Swiss militiamen assembling (© Swiss Armed Forces Film Service).

Fewer Blanks:
GLOBAL FIREARM STOCKPILES

2

INTRODUCTION

On 26 April 2002, 19-year-old Robert Steinhäuser entered his former school, the Gutenberg Gymnasium in the German city of Erfurt. There he systematically murdered 16 people—teachers, students, and a police officer—before turning one of his legally-owned guns on himself. At a time when international attention was riveted by terrorism, war, and the threat of more to come, the massacre offered a reminder of other aspects of small arms violence.

After Erfurt and a series of similar events in Europe, new information has become available on firearms ownership. A continent previously assumed to be important only as an exporter of small arms turns out to be heavily affected by their proliferation as well. Other regions suffer more from small arms, but the European revelations leave no doubt that their proliferation is truly global.

Recent events challenge the division of small arms into easy categories–legal and illegal–commonly used to guide policy.

The growth of European firearms problems is symptomatic of broader changes in the small arms agenda. Attention is less on communal conflict and more on terrorism and the criminal effects of the growing size and technical sophistication of global small arms proliferation. Recent events show how misleading it can be to assume that the greatest dangers come exclusively from the most numerous and advanced small arms. They challenge the logic that divides small arms into easy categories—legal and illegal—to guide policy. The following are among the most important findings on global small arms stockpiles established here:

- 11 September 2001 had little effect on the size of the global stockpile of 639 million known small arms.
- The decline of communal conflict has begun to shift attention away from insurgent weapons and elevated the salience of other categories of small arms, especially those in civilian hands.
- The United States is estimated to have between 238 million and 276 million firearms. With roughly 83–96 guns per 100 people, the United States is approaching a statistical level of one gun per person.
- Contrary to the common assumption that Europeans are virtually unarmed, the 15 countries of the European Union have an estimated 84 million firearms. Of that, 67 million (80 per cent) are in civilian hands.
- Although it is widely said that Afghanistan has ten million small arms or more, careful analysis places the total between 500,000 and 1.5 million weapons.
- Among the 44 countries of sub-Saharan Africa, there probably are no more than 30 million firearms, including all civilian, insurgent, and government owners.

Findings like these are leading to an increasingly balanced—albeit still incomplete—picture of the distribution of firearms and other small arms and light weapons around the world. While many aspects of global small arms inventories remain poorly understood, an accurate appreciation of their scale and geographic distribution is emerging. The global small arms stockpile is increasingly acknowledged as a growing problem for political stability and for public health and safety (Olson, 2002; WHO, 2002).

Growing acceptance of the estimates developed in these pages was illustrated by UN Secretary-General Kofi Annan. Using key findings from the *Small Arms Survey 2002*, he reported to the Security Council in September 2002: 'It is estimated that there are at least 639 million small arms in the world today' (United Nations, 2002, p. 2). Although continuing production ensures that millions more small arms and light weapons have come into existence, counting this remainder is not the task of the *Small Arms Survey 2003*. Instead, the *Small Arms Survey 2003* aims to develop greater certitude and detail for previously identified regional stockpiles. Special sections focus on the distribution of small arms stockpiles in Afghanistan, Africa, Europe, the Middle East, and the southern Pacific, while more general discussions cover China, Latin America, and the United States. The chapter asks:

- **How have the events of 11 September 2001 and the subsequent reactions affected small arms stockpiles?**
- **How large are regional small arms stockpiles and how are these weapons distributed?**
- **Where does small arms proliferation present the greatest dangers to peace and security?**

If international concern about small arms inventories matched that about corporate accounting, stockpile management would not be the problem it is today.

As is often the case, it was events ostensibly unrelated to international firearms that revealed the full dimensions of these questions. In 2002, the global economy was wounded by an accounting crisis that began with the Enron scandal, swept up the international telecommunications industry, and undermined global stock markets. The crisis of corporate accounting is not without implications for the accountability of small arms.

The world is accustomed to living with far less oversight of its guns than of its finances. Ironically, this crisis in corporate accounting came despite scrutiny by a complex web of private and public monitors, ranging from shareholders and lenders to tax authorities and stock market regulators. Accountability for small arms stockpiles, by comparison, is much more superficial: typically far worse or simply non-existent. If international concern over small arms inventories matched that over corporate accounting, stockpile management would not be the problem it is today. Yet the newly discovered shortcomings of the accounting industry also show just how intractable any such problem can be.

