10 The economics of peacekeeping*
Vincenzo Bove and Ron Smith

10.1 INTRODUCTION

The first UN peacekeeping operation was launched in 1948 to monitor the truce after the Arab–Israeli War; it was followed in 1949 by a mission to monitor the India–Pakistan ceasefire line in Kashmir. Sixty years later, those two conflicts continue and peacekeeping has expanded. The Stockholm International Peace Research Institute (SIPRI) (2009) estimates that 60 peace operations were being conducted in 2008 and the estimated cost for UN peacekeeping in 2009 was $7.75 bn (*Financial Times*, 4 August 2009, p. 5) slightly more than 1 per cent of what the United States alone spends each year on defence. Although small relative to world military expenditures of around $1500 bn, financing UN peacekeeping has been a matter of continuing concern. The UN Department of Peacekeeping Operations (2008) says: 'Over the years, peacekeeping has evolved from a primarily military model of observing cease-fires and the separation of forces after inter-state wars to incorporate a complex model of many elements – military, police and civilian – working together to help lay the foundations for sustainable peace.' It distinguishes between peacekeeping, peace enforcement and peace-building.

The classic definition of peacekeeping was stated by the Nobel Prize Committee when the prize was awarded to the UN in 1988 as the contribution to 'reducing tensions where an armistice has been negotiated but a peace treaty has yet to be established'. Complex peacekeeping operations include the restoration of law and order, basic services and governmental authority, to create a consensual environment. Peace enforcement is the threat of use of coercion to induce the combatants to implement an international mandate intended to restore stability, and can be a very challenging operation (for example Stabilization and Implementation Forces in Bosnia and Herzegovina). Post-conflict stabilization restores authority and social services in an occupied country; stabilization is generally more demanding than basic peacekeeping (for example the UN Stabilization Mission in Haiti) (Daniel et al., 2008).

We will use peacekeeping, more broadly, to cover all military interventions designed to maintain or restore peace. There has been a shift from peacekeeping as a response to interstate wars to peacekeeping as a response to civil wars. This is partly because most wars are civil wars rather than interstate wars, and these civil wars tend to last longer than interstate wars and are seen as damaging not only to the countries concerned, but to their neighbours and to the international community. This has prompted intervention by the international community: peacekeeping is one particular form of intervention. Since the end of the Cold War, the incidence of civil war has decreased and the use of peacekeeping has increased. Although there is a large literature on peacekeeping (Solomon, 2007 provides a recent survey of the economics of peacekeeping) there is no consensus on how one should analytically characterize peacekeeping as an activity and how one should integrate a peacekeeping third party

into traditional two-party models of conflict. There are also gaps in the quantitative literature on peacekeeping.

There are three dimensions to peacekeeping: demand, the conflict situations that invite foreign peacekeeping intervention; supply, the willingness of third-party states to provide that intervention, particularly military interventions; and the nature of the interaction which determines the success of the intervention. This supply–demand distinction is not unambiguous, since every economic transaction has two sides. For instance, Gaibulloev et al. (2009) refer to what we would call the supply of peacekeeping, payments for UN and non-UN peacekeeping missions, as the demand for peacekeeping (that is, how much the contributing governments pay for a particular service they demand, peacekeeping). From the perspective of the countries in conflict we think that the supply of peacekeeping terminology is more appropriate. The special issue of *Defence and Peace Economics* edited by Berkok and Solomon (2006) discusses various aspects of demand and supply.

On the supply side, one has to understand the objectives of those nations intervening in conflicts, the choice set of instruments available to them and the constraints they face when intervening. Given that national governments have a variety of aims and are not always honest about their motives, so that their justifications cannot be taken at face value, there are major difficulties in determining the objectives of the intervening powers. Given that the international community is composed of individual states, there are inevitable collective action problems, and what is individually rational for the national states may not be collectively rational for the international community. On the demand side, civil wars are a peculiar type of war, usually involving two sides with quite different structures and organization. On one side, except for failed states like Somalia, we usually have a government, normally able to deploy an organized army with a clear structure of command and use its non-military apparatus to secure domestic and international support. On the other side, we may have insurgents with little formal organization, composed of non-traditional combatants, such as village militias and child soldiers, and divided into a variety of factions, with no identifiable spokespeople. In such a situation, where there is no apparent leadership, simply identifying clear objectives and common aims can be a problem and the policy problem can involve distinguishing 'good' insurgents, with whom one wants to negotiate, from the 'bad' insurgents with whom one does not. Thus, peacekeeping and conflict resolution in civil wars can be different from that in interstate wars. Which interventions constitute peacekeeping can be controversial. Invaders always want to restore peace after a conquest, but it is not usually described as peacekeeping. However, peacekeeping following invasion in Iraq and Afghanistan is usually described as peacekeeping because it has UN approval.

Given the considerable ambiguities associated with peacekeeping we will examine the extent to which the complexity of real external interventions can be illuminated by the standard economic approach. We will regard the standard economic approach as assuming that peacekeeping nations are rational agents with coherent objectives; who have a choice set of actions, or available instruments, of differing effectiveness; who try to optimize subject to the constraints, including the strategic interactions that their actions can generate both with other peacekeeping nations and with the parties to the conflict. After a discussion of the background and the empirical patterns of peacekeeping, we will discuss the actors and their objectives; the instruments available to an intervening power. We will then consider the way that traditional models of two-party conflict can be

adapted to allow for third-party intervention. We will examine how useful the economic approach is in terms of actors, objectives, instruments and strategies.

10.2   BACKGROUND

To provide some context to the theory we review some of the empirical background to peacekeeping. SIPRI (2008) provides data on 60 multilateral peace operations that were conducted during 2007. It covers operations that were conducted under the authority of the UN (sanctioned by the UN or authorized by a UN Security Council resolution) and estimates that there were roughly 170 000 people involved in peacekeeping operations in 2007, all but 20 000 being military. About 40 per cent of the peacekeepers were located in Africa. Peacekeeping missions are mainly sponsored by the UN, but are also conducted by individual countries, by the North Atlantic Treaty Organization (NATO), and by regional organizations like the Organization for Security and Co-operation in Europe (OSCE), which had observers in Georgia, and the African Union, previously called the Organization of African Unity. The countries that contribute most of the troops to UN missions are poor, for whom the payments for contributing troops to peacekeeping missions can be a useful source of revenue. However, the troops they contribute may not be well equipped or well trained, and indiscipline among peacekeeping troops has been a cause of concern. At worst, peacekeepers can inflict as much suffering on the vulnerable population as the combatants.

Although peacekeeping is not specifically mentioned in the UN Charter, a distinction is sometimes made between actions taken under Chapter 6 of the Charter ('Pacific settlement of disputes') and actions taken under Chapter 7 ('Action with respect to threats to the peace, breaches of the peace, and acts of aggression'). The latter, which involve the direct use of force, are sometimes called peace enforcement. The US and its allies fought the Korean War as UN forces under Chapter 7, but that was unusual since the Soviets had boycotted the meeting and not vetoed the action. Normally, one or more of the five permanent members of the Security Council (the P5) would veto such actions. The 1991 war after Iraq's invasion of Kuwait was also carried out under Chapter 7, during a short interval when the P5 were on good terms. The distinction between Chapter 6 and Chapter 7 actions is not clear cut and there are references to 'Chapter 6 and a half' missions. The traditional peacekeeping mission was installed with the agreement of both parties, for instance to monitor a border after a ceasefire, and if the conflict resumed the mission would withdraw. With the end of the Cold War more robust missions were attempted. The role of a mission is defined by the mandate agreed by the UN and the rules of engagement which define when and how the mission is allowed to use lethal force. Rules of engagement under Chapter 6 tend to allow the use of force only for the self-defence of the mission; whereas under Chapter 7, force may be used on the basis of a reasonable belief in hostile intent, either to the mission or to the local population.

In either Chapter 6 or 7 missions, one needs clear objectives, the means to achieve those objectives and rules of engagement that are consistent with those objectives. The relationship to local security forces is often a difficult issue. Part of the mandate may involve training or reforming the police and army of the state being supported. Such security sector reform (SSR) is more difficult when you are simultaneously fighting an

insurgency and when the police or army are the main perpetrators of the crimes against the local population. Trying to impose typical Western army and police structures may not mesh well with local patterns and cultures, particularly where there are powerful militias with local loyalties.

After the failures in Somalia 1992, the basis of the film *Black Hawk Down*; Rwanda, in 1994, where UN forces were unable to prevent genocide; and Srebrenica in 1995, where UN forces withdrew, allowing the Bosnian Serbs to conduct a massacre, the UN reviewed its peacekeeping. The 2000 report by Lakhdar Brahimi (United Nations, 2000) highlighted the need for the UN to integrate a variety of elements in its peacekeeping including the military, political, legal and humanitarian resources. Getting 'the boots and suits' to work together can be a problem.

A larger, more aggressive, peacekeeping force in Rwanda or Srebenitza may have stopped the subsequent massacres. General Dallaire (Dallaire, 2003) provides an account of the difficulties of being force commander of the UN Assistance Mission for Rwanda from July 1993 to September 1994, and his inability to stop the genocidal extermination of Tutsis by extremist Hutus after the Rwandan President's plane crashed on 6 April 1994. Generals hope that they will be given the means required to meet specified military objectives, in order to achieve some political purpose. In Rwanda, the UN and international community did not provide the mission with means, objectives or purpose.

Peacekeeping involves substantial transaction and coordination costs. Missions require logistics, often heavy airlifts since roads are bad and insecure, and engineering to provide infrastructure such as roads and bridges both for forces and the local population, as well as basic necessities like water and electricity which may not be available. Budgets are needed for local projects, to pay for intelligence and access to satellite imaging and communications intercepts. Secure communication for the mission is also required, as is integration of the military, political and economic dimensions.

