation and unequal terms of exchange; lack of investment and exchange; losses in human potential due to lowered self-esteem and lowered expectations, self-destructive behaviors, alienation and introversion, and within-group factionalization and victimization.

Unfortunately, few of the effects listed above are systematically measured or consistently recorded outside the contemporary *zone of peace*—that is, the thirty advanced industrial economy states in which, during the period 1946 to present, almost *no* major armed conflict has been located and so contribute few, if any, data points to the analysis of warfare. The measurement principle thus has to be consistent with the known level of imprecision inherent in the factors included in the measurement. Benchmarks can be located in estimates of forces available or committed (e.g., national material capabilities, military personnel and expenditures, troop strength), territorial size of the area of operations, casualties, refugees, and internally displaced or relocated persons. Figures for these items are commonly generated for strategic policy, academic, and journalistic purposes. Equally important in the full assessment of war magnitudes are the more numerous narrative accounts and case studies (academic, journalistic, and literary), as the communication and information media are more amenable to reporting complex and case-specific effects, although those sources lack the comparable systematic treatment of the more general quantitative studies.

A ten-point categorical measurement scale of war magnitude and its impact on societal systems was developed and applied to major episodes of political violence for the period 1946–1999.[6] Assessments have been made and scale values have been assigned for all states directly affected by major episodes of violence and destruction (the indirect, mediated effects on societal systems resulting from their leaders' decision to intervene in warfare events taking place in remote societies are not included). The coded values have been compiled and recorded in a data set for comparative analysis across time, place, and typologies of warfare (e.g., interstate warfare, wars

of independence, civil warfare, ethnic warfare, genocide). The data can be aggregated annually for presentation in a series of global and regional warfare trend graphs and used for assessing global, regional, and local contexts and their effects in quantitative conflict research (i.e., event interdependence and the quality of "neighborhoods"). The data also can be used in assessing systemic trends in conflict management.

The scale is roughly logarithmic, and the orders of magnitude can be considered a ratio scale for analytic purposes. Warfare, like most human collective endeavors, exhibits economies of scale at the greater magnitudes; whereas long-term social costs of providing security and attendant damage to societal networks and human capabilities are strongly affected at the lower magnitudes, immediate effects such as deaths, dislocations, and physical damage increase dramatically at higher magnitudes. In holistic terms, warfare's effects on societal systems are additive: two category 03 events are roughly equivalent to one category 06 event, and thus the values can be aggregated and compared in meaningful ways. In order to establish and maintain confidence and consistency in the assignment of comparative measures for complex social phenomena, both general and specific qualities and combinations must be taken into account, including an event's duration, or time span, (some events are very short, others protracted), as well as an event's conflict potential. *Conflict potential* is best expressed as the combination of goals and relative means of the conflicting parties, which determines the realized effects of a warfare event over the course of the event.[7] It is assumed to remain generally constant despite periodic fluctuations among actualized activities and realized effects.

In order to aid comprehension of the ten-point categorical warfare scale, descriptive, representative scenarios of the several categorical values are included below. Referent figures for population displacements and direct deaths are listed for each category, but it must be emphasized that these figures are approximate for conventional scenarios under standard conditions. The total effects of warfare result from intensity over time and vary accordingly. For example, direct deaths may be inflated under conditions where combatants' lives are undervalued, and refugee flows and humanitarian crises will be much higher under conditions of general poverty, the brutal victimization of civilians, and/or more transient or subsistence livelihoods. What is more important in determining the magnitude of the impact of warfare on a society are the relational goals, available technologies, and relative means of the combatant groups. Of course, the combination and levels of effects vary from case to case, but levels across effects will usually coincide.

Warfare is an inherently self-limiting event. Population and technical capabilities determine the potential for warfare intensity, whereas actual warfare's consumption and destruction of material infrastructure and

human resources make its continuation dependent on the continued production, procurement, and capture of sufficient quantities of essential war materials. As such, both the conduct and resolution of warfare are especially dependent on external sources of support and recovery, both strategic and humanitarian. Unfortunately, there has been little systematic study of the external "sustenance" of protracted warfare, and so both the capacities of war actors as well as external linkage dynamics remain implicit in the categories below. The range of contemporary events (1946–1999), fortunately, does not provide any examples of categorical values greater than seven (07), as the necessary military technologies are not present in most contemporary warfare locations; some historical events are used for illustration of these more extreme values. (The complete list of Major Episodes of Political Violence, 1946–1999, is provided in Appendix 4.1.)