While there are no agreed criteria for the 'success' of a peacekeeping mission, because of the lack of agreement on goals and what would have happened without a deployment, some missions seem widely regarded as having been effective (for example Cambodia, El Salvador and Mozambique). There have also been a large number of peacekeeping successes by individual countries with particular interests in the conflict zone, working under UN auspices. Examples of these are the Italian intervention in Albania, the Australian intervention in East Timor and the UK intervention in Sierra Leone in support of UN troops. Because these interventions were largely by rich countries in poor countries that had once been colonies, they could be presented as forms of neo-imperialism. In Sierra Leone after the British intervention, there were even people within the country who advocated making it a British colony once more. The judgement on the overall performance of UN peacekeeping is mixed. Doyle and Sambanis (2006) conduct a detailed analysis of the factors contributing to success or failure of peacekeeping interventions. Collier et al. (2008) provide quantitative evidence suggesting that UN expenditures on peacekeeping are cost-effective in stopping conflicts restarting. Jarstad and Nilsson (2008) claim that UN and regional peacekeeping have no significant impact on the duration of peace and, in particular, the more violent a conflict is, the less are the chances of a peace accord lasting. Elbadawi and Sambanis (2000) and Regan (2002) suggest that external interventions may prolong wars.

There has been a remarkable increase in peacekeeping operations over the period

1989–2009: almost 80 per cent of the missions authorized by the UN since 1948 were launched between 1988 and 2007 (Giegerich, 2008). During the 1990s it became possible to identify a trend within the international community for conducting complex peacekeeping and enforcement missions in the middle or in the aftermath of civil wars. Midpoint through the decade, close to half of the 26 operations were considered 'challenging' or 'very challenging' (Daniel et al., 2008). Such missions caused a large increase in the number of troops deployed, in particular over the period 1999–2009. As for UN missions, the number[1] rose from 18 000 personnel in 1999, to about 48 000 in 2001, before dropping off to a low 38 000 in 2003. Troop levels thereafter began rising again and stood at 92 000 in 2009.

The worldwide demand for peace missions is growing at a fast pace and demand for troops continues to outstrip supply. It is estimated that the UN alone would require 200 000 personnel each year to sustain the current level of deployment (Roberts and Zaum, 2008). Since the mid-1990s the UN has also induced non-UN actors to take on a larger and more challenging role, and this has certainly contributed to the recent growth in non-UN operations. Non-UN actors are carrying out more operations than ever before, without any evidence of crowding-out effects. Instead, as already pointed out by Daniel et al. (2008), data suggest that the two have thrived together and non-UN operations have not challenged the UN. When we look at the total number of troops deployed,[2] including other organizations, such as the African Union (AU), the Economic Community of Central African States (CEEAC), the Commonwealth of Independent States (CIS), the EU, NATO and ad hoc coalitions, figures become striking. The number rose from 90 000 in 1999 to 335 000 in 2007, before reaching a low 178 000 in 2009. The sudden decrease is mainly due to the Multinational Force withdrawal from Iraq (MNF-I).

Along with the explosive growth in the supply of troops, there is an impressive rise in the numbers and quality of troops required to fulfil new tasks. Although it is very difficult to measure the gap between demand and supply, in the last few years UN, NATO, EU and AU operations have been clearly overstretched in some operations. In many instances, ill-equipped, relatively small and weakly empowered peacekeepers have to police large territories, as in Sudan, Burundi, Congo and many other African countries. On the other hand, civil wars in Europe (such as in the Balkans) and in the Middle East (for example Lebanon), have been tackled quickly with a relatively significant commitment of peacekeeping forces. Llewelyn and Dew (2004) have examined the peak force ratios in major stability and control operations in the post-Second World War period. They argue that in no case, where a significant part of the population has been hostile to the occupying power, has a foreign force brought about order and stability with a force ratio of less than 20 troops per 1000 of population. Furthermore, depending upon the strength and determination of the opposition, it has in important cases proved impossible (notably in Algeria and South Vietnam) to achieve order and stability even with a force ratio approaching 30 or even 40. Diamond (2004) goes on to argue that the Bush administration failed to commit the military forces necessary to ensure order in post-war Iraq, which would have needed half a million troops deployed to keep the same ratio to population as NATO had in Bosnia. The quantity of UN peacekeepers, especially in large-scale missions, is often offset by the size and logistical difficulty of the environments to which they deploy. For example, the UN Mission in Sierra Leone (UNAMSIL)

Table 10.1   *Peacekeeping overstretch and peak force ratios (number of personnel per 1000 population)*

Acronym	Location	Troops per 100 km^2	Troop force ratio
KFOR	Kosovo	390	23.6
UNIFIL	Lebanon	131	3.4
UNTAET	East Timor	62	8.2
SFOR	Bosnia and Herzegovina	48	5.3
JPKF	South Ossetia (Georgia)	44	24.3
MNF-I	Iraq	42	6.5
MINUSTAH	Haiti	39	1.2
UNMISET	East Timor	31	4.1
CIS PKF	Abkhazia (Georgia)	30	13.4
UNAMSIL	Sierra Leone	25	2.8
AMISEC	Comoros	21	0.6
ONUB	Burundi	20	0.6
UNFICYP	Cyprus	14	1.7
UNMIL	Liberia	14	4.6
EUFOR ALTHEA	Bosnia and Herzegovina	13	1.4
MIF-H	Haiti	12	0.4
AMIB	Burundi	12	0.4
CPF	Tajikistan	10	1.9
MAES	Comoros	9	0.3
ISAF	Afghanistan	9	1.6

Sources: Authors' calculation based on records from the UN Department of Peacekeeping Operations, from SIPRI and from the *CIA World Factbook*.

in 1999 deployed 17 711 troops in a country of 71 740 square kilometres, a ratio of one soldier for every 4 square kilometres. The UN now has a similar number of troops in the Democratic Republic of the Congo (DRC) (MONUC), which possesses a large surface area with a ratio of one soldier for every 100 square kilometres. Kosovo, on the other hand, was the best-policed mission, with about 3.9 soldiers every square kilometre (see Table 10.1). The mission was overall successful. The high risk of a resurgence of large-scale violence was offset by the deployment of well-equipped, properly resourced and numerically superior forces. Moreover, in Lebanon and East Timor, the comparatively low level of post-conflict violence owes much to the sheer scale of military, economic and diplomatic resources committed to those countries by the international community (see Table 10.1).

The number of troops in UN peace operations today represents a minuscule percentage of all armies worldwide: 77 000 soldiers relative to a pool of over 14 million, or just over 0.5 per cent. The UN notes that 24 providers constitute less than one-third of the total designated contributors worldwide, but account for two-thirds of all troop contribution. There is also persistence in contribution; long-term data suggest that once states start deploying forces to peace operations, they do not stop (see Table 10.2). Peacekeeping might be habit-forming because commitments are never short term; also the defence establishment may consider peacekeeping as a way to enhance its visibility

Table 10.2   Top ten contributors to UN peacekeeping operations, 1991–2005

1991–95	1996–2000	2001–05
France	India	Pakistan
Pakistan	Bangladesh	Bangladesh
United Kingdom	Poland	India
India	Ghana	Nigeria
Canada	Jordan	Ghana
Bangladesh	Pakistan	Jordan
Nepal	Austria	Kenya
Jordan	Finland	Nepal
Ghana	United States	Uruguay
Poland	Ireland	Ukraine

Sources: Annual peacekeeping deployment are taken by the UN Department of Peacekeeping Operations (DPKO) website which provides a monthly summary of military and police contributions to UN operations.

and increase the defence budget. Moreover, the expertise acquired during the past operations may lead to a comparative advantage in peace missions. The previous engagement, and maybe performance, might lead to future willingness to participate.

In 2008 only 66 countries were providing more than 100 troops, and the top 22 contributors (Table 10.3) were mainly emerging and developing economies according to the International Monetary Fund (IMF) definition, the 'outsiders' being respectively Italy, France, South Africa and Spain. In particular, eight countries are considered low-income economies by the World Bank and seven are regarded as lower-income economies. Furthermore, in the top five there are four Asian countries (Pakistan, Bangladesh, India and Nepal). In the fourth column of Table 10.3 we present a slightly different story by ranking the size of the 'boots on the ground' according to the percentage of active armed forces deployed: 16 out of 22 countries are low-income economies, three are lower-middle and only three are classified as upper-middle economies.

France, Italy and Spain disappear from the top 22, India drifts from the third towards the 44th position and African countries take the lion's share: they compose the top five (Gambia, Benin, Ghana, Senegal and Niger) and make up more than 60 per cent of contributors. It has often pointed out that there seems to be a regional bias in the allocation of UN missions toward African countries (King and Zeng, 2006); we would add that even when the supply side is under scrutiny, this regional bias appears robustly.

In examining the quantitative evidence on peacekeeping one runs into substantial methodological difficulties in determining which foreign deployments of troops should be counted as peacekeeping. The operational criteria that is most commonly used (for example by SIPRI) is that the deployment is authorized by the UN. In fact the largest foreign troop deployments are by the US, the bulk of which are not associated with UN missions, but could be justified by the US as fulfilling peacekeeping missions.

Kane (2004) provides a comprehensive US troop deployment data set for 1950–2003. The US military has deployed more forces abroad and in more countries than any other military in world history, in an effort to confront perceived contemporary threats. On average, 22 per cent of all US servicemen were stationed in foreign countries during

Table 10.3   Top 22 contributors to UN peacekeeping operations in 2008

| Ranking & troops provided	Country	Number in armed forces (000)	Adjusted ranking
1	Pakistan	10 637	Gambia
2	Bangladesh	150	Benin
3	India	1 288	Ghana
4	Nigeria	80	Senegal
5	Nepal	69	Niger
6	Ghana	14	Uruguay
7	Jordan	101	Rwanda
8	Rwanda	33	Fiji
9	Italy	186	Nigeria
10	Uruguay	25	Bangladesh
11	France	255	Nepal
12	Ethiopia	138	Kenya
13	China	2 105	Togo
14	South Africa	62	Malawi
15	Senegal	14	Zambia
16	Egypt	469	South Africa
17	Morocco	196	Jordan
18	Benin	5	Mongolia
19	Brazil	368	Pakistan
20	Indonesia	302	Ethiopia
21	Spain	149	Mali
22	Sri Lanka	151	Guatemala

Note: Adjusted ranking is based on contribution relative to the size of armed forces.