• *Category 10: extermination and annihilation.* Extensive, systematic, and indiscriminate destruction of human resources and/or physical infrastructure with persistent, adverse effects. The social identity itself is the target of destruction. Greatly disparate power and weapons technologies and singularity of intent between adversarial groups make this category possible. Historical events that illustrate this category include Japan for a period when it became the location of nuclear warfare in 1945 and German territories during the Holocaust.

• *Category 09: total warfare.* Massive, mechanized destruction of human resources and physical infrastructure in a war of attrition, with intentional targeting of both combatant and noncombatant societal factors resulting in widespread destruction and long-term effects. Whole societies are the target for destruction, that is, their capacity for both action and reaction; adversaries are of comparable strength and compromise is unacceptable. Population dislocations often exceed 20 million; deaths exceed 5 million. Perhaps 90 to 100 percent of societal production is consumed in the war effort. Military victory (unconditional surrender) is prioritized over all other societal and humanitarian values. Historical examples include Germany (1941–1945) and the Soviet Union (1940–1944).

• *Category 08: modern warfare.* Massive, mechanized destruction of human resources and physical infrastructure in a war of attrition with medium-term effects; noncombatants are not systematically targeted, although great numbers are directly affected by violence. The adversary's military capabilities are the target for destruction; adversaries are of comparable strength. Population dislocations often exceed 10 million; deaths often exceed two million. About 60 to 90 percent of societal production is consumed by the war effort. Society and human capital are prioritized over military victory (capitulation or stalemate are possible). Historical exam-

ples are France (1914–1918), Germany (1914–1918), and Russia (1914–1917).

• *Category 07: pervasive warfare.* Technology of destruction is extensive but resources and productive capacity are limited, with continued war effort frequently dependent on supplemental resources from external suppliers. Effects are persistent, and development is arrested over the medium to long term. Social roles and mobilization are almost entirely determined by the culture of warfare. No location within the society is secure from attack, including the largest cities. Population dislocations often exceed 5 million; deaths exceed 1 million. More than 50 percent of societal production is consumed by the war effort. Core issues are considered nonnegotiable. Contemporary examples include Vietnam (1958–1975), Cambodia (1975–1979), Afghanistan (1978 to the present), and Rwanda (1994).[8]

• *Category 06: extensive warfare.* Technology of destruction is extensive but limited; supplemental resources from external supporters are limited. Effects are persistent, and development is arrested over the medium term. Social mobilization is largely determined by warfare, but crucial areas are fairly secure from attack. Population dislocations often exceed 2 million; deaths often range from 500,000 to 1 million. More than 40 percent of societal production is consumed by the war effort. Issues of contention are perceived as vital, but terms are somewhat negotiable, as neither war party has the capacity to unilaterally impose and enforce a lasting settlement. Ethnic cleansing is often viewed as a strategic imperative in the struggle to control a territorial and resource base. Contemporary examples include Ethiopia (1974–1991), Iran-Iraq (1980–1988), Sudan (1983 to the present), and Bosnia (1992–1995).

• *Category 05: substantial and prolonged warfare.* Technology of destruction is at a high level, but goals are limited and often ill-defined. Impetus to warfare is often sustained by issue complexities that make negotiation and compromise difficult. Warfare is intense but mostly confined to particular regions. Population dislocations may exceed 1 million; deaths range from 100,000 to 500,000. More than 25 percent of societal production is consumed by the war effort. For challengers, local autonomy may be preferred over complete separation or predominance, allowing negotiated outcomes. Contemporary examples include Guatemala (1966–1996), Lebanon (1975–1991), Sri Lanka (1983 to the present), and Somalia (1988 to the present).

• *Category 04: serious warfare.* Available technologies of destruction are at a lower level and/or applications remain limited; challenger groups' authority, discipline, and objectives are often diffuse and/or indistinct. Areas affected by warfare may be extensive, but the intensity and the effects are limited; otherwise, warfare is confined to distinct areas and/or

periods of time. If armed conflict is protracted, long periods of dormancy will be punctuated by sporadic operations (re)establishing opposing group boundaries. Population dislocations may exceed 100,000 in affected regions; deaths range from 50,000 to 100,000. Contemporary examples include Angola (1961–1975), the Israeli-Arab theater (1967–1970), and Liberia (1990–1997).

• *Category 03: serious political violence.* Technologies of destruction are limited; objectives are usually focused on strategic authority, including control of human and/or material resources. Long periods of relative quiescence may be punctuated by focused operations targeting armed factions, group leaders, and/or symbols of defiance. Population dislocations respond to specific, localized operations and may be counted in the tens of thousands; deaths range from 10,000 to 50,000. Effects of political violence are unevenly distributed, mainly targeting militias, leaders, and symbolic targets. Contemporary examples include Chile (1974–1976), Turkey (1984 to the present), and Sierra Leone (1991–1998).

• *Category 02: limited political violence.* Applied technologies are limited. Objectives may be limited and clearly defined, allowing warfare to remain confined; general support for warfare and/or the nature of the opposition may be weak or resistant to provocation. Events are confined to short periods or specific areas of operation or may involve sporadic acts of terrorism over longer periods. Population dislocations of short duration may occur; attributable deaths range from 3,000 to 10,000. Contemporary examples include Cuba (1957–1959), Northern Ireland (1969–1994), Cyprus (1974), and Georgia (1991–1993).

• *Category 01: sporadic or expressive political violence.* Applied technologies are relatively low-level; objectives are often diffuse and ill-defined, and violent actions occur mainly as an expression of general dissatisfaction and/or social control. Oppositional violence is achieved mostly by small militant groups or confined to a very specific time, target, or location. Small population dislocations of short duration may occur from areas directly affected by violence; deaths usually are less than 2,000. Contemporary examples include the United States (urban ghetto riots, 1965–1968), Argentina–United Kingdom (Falkland Islands, 1982), and Moldova (1991–1997).

Contemporary Trends in Global Warfare

The illusion of stability lent by the Cold War superrivalry distorted perceptions of the real dynamics and actual trends in armed conflict during the period. In fact, nothing could be farther from the truth or more dangerous to the prospects for world peace than the unfounded romanticization of the

Cold War period as a mythical era of global stability and a long peace. Rather, the ideology of the Cold War lent a veil of civility and stasis that served as a cover for increasing incidence and magnitudes of political violence, mostly civil wars, that gradually decimated large areas of the world, led many states to the brink of structural failure (and even beyond), and imprisoned vast numbers of peoples in humanitarian crises.

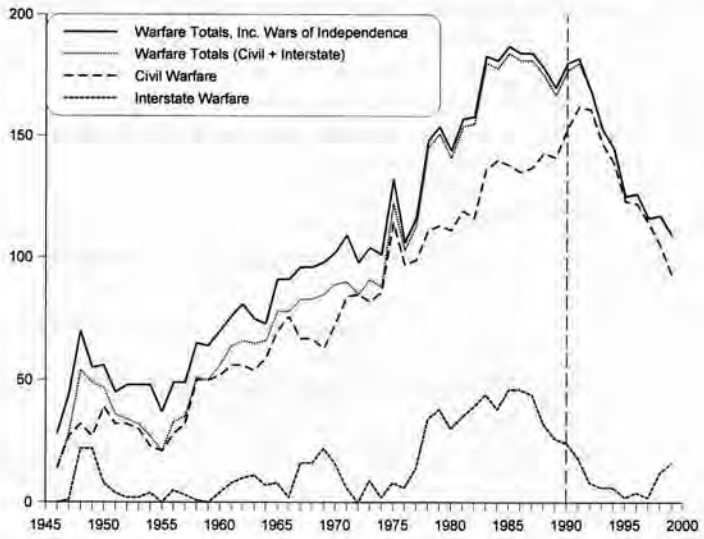
The end of the Cold War, circa 1990, led to an important shift in world attention away from ideological/apocalyptic images of conflict to focus on an alternative reality plagued by sectarian conflict and warfare, the flames of which were often fanned and fueled by political support and armaments by the rival superpowers and their cohorts. Many people, including important media commentators and world policymakers, were induced by the dramatic shift in viewpoints from singular cold war to myriad hot wars into believing that the end of the Cold War had ushered in a period of global instability and increasing levels of warfare, largely characterized as ethnic or "civilization" warfare.[9] During the 1990s, conflicts in these areas shifted from wars for separation or supremacy to wars for elimination or survival, that is, wars of desperation—an ironic complement to the concentration of wealth and prosperity in the West.

Of great and immediate importance to the formulation of an appropriate global policy for conflict prevention is the aggregate effect that decentralized (local) warfare has had on the global system. In a systems analysis of warfare, the focus moves from particular events and societal effects to cumulative effects and general trends. To this end, multiple sources of compiled information regarding various forms of armed conflict in the contemporary period have been consulted, cross-referenced, and reconciled to produce a comprehensive list of the period's major episodes of political violence. Using the ten-point measurement scheme described above, each warfare episode was assigned a single (net) magnitude score (see Appendix 4.1), which was then summed for each year to produce the annual trend lines shown in Figure 4.1.