Source: Numbers in armed forces are based from IISS Military Balance 2008.

1950–2000 (see Figure 10.1). In 2003, 27 per cent were deployed, about 387 920 troops, out of a total of 1 434 000 personnel, the same percentage as in the 1950s. No other country is capable of deploying such a huge proportion of troops outside the national borders. In Figure 10.2 we show that only a small percentage of countries' armed forces are deployed in UN operations. During the period 1950–2000, 50 countries have hosted at least 1000 American troops at one point. The bulk of US troops have been concentrated in Europe (52 per cent of troops deployed) and Asia (41 per cent), while Africa and the Middle East have hosted a relatively negligible number of troops. Africa in particular is the most distinct example of non-involvement by US military forces. The forces in Europe were reduced after the fall of the Berlin Wall.

For the most part, US troops were stationed in allied countries, such as Japan, South Korea and NATO members in a long-lasting Cold War system of deterrence to contain communism's ambition. However, troops sent to Korea in the early 1950s, to Vietnam during the 1960s and Iraq and Afghanistan in the 2000s, saw active combat.

A qualitative description of troop deployments would have to distinguish between combat and non-combat missions. The US use of military force in combat operations is unique, in that few other countries are both willing and equipped to take part in
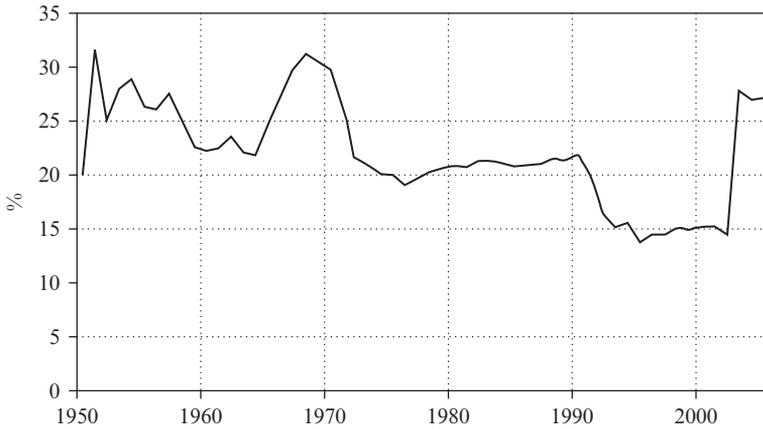
*Source:* US Department of Defense and The Heritage Foundation.

Figure 10.1 Percentage of US troops in foreign countries
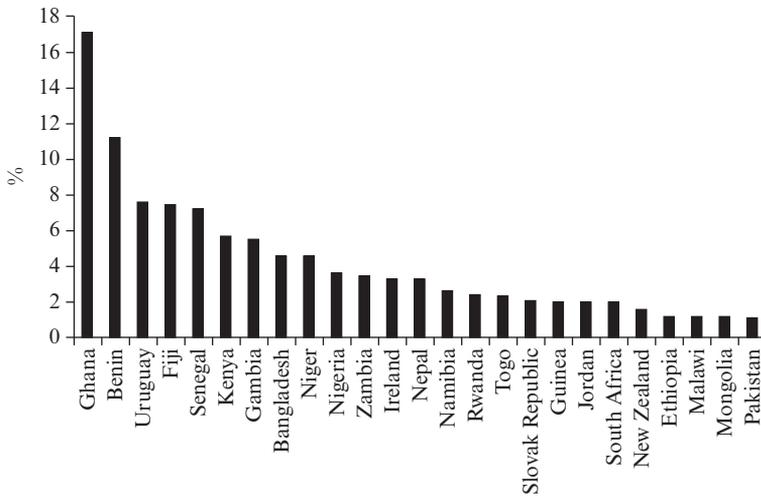
Source: Authors' calculation based on records from the UN Department of Peacekeeping Operations and from the IISS Military Balance.

Figure 10.2 Percentage of troops deployed in UN operations, 2000–09

combat missions of such size. Domestic reservations have influenced NATO members' willingness, and sometimes ability, to participate in peace missions. Missions that have tough rules of engagement or are perceived as risky or morally unjustified have generated domestic pressure and consequently national caveats on deployment of forces (for example Afghanistan, the Balkans). Some claim that a high valuation of life in wealthier nations causes a casualty-averse approach, the use of too few peacekeeping troops and the use of a more capital- or weapon-intensive technology (Seiglie, 2005). Figure 10.3
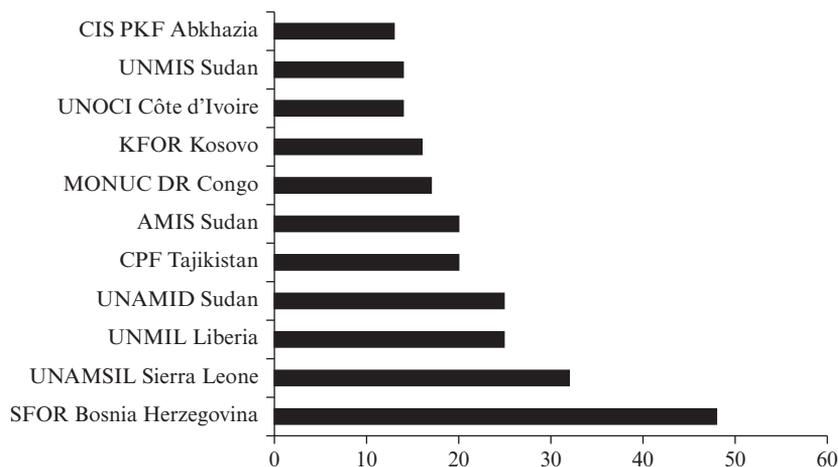
Source: Authors' calculation based on records from the SIPRI Database on Multilateral Peace Operations.

Figure 10.3   Deaths per year among peacekeepers

shows the operations with more than ten deaths per year among peacekeeping troops. Among the most dangerous operations there are the NATO and NATO-led operations and the collective forces under Russian command. We deliberately excluded the operations in Afghanistan (ISAF) and Iraq (MNF-I and NTM-I) since these seem to be more war-fighting than peacekeeping missions.

The Heidelberg Institute Conflict Barometer database identifies five values of conflict intensity: latent conflict (level 1), manifest conflict, crisis, severe crisis and war (level 5). There is not a clear relation between the conflict level and the number of deaths among peacekeepers. Many dangerous missions, according to the conflict level, such as the CEEAC missions in the Central African Republic, suffered less than ten deaths. Paradoxically, the AU mission in Burundi and the EU forces deployed between the Central African Republic (CAR) and Chad suffered respectively one and zero casualties, in areas classified as war regions (conflict level 5). These examples, along with others shown in Table 10.4, suggest that peacekeepers are often deployed in safe areas, or that they do not engage in fighting to carry out the mission mandate.

Peacekeepers do not just deploy within their region of origin or its immediate neighbourhood. European forces under NATO and Asian forces under UN command operate across the world. East African troops operate in West African operations, and vice versa, and Latin American forces, such as from Argentina and Chile, operate in Haiti. Figure 10.4 suggests that a geographic proximity to the country in conflict triggers neighbouring countries' responses in UN operations. In fact, the bulk of participating countries come from the same conflict region. The EU deployments, for example, are mixed. We have two distant areas of operation: EU missions in Africa (such as Artemis in Congo or EUROFOR in Chad/CAR) and the EU mission in the Balkans (Macedonia and Bosnia-Herzegovina). Ad hoc coalitions are either made up by neighbour states, such as ISF in East Timor, RAMSI in the Solomon Islands and SAPSDI in Burundi, or by former colonial powers (France in Cote d'Ivoire). Certainly, countries operate through their regional

Table 10.4   *High risk and few casualties: conflict intensity extracted from the Heidelberg Institute Conflict Barometer data set*

Category	Acronym	Location	Conflict Intensity	Deaths p.y.
AU/UN	UNAMID	Sudan	5	25
AU	AMISOM	Somalia	5	10
UN	UNMIS	Sudan	5	10
UN	UNAMI	Iraq	5	2
AU	AMIB	Burundi	5	1
EU	EUFOR	Chad/CAR	5	1
EU	Operation Artemis	DR Congo	5	0
CEEAC	MICOPAX	CAR	4	1
Ad-Hoc	SAPSD	Burundi	4	3
CEEAC	FOMUC	CAR	4	2
Ad-Hoc	MIF-H	Haiti	4	1
EU	EUFOR	DR Congo	4	0