Whereas the Cold War shadowed an enormous increase in the number and intensity of localized wars, the trend lines illustrate, significantly, that the overall magnitude and incidence of warfare episodes have decreased sharply and steadily since the Cold War ended.[10] This observation of a recent, sharp downward trend in global warfare is supported by downward trends in ethnic rebellion,[11] in forcibly dislocated populations,[12] and in autocratic authority[13] since the end of the Cold War. The general downward trend noted for major episodes of political violence is further complemented by upward trends in the spread of democracy and increases in conflict settlements.[14]

There is, nonetheless, a great deal of resistance to the notion that global armed conflict is decreasing.[15] It is common for well-informed policy-

Figure 4.1 Armed Conflict and Intervention (ACI) Global Warfare Trends, 1946–1999 (summed conflict magnitude scores)



makers and commentators to assume and even insist that armed conflict and related humanitarian crises are becoming more of a problem in world politics, rather than less. This reverse viewpoint highlights perceptual distortions on the salience of global conflict due to greater flow of information and communication; greater attention to previously ignored conflicts in more marginal areas; an increase in appreciation of the relative importance of "minor" conflicts because of their potential spillover effects; greater sensitivity to transnational issues; greater expectations of "civility" in the postindustrial world; and increasing impatience with persisting conflicts in areas considered to be of no strategic importance. Do the apparently counterintuitive empirical trends described above provide any evidence to explain, if not support, the intuitive assessment?

The recognition of a decreasing trend in global warfare does not necessarily negate a concurrent realization that the problem of warfare is of increasing importance in world politics. Declining breadth and/or intensity of a phenomenon and its increasing importance are not contradictory, especially as the sense of conflict's potential and the possibility of renewed hostility linger in the aftermath of war's abatement. Fewer hot wars present the possibility of more lingering hotspots and, with this, a greater sense of urgency, challenge, and vulnerability for an emerging, global conflict management and prevention system. Direct external involvement is in greater demand in hotspots than in hot wars, as are public expectations of meaningful results from that involvement.[16] This is particularly true in the aftermath

of civil wars, as the state is usually one of the victims of warfare and so cannot provide the necessary security and framework for economic activity without external assistance.

The prominence of civil warfare is the first element supporting the perception of increasing global violence. Civil wars are the most common form of contemporary warfare, and such situations necessarily involve complex societal and systemic development issues. Interstate wars are often thought to strengthen the capacity of warring states, as states must either affirm their viability and marshal their capabilities to act in pursuit of national interests, including response to external threats, or succumb to their inherent weaknesses and disappear. Civil wars, by contrast, more often undermine the capacity of the state by diminishing its resources, dividing its population, and limiting the scope and nature of its (legitimate) authority, often making it more vulnerable to both external and internal challenges and more dependent on external support. Civil warfare creates tensions for the international norm of noninterference in the internal affairs of states and thus presents additional challenges for the state system and additional complexities in conflict management.

The increasing challenge to the international system of effectively responding to and managing conflict is a second reason for perceptions of increasing armed conflict. The Cold War period experienced a long-term linear increase in the number of conflicts and general magnitude of warfare. During the course of warfare, substantial social resources are diverted to the war effort, even to the complete exclusion of (lower-order) social development priorities. Large areas of the world system have thus experienced an extended drain on available resources, seriously eroding the international capacity to recover from conflict experiences.

The effects of warfare do not disappear with the last shot fired in anger; many societal effects persist over time. The detrimental effects of warfare's harm and destruction must be undone, redone, and overcome. In the aftermath of warfare, political healing is often prioritized over social development programs. Wealth and assets, which flee troubled areas to perceived safe havens, must be enticed to return—a monumental, if not insurmountable, task. Prewar levels of production may not be regained for years or even decades. War-torn societies therefore often experience arrested development. Under such circumstances, greater demands may be placed on diminished capacity, mobilizing competing interest groups and fueling potential conflict. Thus, warfare over a long period of time may challenge a country's capacity to recover and transform its pathologies.

Casual observers are intuitively aware that episodes of violence, although perhaps not immediately observable in global warfare trends, cluster spatially in bad neighborhoods; the unresolved problems of conflict generate spillover effects beyond a state's borders. Over time, the extent of

warfare's effects increase and widen, drawing neighboring countries in, triggering past grievances or generating new tensions within and between states. War- and insecurity-affected regions thus become self-reinforcing conflict systems prone to repeated and prolonged episodes of violence.[17]

The emergence of these bad neighborhoods may be a disincentive to external peacebuilding initiatives. External support for postconflict peacebuilding suffers from logistical challenges as resources are far removed from their place of application. This problem is compounded by the frequent unwillingness of external actors to be involved in complex problems seemingly confined to distant locations and remote cultures. Systematic assaults within societies with low productive capacities will quickly result in humanitarian crises and other disasters because people are already living on the edge. In these situations, limited local resources are quickly depleted, and there are serious constraints on the interest and willingness of outside parties to lend assistance, whether in prevention, reaction, or recovery. Thus, the alternatives to warfare in affected regions are few and fragile.

If global warfare is becoming more concentrated in poorer societies, the perception that warfare is a growing problem, and one more resistant to resolution, may be strengthened. Extensive global analysis of civil warfare events by the State Failure project has highlighted a very strong and robust correlation between low state capacity and low quality-of-life measures with armed conflict and governance failure.[18] The question of whether diminished state capacity is causal or consequential in the statistical relationship is peripheral to the present discussion; it is quite likely both cause and effect, making it even more difficult for societies to move away from warfare.

Figures 4.2 and 4.3 recast the global warfare trend data to highlight evidence that state capacity is associated with the occurrence of armed conflict. They present separate global warfare trends (using magnitude scores) for the five quintiles of states based upon an arbitrary but compelling measure of societal capacity: energy consumption per capita.[19] Figure 4.2 displays the warfare trends of the lowest three quintiles of states/societies, and Figure 4.3 displays the trends for the upper three quintiles (the middle quintile is reproduced in both graphs to provide a common point of reference). A comparison of the two graphs reveals the importance of societal capacity in the distribution of warfare: the lowest two quintiles (40 percent) of states account for the majority (65 percent) of the world's armed conflict, whereas the lowest three quintiles account for more than 88 percent of total global warfare. The upper two quintiles together provide location for about 12 percent of the warfare in the contemporary period. The largest share accrues to societies composing the second quintile of states, that is, those states possessing some capacity to wage war but limited capacity for managing conflicts. These second-tier states experienced nearly 40 percent

Figure 4.2 ACI Global Warfare Magnitude Totals by Societal Capacity: Lowest Quintiles

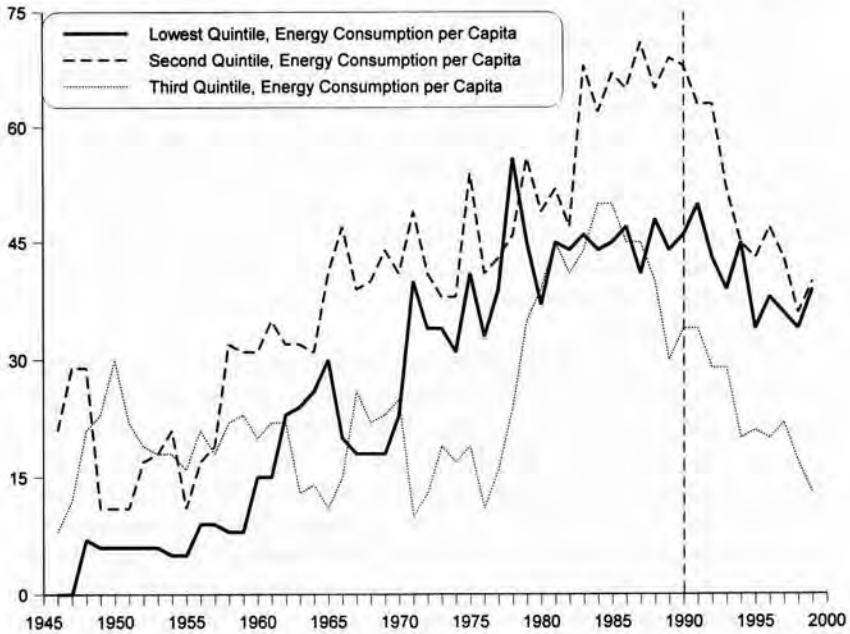
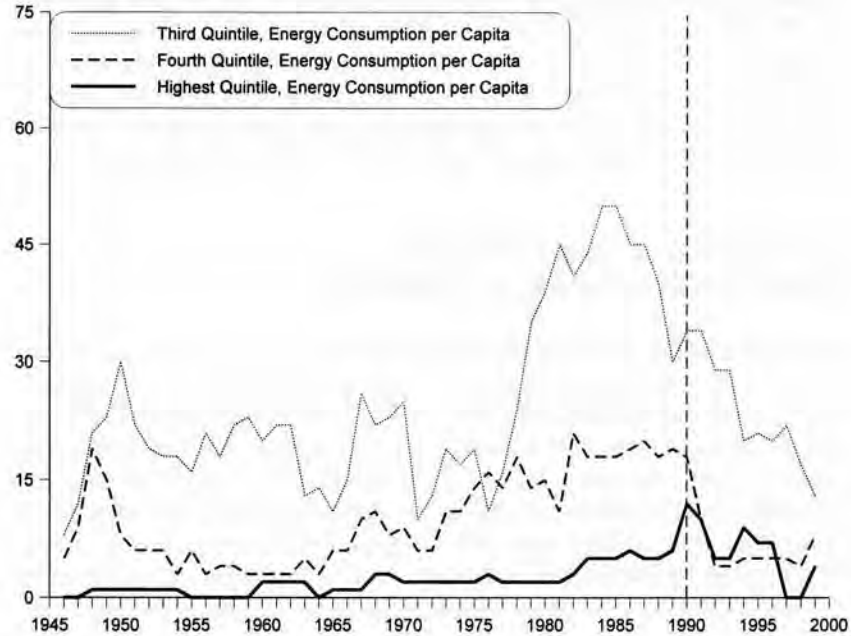