Note: Where applicable the level refers to the specific region of a country (Kosovo, Abkhazia, South Ossetia, Darfur, Eritrea-Ethiopia borders). Where more then one conflict was present, the figure represents the highest intensity reached among all conflicts.
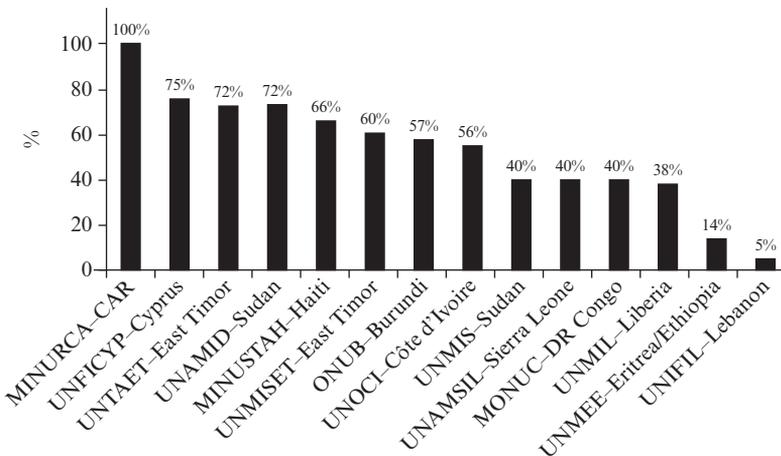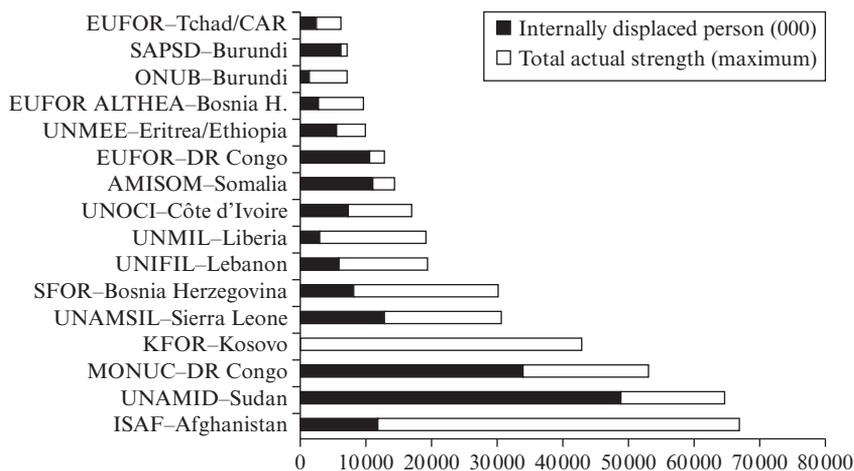

Source: Authors' calculation based on records from the SIPRI Database on Multilateral Peace Operations.

Figure 10.4   *Troop-contributing countries to UN operations from the same conflict regions*

organizations: Africans through the AU, Europeans through the EU and NATO, and former Soviet Republics (Russia in particular) through the CIS.

Regan (1998) claims that intense conflicts are unlikely to attract outside actors, while those that involve humanitarian crises are more likely to do so. In presence of a large population displacement or an imminent humanitarian crisis, the probability of participation increases. There are benefits to intervening in civil wars with humanitarian

Sources: Authors' calculation based on records from the Internal Displacement Monitoring Centre Database, The Office of the UN High Commissioner for Refugees and US Committee for Refugees and Immigrants. Where applicable the number refers to either the sub-region (e.g. Abkhazia) or the macro region (e.g. Ethiopia-Eritrea) interested.

Figure 10.5   Internally displaced persons and maximum actual strength of troops

implications, and domestic costs of not intervening. Among others, Dowty and Loescher (1996) argue that refugee flows can impose costs that affect national interests, and that interventions in conflicts with large refugee flows are justified by international conventions. However, from our data set, there does not seem to be a clear correlation between the number of internally displaced people and the maximum number of troops deployed (Figure 10.5).

10.3   ACTORS AND OBJECTIVES

The standard economic model in this area assumes that the peacekeeping actors are the governments of nation states with some private national interests which agree to provide the international public good of peacekeeping, though there is an additional principal–agent problem between government principals and the military agents conducting the peacekeeping. While we will adopt this framework, we have to recognize that it is problematic because nation states are not unitary rational actors: their decisions reflect the operation of coalitions of differing interests. In addition, institutional structures like the separation of powers between administration, legislature and judiciary preclude coherent unitary decision-making. Partly as a consequence of this incoherence, the justification for the intervention provided to internal or international audiences may differ from the actual objectives of influential actors.

Peacekeeping operations generally require nation states to act in concert, at a minimum to get UN approval for the mission, and this raises international collective-action issues. Different states have different objectives, which may reflect private as well as public

interests. The private interests may include minimizing the direct cost on themselves of instability in close neighbours, responding to media or public demands to do something, establishing their reputations as regional powers, earning money from supplying troops to the UN, opening prospects for their own firms in the target country, and providing combat experience for their troops. There are a also group of rich countries, such as the Scandinavian countries and Canada, which have traditionally appeared relatively altruistic in providing peacekeeping services, partly for domestic political reasons. Because of the hegemonic role of the US, it can be difficult to separate its private, national and its public, international interests.

The political environment is characterized by a patchwork of national and multinational actors conducting military operations in the world's conflict zones. During the Cold War peacekeeping was very much a UN monopoly, representing the maximum action that could be supported in the Security Council. Since the end of the Cold War the pattern has been more varied, with various organizations contributing to nation-building operations. However only a few, such as NATO, the European Union and the African Union, are structured and trained to deploy military forces. NATO, in particular, is trained as an international military alliance with an established and experienced command structure. Such deployments under an international command structure and with many national participants require very different skills from military and administrative personnel who have to respond to international as well as national public opinion. While coalitions spread the risk and cost of intervention and add legitimacy, there are trade-offs between burden-sharing and unity of command.

The preservation of human rights, peace, and the promotion of economic and social development are central themes in international law, but there are trade-offs between these and national sovereignty, both of which are affirmed in the UN Charter. Chapter 1, Article 2.7 says that nothing in the Charter shall authorize the UN to intervene in matters which are essentially within the domestic jurisdiction of any state; while Chapter 7, particularly Articles 41 and 42, authorizes the Security Council to introduce measures that may be necessary to maintain or restore international peace and security against those responsible for threats to peace, breaches of peace and acts of aggression. These measures may include not only economic sanctions but also military action against a country which violates the Charter. The extent to which the need to act to reduce human suffering takes precedence over concerns about sovereignty has been debated over the years, and the right of humanitarian intervention has been controversial both when intervention has happened, as in Kosovo, and when it has failed to happen, as in Rwanda. The International Commission on Intervention and State Sovereignty in 2001 defined the concept of sovereignty as including the responsibilities of states and not just their rights:

> The responsibility to protect its people from killing and other grave harm was the most basic and fundamental of all the responsibilities that sovereignty imposes – and that if a state cannot or will not protect its people from such harm, then coercive intervention for human protection purposes, including ultimately military intervention, by others in the international community may be warranted in extreme cases. (ICISS, 2001, p. 69)

The Commission moved further by stating that this responsibility embraces the right and duty not only to react in situations of compelling human need with appropriate

measures, but also to prevent internal crisis: 'Military action can be legitimate as an anticipatory measure in response to clear evidence of likely large scale killing' (ICISS, 2001, p. 33). However, humanitarian intervention can be used as a justification for less benign actions by other powers, such as Russian intervention in the disputed provinces of Georgia.

The decision by a state to intervene for humanitarian or altruistic motives may reflect public opinion and media pressure to stop human rights violations, killing and human suffering associated with civil wars. Although the public opinion may not be well informed about the issues at stake in international crises, it may have a strong influence on the decision-making elites. A public that feels insecure and has a perception of international security threats is likely to support demanding international operations. Americans in 2001 believed that intervention in Afghanistan was necessary to protect the most vital of US interests: the security of people and homeland. As a result, the US intervened with overwhelming force with the intent to topple the ruling regime. This event highlights a basic principle in the intervention dynamics: in the presence of a clear threat to national interests, there is no lack of political will and the deployment is rapid and powerful (Lahneman, 2004). But when national security is not at stake, intervention requires that people and politicians be persuaded that military efforts are worthwhile and offer prospects of success at a tolerable cost (Freedman, 2007).

Differences between countries in institutional arrangements, such as the degree of parliamentary involvement in decision-making, can lead to different approaches to intervention. Some legal and constitutional frameworks set limits on the action national leaders can take (for example a requirement for prior parliamentary consent for the deployment of forces outside the nation's boundaries). There may also be domestic political obstacles to robust rules of engagement, foreign command of domestic forces or the deployment of conscripts, which in some armies made up the bulk of active personnel. Concern with resources has made Africa, the main area of peacekeeping, of more strategic interest to China, India and Russia.

Diasporas from the country in conflict may not only finance insurgents but also pressure the countries in which they live to intervene. Conversely, expatriate communities from the intervening countries living in the conflict zone, as well as past colonial links, can also prompt intervention such as individually led military missions in former colonial spheres, for example Britain's in Sierra Leone and France's in Côte d'Ivoire.

Given the variety of domestic and international factors that determine a country's contribution to military peacekeeping, there must be a question as to whether its motivation can be captured in a simple objective function suitable for mathematical analysis.

10.4   INSTRUMENTS: FORMS OF INTERVENTION

Any nation's specific peacekeeping-related actions – such as how it votes at the UN on particular interventions; whether it pays its contributions to UN peacekeeping; and whether it contributes troops to particular interventions – are situated within a wider spectrum of possible interventions which include: persuasion, such as diplomacy and conflict resolution measures; the provision of material incentives such as aid, trade and economic sanctions; and coercion, either threatened or implemented. The

effectiveness of these instruments depends on the international environment, the timing of the intervention and the capability of the target state. During the Cold War, intervention was constrained by the desire to avoid a direct East–West military confrontation prompted by a conflict between their protectorates. There is often a sequence of possibilities, starting with the use of mediation and preventive diplomacy, going through economic sanctions and low-intensity conventional missions to separate the opposing forces with a degree of consent between the parties, and ending with high-intensity combat operations. The intervention can be undertaken in anticipation of a conflict, during it or after a ceasefire.

Pre-conflict intervention, prior to the outbreak of violence, should identify and reduce the major risk factors (for example making it difficult for rebels to organize). While prevention is cheaper than trying to remedy conflict after it occurs, it is rare – more a result of failure to pay early attention to impending conflicts rather than a result of lack of early warning indicators (Lahneman, 2004). States and international organizations only intervene when a conflict threatens their interests and when there are opportunities, and it is usually only when the conflict escalates that opportunities and threats are perceived.