Figure 4.3 ACI Global Warfare Magnitude Totals by Societal Capacity: Highest Quintiles



of post–World War II warfare. The highest-capacity states, in contrast, have experienced very few and very limited outbreaks of major armed conflict within their respective jurisdictions.

This study has argued that a substantial portion of the perceptual distortion that warfare is increasing rather than decreasing in the post–Cold War period may arise from the increasing concentration of conflict in the world's poorest countries. It has also argued that when wars occur there under generally dire circumstances, then perceptions of underdevelopment, insecurity, and violence are likely to be conflated and confused, stark images of the brutality of warfare exaggerated, and cultural differences pronounced in the minds of the increasingly removed and distanced witnesses to warfare. But what is the nature of post–Cold War changes in the annual magnitudes of warfare?

Two trends help to condition our perceptions of the problem of warfare and our expectations of its future course: changes in the relevant magnitudes of warfare; and changes in the relative warfare shares across the societal capacity quintiles. As noted in Figure 4.1, the general global trend in warfare since the end of the Cold War has been sharply downward. However, this general decline is not distributed equally across the five quintiles. Comparing the peak period of global warfare (1984–1988) with the more recent period (1994–1998), one finds quite different changes: warfare in the lowest quintile declined the least, about 17 percent; warfare in the second quintile decreased 35 percent; there is a 57 percent decrease in third quintile warfare; and an incredible 74 percent drop in the fourth quintile (the highest quintile decreased the least, 12 percent, but generally had little or no warfare during the entire period). As such, the relative market share for the lowest-capacity societies increased from 61 percent in the peak period to more than 73 percent in the most recent period (climbing to 77 percent in 1998), just in time to become a focal point for the information and communication revolution—and thus a real coffee-table tragedy.

Comparison of Data on Current Trends in Global Warfare in the 1990s

The discussion of global warfare trends has concentrated, so far, on examining the contrast between current *perceptions* of increasing global instability, warfare, and humanitarian crisis and *measures* of the societal and systemic impact of warfare that present a global warfare trend that, although steadily increasing throughout the Cold War period, has been diminishing substantially in both the incidence and magnitude since the end of the Cold War. However, in the late 1990s, some researchers such as Peter Wallensteen and Margareta Sollenberg, and A. Jongman, have presented evidence that the observed downward trend in serious armed conflicts may

have been short-lived and is now reversed and appears to be increasing once again as we begin this century.[20] Such claims appear to contradict the continuing downward trend presented by the Armed Conflict and Intervention data (ACI data) above.[21]

Much of the disagreement regarding current warfare trends centers on the method of identifying individual, distinct armed conflict events and the comparability of measures used in the articulation of general trends. Those studies indicating a reversal in the trend (i.e., Wallensteen and Sollenberg; Jongman) use categorical action-event counts (i.e., all events that meet the minimum definitional threshold count as equivalent units). This study used episode counts combined with magnitude scores to suggest that the total impact of warfare continues to decline and, using only the numbers of states experiencing armed conflicts (without magnitude scores), to suggest in addition that the global incidence of armed conflict continued to diminish through the 1990s.[22] However, as any reversal in the downward trend would be cause for alarm in the global community, updated current trends in global warfare should be continually examined.

All that being said, one should expect to find a fair amount of disagreement among the research reports on conflict trends but also to identify a substantial fundamental agreement across analyses. Despite methodological differences and procedural difficulties, there are points of comparability in the armed conflict data sources by which to make some important assessments of the current global warfare trends. Event counts can be compared across data sources by shifting the analytic focus from events to states and assessing the number of states affected by serious armed conflicts in a given year. Of course, interest in the fact of armed conflict is qualified by the seriousness or intensity of conflict events, changes in event intensity over time, and how events affect a state's ability to maintain political performance.

An annual tally of the number of states affected by major armed conflicts is provided for comparison in Table 4.1. The ACI data, which compile and assign societal impact (magnitude) scores by the state in which the conflict event actually occurs, provide a single societal impact score for each state for each year covered (scores for multiple events in a given state are summed for the year). Both the SIPRI/PRIO (a joint project between the Stockholm International Peace Research Institute and the International Peace Research Institute in Oslo) and State Failure data were reworked from their original event count to an affected state format to make them comparable with the ACI data.

The ACI, State Failure,[23] and SIPRI/PRIO[24] data cover the entire 1990s and are generally comparable on raw annual events counts; in addition, the State Failure and SIPRI/PRIO data are roughly comparable on the subset of annual events that exceed a 1,000 battle-related death threshold.[25] The PIOOM Foundation's *high-intensity conflict* (HIC, the flipside of low-

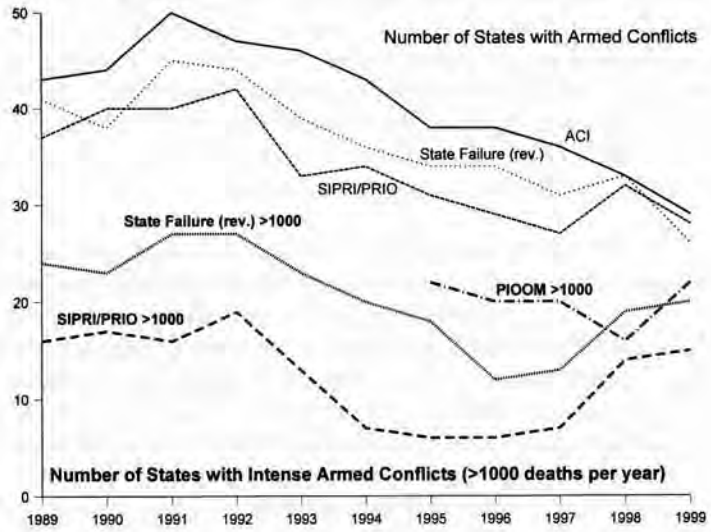
Table 4.1 Number of States Experiencing Armed Conflict, 1989–1999

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Wallensteen and Sollenberg (SIPRI/PRIO): > 1,000 deaths	16	17	16	19	13	7	6	6	7	14	15
State Failure problem set: > 1,000 deaths (rev.)	24	23	27	27	23	20	18	12	13	19	20
Jongman (PIOOM): > 1000 deaths							22	20	20	16	22
Wallensteen and Sollenberg (SIPRI/PRIO): all armed conflicts	37	40	40	42	33	34	31	29	27	32	28
State Failure problem set: all armed conflicts (rev.)	41	38	45	44	39	36	34	34	31	33	26
Marshall (ACI): major political violence episodes	43	44	50	47	46	43	38	38	36	33	29
Jongman (PIOOM): combined events (high-intensity conflict [HIC] and low-intensity conflict [LIC])							61	51	79	86	99
Jongman (PIOOM): violent political conflict (VPC)							40	44	45	114	151

intensity conflict, or LIC) events should compare with SIPRI/PRIO *war events* and State Failure *high-intensity events*. The combined number of PIOOM HIC and LIC events should compare with the *major armed conflict* annual events counts for the years 1995–1999. There is no comparable data for the PIOOM category of violent political conflict (VPC).[26]

Several comments are suggested by the data comparisons presented in Figure 4.4. First, for the subset of events that cross the 1,000 battle-related deaths threshold in a given year, there are substantial differences across the three data sources listed. However, all three sources note an increase in the incidence of high-intensity warfare in the latter 1990s. State Failure and SIPRI/PRIO plot similar trend lines, with a substantial dip in the number of cases of the most intense warfare in the mid-1990s and an upswing beginning in 1997.[27] The PIOOM figures indicate a slightly later dip and an upswing in 1999. In sum, there appears to be consistent evidence that there are increasing numbers of states experiencing intense warfare in the late

Figure 4.4 Comparison of Data on Current Trends in Global Warfare



1990s, following a peculiar lull in the mid-1990s. More research is necessary before this particular dynamic can be explained fully.