Intervention is easier if the warring parties have reached a 'hurting stalemate' (Zartman, 2001), when both parties realize their inability to achieve their aim of winning or to escalate the war successfully and are aware that conditions are becoming worse, with the threat of economic or military collapse. The intervener can take advantage of the stalemate by persuading the combatants that there is no alternative to negotiation. In the absence of a hurting stalemate a third party may resort to coercion and military power to persuade the parties to negotiate.

During post-conflict intervention, a war-torn society needs global financial institutions to invest in infrastructure and social sector recovery, more than a military presence. This economic and social intervention must be followed by efforts supportive of the peace settlement. If the root causes that triggered the problem are not addressed, the risk of conflict returning is an inherent threat. Thus, intervention at this level must provide the right incentives for a long-lasting peace, which depends on the third party's ability to persuade the parties that resolution is preferable to continued conflict. Persuasion can be exerted in different ways and with different tools. Small states can be effective third parties in this respect, since the adversaries may perceive them as less threatening and more trustworthy. However, if better information and better lines of communication are not enough to convince adversaries to stop fighting, small states do not have the resources to intervene with military force.

In any intervention, particularly the threat to use force, the credibility of the intervention is crucial. For the threat to be credible, the third party must have the incentive, ability and resolution to carry it out with 'all the necessary means' (Lake and Rothchild, 1995). If the situation is of high salience to the third party (for example because of the importance it attaches to its reputation), this will enhance the credibility of the threat. In establishing credibility, mission intensity can be an important signal; for instance a high-intensity deployment can deter the combatants from seeking to prolong the conflict. However, high-intensity interventions are risky and expensive, particularly when they fail, and may lead to further escalation and unsustainable costs for the third party, as the US found in Vietnam and the Soviets in Afghanistan.

10.5   STRATEGIES: MODELLING INTERVENTION

Effective intervention requires the third party to understand the belligerents' preferences, commitment and perception of the credibility of any threats. The threats may be credible and be implemented but not be sufficient to produce compliance if belligerents are deeply committed to strongly-held values. This section discusses how third parties can be introduced into the standard bilateral models of conflict and the extent to which these models can help the intervening nation develop more effective strategies.

In rent-seeking and conflict games two players use their available resources to gain a prize, and the probability of winning the prize depends on the effort exerted. Each player can invest in either productive activities or wealth-diverting activities which give them an advantage over their opponents. Models of such conflicts are provided by Grossman (1991), Skaperdas (1992) and Hirshleifer (1995), among others. The social costs of conflict in these models arise from the diversion of productive efforts into socially unproductive activities (the use of military force). We will consider what a third party might be able to do, in the context of such models, to cause both parties to refrain from investing in fighting and to create the conditions for peace to be an equilibrium outcome. Because of lack of space we will not set out the mathematical details of the formal models, but instead provide an informal discussion of how they may be adapted to allow for third-party intervention. We consider different models to emphasize different aspects of the intervention (coercion; side payment; deterrence, denial and punishment; and diplomacy).

10.5.1   Coercion

The first approach we consider uses a standard conflict model originating with Haavelmo (1954) and rediscovered by Hirshleifer (1995). Hirshleifer (1995, p. 27) defines anarchy as a system in which 'contenders struggle to conquer and defend durable resources, without effective regulation by higher authority'. The idea is applicable to any circumstance in which there is no strong overarching authority, such as in sub-Saharan countries where the states are weak or in international relations where there is no supranational enforcement.

Consider two competing factions – a government and an opposition – that divide available resources available (labour) between productive effort and fighting effort. Labour endowment is assumed constant and independent of the parties' actions and each party divides its labour between fighting effort and productive effort. The outcome of the conflict, the probability of winning, is decided by relative investment in fighting and a decisiveness parameter, that intensifies the effect of force superiority. The fighting effort ratio and the decisiveness parameter translate into a probability of winning and consuming the opponent's economic resources through the Contest Success Function (CSF). Figure 10.6 illustrates how, with the fighting effort of actor 2 ($F2$) held fixed, the success fraction of actor 1 ($P1$) responds to changes in his fighting effort $F1$. This is the CSF and illustrates how the sensitivity of the probability of winning to the fighting effort grows as the decisiveness parameter d increases.

When the decisiveness parameter d exceeds unity we will get a divergence in favour of the side that exerts a higher fighting intensity, and then a corner solution. Figure 10.7
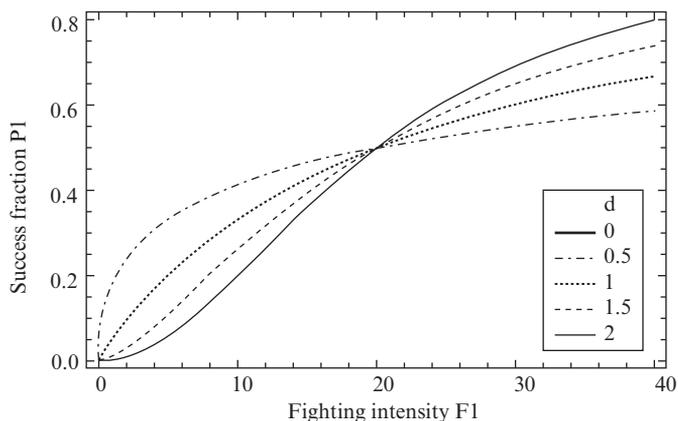
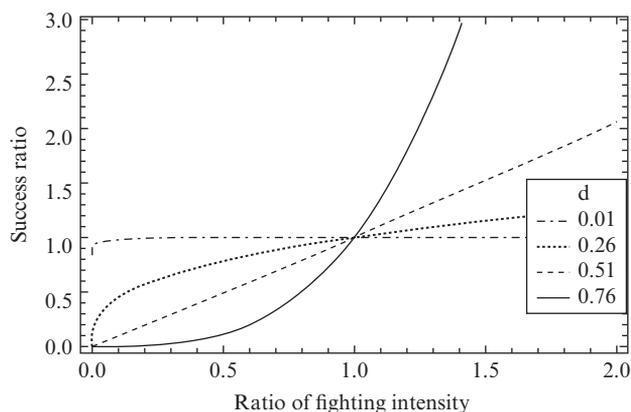*Figure 10.6   Contest success function*

Figure 10.7   Fighting intensity and success ratio

displays values consistent with an interior solution. It does not show the solution of the anarchic system but only the relations that must hold, in equilibrium, among the dependent variables (probabilities of success) and the fighting intensities. A necessary condition for equilibrium is an initial endowment that provides sufficient income for survival. In fact, some minimum income is required to sustain life for an actor in the system.

The solution is given by the sub-game perfect equilibrium allocation of the players' initial resource endowment assuming simultaneous optimization (Cournot–Nash behaviour). The conclusion is striking: regardless of differences in endowment, at any interior solution each side devotes equal effort to fighting and as a result achieves equal levels of final resources. Furthermore, the higher the decisiveness parameter, the greater equilibrium fighting efforts. Hirshleifer says: 'What is possibly disturbing . . . [is that] there can never be total peace in the sense of devoting zero resources to conflict' (Hirshleifer, 1995, p. 36).

One can then consider how third-party intervention can cause the combatants to

choose a fighting effort close to zero. This might be either by a negotiated settlement or by causing the prospect of certain victory for one side. For instance, Regan (1996) claims that for reasons of efficiency, legitimacy and stability, support for the government should lead to more successful outcomes. Notice that the structure of the game does not change if the third party backs one side; this just modifies the budget constraint and rent of the supported side.

The model gives good reasons to think that it is possible to hasten conflict resolution by reducing the endowment of one side. Collier and Hoeffler (2004) emphasize the role of economic factors in civil wars and the need for rebel organizations to be financially viable. Conflict zones are often associated with natural resources (for example diamonds in Sierra Leone and Angola, timber in Cambodia, opium in Afghanistan). Predation may not be the motivation for the war but may be required to make it feasible. Collier et al. (2006, p. 19) argue that: 'where rebellion is feasible it will occur'. To impede this type of funding, in 2000 more than 50 countries agreed to restrict the trade in illegal diamonds through the 'Kimberley process'. Control of raw materials and control over cash flow through pressure on the international banking system would also be effective. However, rebel movements often have alternative sources of funds that are more difficult to restrict, such as extortion from foreign companies, and drug trafficking. The fact that the conflicts are profitable to some combatants may inhibit a peaceful settlement, and the longer the conflict, the more people will find a way to thrive in conditions of disorder.

A modified version of the Contest Success Function follows from a reinterpretation of the decisiveness parameter, d. Hirshleifer describes d as an index that raises the effectiveness of each unit of fighting, but we might think of d as indicative of the probability of control and ability to exploit domestic resources once the war is won. As d decreases, any disparity between the two fighting efforts has a decreasing effect on the partition of resources. Combatants will decrease their fighting efforts to the point of exerting efforts close to zero with d sufficiently low. A way to obtain a lower d could be by altering the belligerents' expected gains should they win or should the fighting continue. As argued by Regan (1996, p. 341): 'the key to any intervention strategy is to alter the calculation by which the antagonists arrive at a particular outcome'. In this situation the coercion, that is the threat of the use of force, is a possible instrument.[3] Consequently, a third party may threaten to alter the structure and distribution of power between combatants, which may change their expectations about concession-making and the outcomes of negotiations. The main advantage of a credible threat of coercion is its power to signal the advantage of reconciliation without having to wage a war.