The complex patterns that emerged in the 1990s could certainly contribute to the general *perception* of increasing warfare in the world. Moreover, the annual numbers of states affected by "all armed conflicts" are similar across three of the four data sources listed: SIPRI/PRIO, State Failure, and ACI. Although the SIPRI/PRIO and State Failure data both denote a slight increase in the number of affected states in 1998, there is not enough evidence to support a claim that the general downward trend in global warfare has been reversed. On the contrary, the substantial decrease in the State Failure data for 1999 appears to support the continuing downward trend noted in the ACI data (and also noted in the Arbeitsgemeinschaft Kriegsursachenforschung data).[28] The PIOOM data appears to support a claim that a downward trend in armed conflicts has been reversed, although little evidence of this is recorded in its brief coverage.[29] In sum, there is substantial evidence that the general downward trend in the number of armed conflicts, and the number of states experiencing armed conflicts, in the 1990s is continuing into the twenty-first century.[30]

Conclusion: Future Trends

The preceding discussion has charted the rise and fall of global warfare in the last half of the twentieth century. The warfare trend thus charted, in

many ways, runs contrary to intuitive perspectives of a long peace during the Cold War and greater global instability with its passing. Although it is beyond the scope of this study to speculate on the reasons why the incidence and magnitude of global warfare has diminished so dramatically since the end of the Cold War or to prognosticate future trends, some general observations can be made on the strength of the evidence collected here. The general global trend argues for both optimism and caution; the circumstances present both an opportunity and a dilemma.

- Although the number of hot wars has decreased, the number of hotspots has increased. The probability of renewed fighting following the breakdown of peace settlements is great and diminishes only after long periods of proactive conflict management. In conflict management terms, then, the decrease in open warfare creates pressures for increased involvement by the global community in reversing the ravages wrought by warfare, reconstruction of social relations and infrastructure in affected societies, and the prevention of a relapse to armed conflict.
- Years of open warfare have exhausted the resources and capacities of states and societies and disrupted the complex network of amity and trust upon which societies might be rebuilt. In many locations, development processes have been arrested and even reversed. Entire regions have been devastated by warfare, and some remain immersed in a culture of violence that will be difficult to transform. Many of the most seriously affected societies have either lost, or never gained, viability and vitality. The prospects for many of these weaker societies remain dim without substantial assistance from the stronger societies and the larger community.
- The role of ideas and ideology should not be overlooked or underestimated in our understanding of the dynamics of social conflict and the resort to violence. The ideology of struggle and the acceptance of inhumanity coincide with the rationalization of injustice.
- Future trends in global warfare will reflect not only the quality of the human mind and spirit but also the nature of external influence and involvement in local conditions and conflicts. Wars do not occur in a vacuum; they must consume ever greater numbers of human lives and livelihoods to continue their existence. Misguided or misdirected external support can help to ignite passions, fuel armed conflict, and prolong the disaster. Errors of omission or commission by the global community are crucial in determining the fate of societies in crisis.

A cursory examination of the countertrend of increasing incidents of serious warfare within the general global context of decreasing warfare reveals some additional clues for the future of global (systemic) conflict

management and the emerging culture of prevention. The increase in serious warfare in the late 1990s is characterized by four sets of circumstances:

1. *Escalation of long-standing disputes or rivalries:* nearly all of the armed conflicts that crossed the threshold to serious warfare in the late 1990s involved an escalation in a long-standing dispute rather than an outbreak of a new conflict.
2. *Separatism:* many of the most serious incidents of warfare in the late 1990s involved escalations in attempts by distinct ethnic groups to gain (or maintain) separation from a central authority unwilling to accept it.
3. *Black market control:* most serious wars of the late 1990s involved conflicts over the control of black-market commodities and assets that could be easily liquidated through illicit trade, such as drugs and diamonds. Wars have become a pay-as-you-go proposition as the global arms trade becomes increasingly privatized.
4. *Bad neighborhood effects:* only five new armed conflicts broke out in the late 1990s, and each occurred in regions already beset by warfare: armed conflicts in Albania and Kosovo in the Balkans and Congo (Brazzaville), Ethiopia/Eritrea, and Guinea-Bissau in Africa. In general, new outbreaks and escalations of serious warfare in the late 1990s tended to occur in particular regions, or bad neighborhoods, where ongoing, serious armed conflicts were already taking place just as they have throughout the contemporary period.

With the passing of the Cold War, many of the world's warriors have lost their sources of external support and supply and exhausted their own resources and resolve. Consequently, a real opportunity exists to discourage and contain the resort to warfare in human social relations. Providing immediate relief for the victims of warfare is not enough. One of the most effective methods for transforming violent conflict events to negotiated conflict processes involves proactive global scrutiny of and involvement in local conflict dynamics, with observers and caretakers on the ground in and near these trouble spots. Brutality thrives in anonymity and finds its natural corollary in the brutality of daily life in severely underdeveloped societies. A strong global presence seriously dampens the local incentives to accept and escalate brutality and provides viable alternatives to armed conflict.[31] The first step in establishing a preventive conflict management regime for the future of the global community is to draw a clear and accurate picture of the present danger so that the opportunities associated with it can be identified and understood. The challenge remains to comprehend the dynamics underlying the contemporary trends in warfare and to capitalize on the unique opportunity thus presented.