The third party should be committed to stop the fighting and, in case of failure, to punish the winner and reallocate 'the spoils of war' in favour of the defeated group. The threatened punishment could include trade sanctions and asset freezes; moreover the third party could prevent post-war power and rent seizure by the prosecution of warlords in The Hague.[4]

10.5.2   Side Payment

Intervention might include not only armed peacekeepers, but also provision of guaranteed financial transfers to combatants by third parties. Along with the power to take away resources from a party, as in the previous model, the intervener can simply give

resources to one or both players. Through the use of side payments, the intervener can affect the conditions of a settlement. Side payments might depend on the outcome, such as a promise of foreign aid after an agreement, but need not be attached to the outcome if the additional benefits in themselves make agreement more appealing (Zartman and Touval, 1992). A third party could also attempt explicitly to pay off one of the parties with a financial transfer and begin negotiating peace.

We think about a sequence of actions made up of three steps. We assume that the third party is a Stackelberg leader who moves first and the rebels move second, taking advantage of the information acquired. In the first step, the third party mobilizes and promises a financial transfer. In the second step the rebels invest in fighting, after observing the third party's deployment and its promise. Finally, depending on the rebels' choice, the third party will either transfer the money to the rebels or fight.

Rebels try to maximize their expected utility for each possible combination of third-party deployment and transfer level, taking into account: the initial resource partition; the expected gain should they continue the fight against the government, weighted by the decisiveness parameter; and the cost involved in confronting the third party. Fighting efforts decrease as the returns to peaceful activity, and the acceptance of a reward, rise relative to the returns to fighting. In short, the third party can ensure that pay-offs from continuing to fight no longer exceed the pay-offs from accepting the transfer and signing a peace treaty. Once again, when fighting becomes difficult and costly, cooperation becomes more likely and offering payment can avoid a costly military confrontation.[5]

There are, however, limits to this strategy. If it is profitable for one rebel group to predate on national resources, once that group has been bought off, others are likely to take advantage of this new opportunity. Furthermore, this threat can only work if the intervention is credible in the eyes of the combatants and the third party can identify who to bribe (for example it may pay people to pretend to be insurgents to collect the payment).

10.5.3   Deterrence, Denial and Punishment

Skaperdas's (1992) model shares many common features with Hirshleifer (1995): a well-defined resource endowment allows a player to choose between fighting and production. The total available product depends on the agents' choice in useful production, while the investment in fighting determines a share of the prize on the basis of a similar contest success function. The final prize is produced jointly and then divided in proportion to the probability of victory. Although in this model no specific functional form is assumed, the conflict technology relates fighting effort to the probability of winning in a classic fashion: the function is assumed to be concave and the probability of victory of one player is increasing in that player's effort and decreasing in the opponent's strategy. The main difference is that even if both parties may choose a mix of fighting and production, Skaperdas (1992) allows for the possibility of a peaceful trading cooperative equilibrium with no one investing in fighting. Therefore, conflict is not the necessary outcome of the players' interaction. For full cooperation to be possible, both players must be similar in their marginal product, and the effectiveness of conflict technology for either side must be low. Full cooperation has two parts. Firstly, a large differential in fighting efforts causes only a minimal increase in the probability of winning. Secondly, the opportunity

costs (or the peaceful productive capacities) for any given level of conflict technology should be close. A low probability of victory for both parties, and equivalent productive capacities, result in total peace.

A second, less efficient outcome, the partial cooperation, happens when one agent only produces and refrains from conflict, whereas the other chooses a combination of fighting and production. This outcome is possible when the conflict technology is 'ineffective' but not as much as in full cooperation, and the marginal product of the peaceful party (its marginal contribution to the useful production) is too high to justify any fighting effort. Finally, in conflict, both players invest in arms. Even if both have similar productive capacities, the technology of conflict is such that the marginal benefit of investing in war always exceeds its marginal opportunity cost.

Unlike the Hirshleifer model, peace is possible, and even with conflict the unilateral use of force is more likely than a symmetric war. Since the combatants 'cooperate in equilibrium when conflict is ineffective', the third party can try to make the use of force too difficult or costly. The aim is to force both parties to sit at the negotiating table, and when a party faces a consistent decrease in his probability of winning, the full cooperation outcome is more likely. This might be done by denial, punishment or deterrence, though these overlap. Denial seeks to prevent a target from achieving its aims by damaging its military capability. Punishment does not limit the enemy's ability to act but instead seeks to destroy the will to do so by raising the cost of its continuing resistance. Deterrence involves being prepared to inflict unacceptable damage on one party, and primarily making sure it is aware of the risk so that it refrains from violence.

Along with a mandate that embraces the deterrence, Ruggie (1993) also proposes an escalation of measures against the combatants. Escalation is costly for both players: they waste resources, and risk losing territory and lives. As Schelling (1960) points out, escalation is the coercive side of a peace plan: the fear of even greater cost imposition motivates actors to make concessions at the bargaining table. So there are higher costs associated with disagreement. Deterrence and escalation are two ways to control the perceived cost of conflict.[6]

10.5.4   Diplomacy

Grossman (1991) considers the behaviour of one ruler with many individual subjects, who cannot coordinate but can choose between production, soldiering or insurrection. As usual, time allocated either to soldiering or to insurrection is socially inefficient. Because the subjects cannot coordinate, the ruler has a first-mover advantage which can be used to shape the subjects' calculations, a form of diplomacy. The cost associated with the insurrection is the production forgone by devoting time to rebellion. Grossman's (1991) model implies that peasants would devote no time to rebellion when its expected return is less than the expected returns of either soldiering or production. And, vice versa, they will allocate all of their time to rebellion when its expected return is more than the return from either of the other activities. The probability of a successful insurrection is an increasing function of the time allocated to insurrection and a decreasing function of time devoted to soldiering. The expected return to insurrection is a positive function of the parameter describing the technology of insurrection, dependent on geography, human factors and weapons. When this parameter is zero, the ruler can choose a combination

of soldiering time and tax rate to deter the insurrection fully. A Pareto-optimal solution occurs only when soldiering time becomes extremely effective in deterring insurrection; then labour time is almost completely allocated to production. However, when the technology of insurrection is positive, insurrection cannot be completely deterred. The time devoted to insurrection and the consequent probability of a successful insurrection are never zero in equilibrium. Also, with a large parameter, peasants will allocate most of their time to insurrection and a negligible fraction of time to production.

Grossman (1991) moves away from the unitary insurgent model and his assumption that only active insurgents share the prize contrasts with the theories that emphasize the social benefits of insurgency. In this model, a possible third-party intervention is to try to change the technology of insurrection. This will reflect not only geography and weapons, but also the charisma of a leader who may be able to inspire a small band of revolutionaries to achieve a great success (for example Mao, Castro). Entrepreneurial leaders play a crucial role in many insurgencies and they often have strong personal interests in continuing conflict: learning to distinguish advertising from interests is important to understand what belligerents' elites might be willing to accept in a peace settlement (King, 2007). Therefore, it is of the utmost importance for an effective third-party intervention to engage the leaders in the dialogue. The devised strategy in this case involves diplomacy, the improvement of communication and the quality of interaction between the central government (the ruler in Grossman's model) and the rebels' leaders.

10.5.5   Enforcing the Peace Agreement

In most conflict models the fighting efforts of the two sides determine their relative degree of success in the conflict, and war is a process of rational calculation by the combatants. Whereas the conflict models assimilate war and search for profit, implying that the only cause of war is belligerents' personal enrichment, several scholars have moved to a more complete approach that sees civil wars as arising from a complex mix of different variables, such as horizontal inequalities or the greed–grievance nexus (see for example Blattman and Miguel, 2009 for a broad review). In addition, if actors are rational they should prefer a compromise, sharing the rents, to a costly war. Political scientists have tended to emphasize the obstacles to compromise (for example bargaining indivisibilities and commitment issues).

Peace agreements are fragile. Walter (2002) estimates that 62 per cent of civil wars during 1940–92 led to peace settlements, but only 57 per cent were successfully implemented; and of 148 peace treaties signed between 1991 and 2005, only 103 were implemented. Collier and Hoeffler (2007) also emphasize the danger of the 'conflict trap' of enduring hostilities and recurring civil wars. Walter (1997) distinguishes theories that assume belligerents are driven by a cost–benefit calculation, and theories that assume they are driven by less rational emotional forces such as ethnic and cultural identity, where reaching a settlement over non-negotiable values is difficult.

In a well-known paper, Fearon (1995) characterizes the set of rational explanations for the inability to compromise as informational problems, bargaining indivisibilities and commitment issues. Informational problems arise when the combatants have private information, for example about their military strength, and have incentives to misrepresent their private information.[7] The uncertainty of war makes information unreliable

and calculation difficult. As Fearon (1995) points out, there are also incentives to keep information concealed and to release false information. Bargaining indivisibilities arise when the prize cannot be divided in acceptable ways, such as when deep values are at stake. Scholars differ on how important such indivisibilities are in practice, and Powell (2006) argues that indivisibilities should be seen as a commitment problem, an inability to have faith in the division. Part of the issue is a technical one. Most expected utility models assume certainty equivalence: a probability of winning the prize and a share of the prize are formally identical. This is questionable. On the one hand, for a risk-averse agent the certainty equivalent is less than the expected value of the lottery because the agent prefers to reduce uncertainty. On the other hand, for indivisible values, a 30 per cent chance of freedom is worth fighting for relative to accepting 30 per cent freedom.

Commitment issues occur because there is no third-party enforcement and the combatants cannot guarantee that they will not renege on agreements. Both sides might prefer any agreement to war if it was enforceable. Few agreements are self-enforcing and the agreement itself may change the balance of military power and the incentives for surprise attacks. Powell (2006) relates these issues to shifts in the future distribution of power between parties. The theory suggests that intrastate wars are more likely when there are weak legal and state institutions, where commitments lack credibility, and that enforcement of contracts by external third parties can substitute for weak domestic institutions.

Similarly, Walter (1997) argues that civil war negotiations rarely end in a peace settlement because credible guarantees on the terms of the settlement are impossible to arrange by the combatants themselves. In the Addison and Murshed (2002) model, when war provides economic gains to one party (lootable resources), peace is not 'incentive compatible', and the party will agree to peace but renege on it afterwards and return to war. Therefore, the model predicts a temptation to wage a surprise war by at least one side to the peace agreement. In the same model, a high discount rate, or a short time horizon, make the treaty unsustainable. Their prediction is very reasonable in war-torn societies where insecurity makes current consumption strongly preferred to future consumption. Because of the high discount rate, breaking an agreement becomes easy, even though it damages future reputation. However, when conflicts are protracted, belligerents often make two different calculations, and they take into account not only the future costs but also the past costs.[8] As the model of Murshed (2009) also shows, a state of peace in the absence of an external intervener, capable of employing a package of aid and sanctions via peacekeeping forces, is not a sustainable condition in many developing states. Walter (2002) analyses the presence of mediation in conflicts in the period 1940–92. The results show that the crucial factors for a successful resolution are a third-party guarantee and power-sharing. Also, they seem to be interconnected and indivisible.[9] A third party can use economic pressure, limit the use of key resources or resort to punishment to create a binding agreement. Similarly, military forces and the creation of buffer zones make treaty violation and aggression more costly (Walter, 1997).

Finally, the third party can restore harmony and preserve the interests of all parties during the bargaining process by imposing a new value, such as peace instead of competition. The weaker party in the peace process, or even the loser, must be confident about its chances of survival.[10] A powerful third party, with political will, economic resources and military might, can help the parties to minimize uncertainties by assuming a credible role as guarantor of a negotiation and a temporary trustee.

10.5.6   Reconstructing State Capacity

Between standard economic models which assume a state that costlessly enforces contracts, and anarchic conflict models with no enforcement, there are a range of intermediate cases associated with different degrees of state capacity. Large-scale violence within a society can be interpreted as an aspect of state failure or the breakdown of the social contract between ruler and subjects. The social contract contains a number of formal or informal arrangements and widely agreed-upon rules by which the state maintains order. For economists, state capacity tends to consist of three elements: the allocation of the national resources through taxation, the provision of public goods through government expenditure and the maintenance of security through a legal system.

Models of state capacity and civil war are provided by Besley and Persson (2008, 2009). War can arise when the state and potential opposition do not internalize the preference of the opponent, attaching zero weight to the other group. Power can be transferred through violent means, and the key asymmetry is that the government can finance its fighting effort through taxation, whereas insurgents cannot, but may be able to loot certain types of resources. The ruler earns natural resource rent. We assume that the profile of our 'natural resources economy' consists of both lootable and non-lootable resources that may be extracted through either rudimentary methods (full access) or the intervener concession. Lootable natural resources accrue directly to the ruler's private income. Non-lootable resources are extracted by large, taxable, multinational corporations, and therefore, given the direct intervener control, accrue only to the public sector. That means that the rulers cannot use them as a personal bank account, nor can they use part of them for private needs.

In addition to government and rebels, we can introduce an external third party which supports the government in retaining power. The intervener sets up an incentive mechanism based on the security provision and the licence to extract natural resources. In practice, the third party chooses a level of state capacity support in the field of security. This support represents the physical security and the legal enforcement that will be provided indifferently to both groups (a non-excludable form of public good). Indeed, in a civil war environment, security is the public good that is perhaps in greatest need. In addition, the third party chooses a monitoring effort on the level of non-lootable resources extracted by the ruler. Then, there is a share of non-lootable resources directly controlled by the intervener. In case of a rebel victory over the government, the intervener will reduce both security support and resources rent. In the third party's preferred case, the intervener provides security and the access to non-lootable resources. Then public goods are fully provided. In the worst case, when the insurgency is successful, a lower level of security and non-lootable resources rent is achieved.

The individual utility of a member of each group in any period is a function of the value of public goods, the level provided, and the income earned by each group; a concave function that increases in the level of security support provided by the third party. Intuitively, a better enforcement of property rights, a safer environment and a functioning police facilitate the economic activities in the formal sector. Thus, they improve the market income. The security support is then considered as a 'business-enhancing' form of state capacity because it leads directly into an increase in private revenue.

When we maximize the value function of the ruler we obtain that, intuitively, the value

of common-interest public goods determines the optimal fiscal policy. Therefore, when the value attached to public good is high, the ruler taxes both groups as much as possible and finances spending on public goods. When the value of public goods is low, the ruler uses the fiscal capacity to finance its own group. The opposition is always taxed at the maximum rate.

The function underlines also that it is optimal to obtain as much security provision as possible. Regardless of any value attached to the public goods, the ruler gains from an improved security via a higher market income, which in turn means more private consumption and a higher tax base to finance public spending.

Using the same model we verify the notion that a given level of state capacity determines the incidence of a civil war. We start from a standard set-up in which the government and the rebels maximize their expected utility. Besley and Persson (2009) demonstrate that conflict is not profitable when there is a high demand for public goods and consequently they are provided. The intuition is that all spending is on common-interest goods independently of who holds power, so there is nothing to fight over. Our model departs from this theory by allowing the state to provide public goods whilst being at risk of armed conflicts.

We write the objective function for both players, prior to choosing the level of fighting intensity. Since no public goods are provided with an insufficient value attached to government spending, we assume that public goods are always very highly regarded. This assumption is also extremely reasonable in a civil war scenario, in which the development relies on a coherent and effective delivery of public services in different sectors, from education to health care and infrastructure.

The government has access to revenue and royalties, but is threatened by the excluded rebel group, which may raise an army and overthrow the government. Therefore, there is a clear trade-off between the opportunity cost of higher fighting efforts and the probability of capturing (by rebels) or keeping (by government) the lootable resources. Also, a trade-off exists between two states with a different level of state capacity and, consequently, in the capacity of public good provision.

In dealing with the revenue opportunity structure, we get beyond a general limitation in the literature: lootable resources do not necessarily escape the government's control (Collier and Hoeffler, 2004), nor does the mode of extraction make a difference (Snyder and Bhavnani, 2005). In our model the control over lootable resources depends on the ability of the government to remain in place and deter the rebel army. The relative military superiority over the rebels makes it possible to establish the control over the lootable resources and to exploit them for private interests.

In order to find an easy resolution of this model, we assume two typologies of intervention. The first is soft, or low-profile. Here, the intervention is limited to denying the full right to extract funding from the non-lootable resources. Policing and law enforcement are always assured. The result makes intuitive sense. The likelihood of a rebellion depends on the different levels of public good provided by each regime. And this level depends on the ability of each regime to earn revenue from non-lootable resources to finance the public expenditure. Hence, how much of the total value of the sector is freed by the intervener is the key to modifying the players' incentives. A higher realized value of public spending results, evidently, in a lower likelihood of insurgency. A higher level of wages also results in a lower probability that rebels will attack the

government, because it is more expensive to fight: the level of wage takes account of the rebels' lost income. Finally, high lootable resources rent results in a high probability of insurgency because there is a lot to plunder. When public services and social welfare are very highly regarded and non-lootable resources are more accessible under a government regime, then the state is repressive. People are offered the prospect of better living standards in return for limited freedom. Any incentive to rebel is discouraged by the prospect of losing the gains that the authoritarian or repressive government delivers. Order is not just maintained through coercion, but also through the mutual agreement to the rules.[11]

The second typology of intervention is relative to a higher involvement by the third party in the affairs of the region. The intervention is considered more complex since the intervener not only has to limit the access to extractive industries, but must also deny its support to the state's policing and law enforcement apparatus. Spending on security capacity not only enhances the citizens' welfare but also provides the level of enforcement of law and property rights necessary to induce taxable multinational companies to invest in the non-lootable sector. We assume that the investments in the region shrink when there is a lack of security, as a consequence of a state of disorder in the region.

As a result, we notice again that the abundance of lootable resources increases the propensity of future conflicts: further evidence of the 'resource curse' theory. A higher level of taxes also makes an insurgency more likely, because there is less to gain in a peaceful state. Spending on social welfare reduces the risk of civil war by making citizens less available for recruitment by rebels. Also, when the public goods are very valuable in the eyes of citizens, the state becomes repressive. Unlike in the previous section and our adaptation of Hirshleifer's model, in this set-up the intervener raises the cost of rebellion indirectly, through a 'suboptimal' provision of security and public services. For conflict to be avoided, a third party can restore the social contract through the reconstruction of state capacity, through taxation, public service provision and the maintenance of law and order.

Furthermore, the prediction entails that civil wars are less likely when state wealth is difficult to appropriate or hard to divorce from citizenry, as with some natural resources, which require expensive foreign participation to be extracted, and foreign aid flows. Bulky resources, such as deep-shaft minerals which require substantial investments and are difficult to steal, might be examples.

10.6   CONCLUSION

Developing useful economic models of peacekeeping poses many challenges. Military peacekeeping interventions usually involve counter-insurgency, which are among the most difficult military operations to mount. Their difficulty arises because they require non-standard strategy, tactics and logistics; require effective intelligence; and require the integration of the military, economic and political dimensions. To these difficulties, peacekeeping adds the complications of the international dimension and the collective-action problems faced by the international community. Despite these challenges, we think that economic models of peacekeeping have potential, particularly if it is possible to develop a more extensive empirical base, to inform the theoretical development.

NOTES

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1.   Numbers are taken from the UN Department of Peacekeeping Operations, excluding military observers, civilian police and civilian staff.
2.   Numbers are processed from the SIPRI Database on Multilateral Peace Operations, excluding military observers, civilian police and civilian staff.
3.   Byman et al. (1999) define coercion as: 'the use of threatened force, including the limited use of actual force to back up the threat, to induce an adversary to behave differently than it otherwise would'.
4.   Recently, a first step has been taken by the indictment of Charles Taylor, the President of Liberia, and Joseph Kony, the head of Uganda's Lord's Résistance Army, by international courts. If victory did not entail control over territorial or economic resources and imposition of dominion, rebel groups would have less incentive to invest in fighting effort.
5.   In Iraq, for example, American forces paid Sunni insurgents to switch sides away from al-Qaeda.
6.   NATO's use of airpower is an application of escalation. NATO intervention against Serbian forces started with a modest air campaign to signal a strong resolve. When the campaign failed to compel the target to change behaviour, it was intensified.
7.   One way to think about civil war is to think about the theory of imperfect markets, which can help us explain why peace fails (Brauer, 2006). Markets may not function well with asymmetric information and uncertainty.
8.   War is a kind of investment, so fighting is not limited only to reaching the original targets but also has to justify the sunk costs such as damage to property, deaths incurred and deterioration of the international image (King, 2007). Waging a war becomes an attempt at recovering past losses, and the additional costs that might be suffered often take second place when this logic is applied. Although less compelling, this argument could explain the infeasibility of agreements in the case of long-lasting wars.
9.   Power-sharing without third-party guarantees fails in 80 per cent of cases; it succeeds in 90 per cent of cases in the presence of external guarantees. NATO deployment in Bosnia, for example, was accompanied by a power-sharing agreement, although, as Walter (2002) emphasizes, the power-sharing agreement was weaker than the military deployment.
10. An example of this approach is illustrated by what happened in post-Second World War Europe. The US, instead of punishing the culprit – as every European nation who suffered German or Italian invasion would have liked – decided to change the nature of the game and create the conditions to avoid the endless repetition of an endemic conflict with Germany (Faure and Zartman, 2005).
11. This type of social contract has characterized many Asian regions such as Malaysia, Singapore, Taiwan and China (Cuesta and Murshed, 2008).

REFERENCES

Addison, T. and S. Murshed (2002), 'Credibility and reputation in peacemaking', *Journal of Peace Research*, **39** (4), 487.
Berkok, U. and B. Solomon (2006), 'Introduction', *Defence and Peace Economics. Special Issue*, **17**, 393–4(2).
Besley, T. and T. Persson (2008), 'Wars and state capacity', *Journal of the European Economic Association*, **6** (2–3), 522–30.
Besley, T.J. and T. Persson (2009), 'State capacity, conflict and development', NBER Working Paper.
Blattman, Christopher and Edward Miguel (2009), 'Civil war', NBER Working Paper.
Brauer, Jurgen (2006), 'Theory and practice of intervention', *Economics of Peace and Security Journal*, **1** (2), 17–23.
Byman, Daniel L., Matthew C. Waxman and Eric Larson (1999), 'Air power as a coercive instrument', Tech. rept. MR-1061-AF, Santa Monica, CA: RAND.
Collier, P. and A. Hoeffler (2004), 'Greed and grievance in civil war', *Oxford Economic Papers*, **56**(4), 563–95.

Collier, P. and A. Hoeffler (2007), *Handbook of Defense Economics. Defense in a Globalized World*, Vol. 2, Amsterdam: North-Holland.

Collier, P., A. Hoeffler and D. Rohner (2006), 'Beyond greed and grievance: feasibility and civil war', *Oxford Economic Papers*, **61** (1), 1.

Collier, P., A. Hoeffler and M. Soderbom (2008), 'Post-conflict risks', *Journal of Peace Research*, **45** (4), 461.

Cuesta, J. and S.M. Murshed (2008), 'The micro-foundations of social contracts, civil conflicts and international peace-making', MICRON Research Working Paper 8, Brighton: MICRON.

Dallaire, R. (2003), *Shake Hands with the Devil; The Failure of Humanity in Rwanda*, Toronto: Random House.

Daniel, D.C., P. Taft and S. Wiharta (2008), *Peace Operations: Trends, Progress, and Prospects*, Washington, DC: Georgetown University Press.

Diamond, L. (2004), 'What went wrong in Iraq', *Foreign Affairs*, **83** (5), 34–56.

Dowty, A. and G. Loescher (1996), 'Refugee flows as grounds for international action', *International Security*, **21** (1), 43–71.

Doyle, M.W. and N. Sambanis (2006), *Making War and Building Peace: United Nations Peace Operations*, Princeton, NJ: Princeton University Press.

Elbadawi, Ibrahim and Nicholas Sambanis (2000), 'External interventions and the duration of civil wars', Working Paper, Washington, DC: World Bank.

Faure, Guy Olivier and William Zartman (2005), 'Strategies for action', *Escalation and Negotiation in International Conflicts*, Cambridge: Cambridge University Press, pp. 309–23.

Fearon, James (1995), 'Rationalist explanations for war', *International Organization*, **49** (3), 379–414.

Freedman, Lawrence (2007), 'Using force for peace in an age of terror', *Leashing the Dogs of War: Conflict Management in a Divided World*, Washington, DC: United States Institute of Peace Press. pp. 245–63.

Gaibulloev, K., T. Sandler and H. Shimizu (2009), 'Demands for UN and non-UN peacekeeping: nonvoluntary versus voluntary contributions to a public good', *Journal of Conflict Resolution*, **53** (6), 827–52.

Giegerich, Bastian, (2008), *European Military Crisis Management: Connecting Ambition and Reality*, Adelphi 397, London: 1155.

Grossman, H.I. (1991), 'A general equilibrium model of insurrections', *American Economic Review*, **81** (4), 912–21.

Haavelmo, Trygve (1954), *A Study in the Theory of Economic Evolution*, Amsterdam: North-Holland.

Hirshleifer, Jack (1995), 'Anarchy and its breakdown', *Journal of Political Economy*, **103**, 26–52.

ICISS (2001), 'The responsibility to protect: report of the International Commission on Intervention and State Sovereignty, Ottawa: International Development Research Centre.

Jarstad, A.K. and D. Nilsson (2008), 'From words to deeds: the implementation of power-sharing pacts in peace accords', *Conflict Management and Peace Science*, **25** (3), 206–23.

Kane, T. (2004), 'Global US troop deployment, 1950–2003', *Center for Data Analysis Report*, **4**, 11.

King, Charles (2007), 'Power, social violence, and civil wars', *Leashing the Dogs of War: Conflict Management in a Divided World*, Washington: DC: United States Institute of Peace Press, pp. 115–30.

King, G. and L. Zeng (2006), 'The dangers of extreme counterfactuals', *Political Analysis*, **14** (2), 131–59.

Lahneman, W.J. (2004), *Military Intervention: Cases in Context for the Twenty-first Century*, Lanham, MD: Rowman & Littlefield Publishers.

Lake, David and Donald Rothchild (1995), 'Ethnic fears and global engagment: the international spread and management of ethnic conflict', Institute of Global Conflict and Cooperation working paper, University of California San Diego.

Llewelyn, John and John Dew (2004), 'War: Iraq and Afghanistan', Llewellyn Consulting, London, mimeo.

Murshed, S.M. (2009), *Explaining Civil War: A Rational Choice Approach*, Cheltenham, UK and Northampton, MA, USA: Edward Elgar Publishing.

Powell, Robert (2006), 'War as a committment problem', *International Organization*, **60** (60), 169–203.

Regan, Patrick M. (1996), 'Conditions of successful third party intervention in intra-state conflicts', *Journal of Conflict Resolution*, **40** (2), 336–59.

Regan, P.M. (1998), 'Choosing to intervene: outside interventions in internal conflicts', *Journal of Politics*, **60** (3), 754–79.

Regan, Patrick M. (2002), 'Third party intervention and the duration of intrastate conflicts', *Journal of Conflict Resolution*, **46** (1), 55–73.

Roberts, Adam and Dominik Zaum (2008), *Selective Security: War and the UN Security Council since 1945*, Adelphi 395, London: IISS.

Ruggie, John (1993), 'The United Nations: stuck in a fog between peacekeeping and enforcement', *Peacekeeping: The Way Ahead*, Washington, DC: Institute for National Strategic Studies, pp. 49–98.

Schelling, T. (1960), *The Strategy of Conflict*, Cambridge, MA: Harvard University Press.

Seiglie, C. (2005), 'Efficient peacekeeping for a new world order', *Peace Economics, Peace Science and Public Policy*, **11** (2), 2.

SIPRI (2008), *SIPRI Yearbook: Armaments, Disarmament and International Security*, Oxford: Oxford University Press.

SIPRI (2009), *SIPRI Yearbook: Armaments, Disarmament and International Security*, Oxford: Oxford University Press.

Skaperdas, S. (1992), 'Cooperation, conflict, and power in the absence of property rights', *American Economic Review*, **82** (4), 720–39.

Snyder, R., and R. Bhavnani (2005), 'Diamonds, blood, and taxes: a revenue-centered framework for explaining political order', *Journal of Conflict Resolution*, **49** (4), 563.

Solomon, B. (2007), 'Political economy of peacekeeping', *Handbook of Defense Economics: Defense in a Globalized World*, Amsterdam: North-Holland, pp. 741–74.

UN Department of Peacekeeping Operations (2008), UN Peacekeeping Operations, Principles and Guidelines.

United Nations (2000), 'Report of the Panel on United Nations Peace Operations. Lakhdar Brahimis Chairman', New York: United Nations.

Walter, Barbara F. (1997), 'The critical barrier to civil war settlement', *International Organization*, **51** (3), 335–64.

Walter, B.F. (2002), *Committing to Peace: The Successful Settlement of Civil Wars*, Princeton, NJ: Princeton University Press.

Zartman, I.W. (2001), 'Ripeness: the hurting stalemate and beyond', *International Conflict Resolution after the Cold War*, Washington, DC: National Academies Press, pp. 225–50.

Zartman, I.W. and S. Touval (1992), 'Mediation: the role of third-party diplomacy and informal peacemaking', *Resolving Third World Conflict: Challenges for a New Era*, Washington DC: US Institute for Peace, pp. 241–61.