Recent experience with corporate accountability illustrates another aspect of small arms discussions. In the absence of reliable institutions to account for small arms inventories, there is no way to be certain how many guns exist or where they are. The *Small Arms Survey* depends on publicly available information. But such data must always be handled cautiously. The share value of the global telecommunications industry collapsed—by some 85 per cent in 2002 alone—because firms had relied upon market estimates crafted to satisfy the expectations of investors (*The Economist,* 2002e). Similarly, small arms reporting can serve particular economic and political needs. With such problems in mind, this chapter promotes the highest possible standards to make small arms figures accessible and to ensure their reliability.

The figures developed here and in previous editions of the *Small Arms Survey* must be appreciated for what they are: estimates illustrating aspects of a broader problem. The apparent certitude of dramatic numbers should always be viewed with caution. A similar point was made in 2002 by the researchers responsible for the widely-used estimate that 2.5 million people have died as a result of warfare in the Democratic Republic Congo (DRC) since 1997. Acknowledging criticisms of their research, they replied, 'It's the best we can do right now' (Onishi, 2002). The Small Arms Survey strives to present only the most reliable data, erring conservatively with a tendency to underestimate. While research may be incomplete, the importance of the task makes it essential to resolve stockpile questions through the best methods possible, striving continually to improve the quality of our answers.

11 SEPTEMBER 2001 AND THE INTERNATIONAL SMALL ARMS PROCESS

The terror attacks of 11 September 2001 did not directly involve anything conventionally defined as a small arm or light weapon. Coming only ten weeks after the UN Conference on the Illicit Trade in Small Arms and Light Weapons in All Its Aspects, itself conceived as the culmination of a decade-long political process, these terrorist acts left few aspects of small arms policy untouched.

What is a small arm?

Above all, the concept of what a small arm is has become debatable again. Without a clear definition, estimating stockpiles is impossible, not to mention vigorous policy-making. When the United Nations dealt with this issue in 1997, it was the most sophisticated end of the spectrum of small weapons technologies that attracted most controversy, especially man-portable anti-aircraft missiles, or MANPADS. The definition finally accepted was a political compromise. The 1997 report noted that 'Small arms and light weapons range from clubs, knives and machetes to those weapons just below those' considered major conventional weapon systems (United Nations, 1997, para 24). The report explained that:

> Small arms and light weapons are used by all armed forces, including internal security forces, for, *inter alia*, self-protection or self-defence, close or short-range combat, direct or indirect fire, and against tanks or aircraft at relatively short distances. Broadly speaking, small arms are those weapons designed for personal use, and light weapons are those designed for use by several persons serving as a crew (United Nations, 1997, para 25).

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The list of items to be confiscated at airports has now grown to include toy weapons, dog repellent spray, and ice picks.

The document listed agreed categories of small arms. These ranged from revolvers and pistols to portable anti-aircraft guns, and portable anti-tank and anti-aircraft missile systems. Now it is the simpler end of the spectrum that has been forced back into consideration by catastrophic events. What is a small arm? The crates of confiscated corkscrews, pocketknives, and scissors piling up at airports around the world testify to this new definitional ambiguity. (For the definition used in the *Small Arms Survey*, see PRODUCERS.)

The problem of craft weapons further illustrates the dimensions of the definitional issue (PRODUCERS). Terrorist bombs, enormously destructive and politically sensitive, test the boundaries of orthodox categories as well. At the other extreme, in some countries—the United Kingdom is a prominent example—small arms concerns now extend to crimes committed with imitation or fake guns (BBC, 2002b). Similar questions were posed by massacres of Indian Muslims in Gujarat. In one of the most deadly incidents since September 11, up to 2,000 Indian Muslims were massacred

by Hindu crowds, incited by the killing of 58 religious protesters at the railway station in Godha on 27 February 2002. The killings were committed with every conceivable kind of weapon, from firearms to arson (Desai, 2002). Swords and daggers also played a prominent role (Swami, 2002).

Arbitrarily limiting small arms discussions exclusively to factory-made small arms and light weapons is not sufficient. But including every potential weapon—every improvised gun, every metal blade and homemade bomb—is even more fanciful. Despite the definitional truce of 1997, there still is no universally-accepted definition of small arms. The 2001 UN Small Arms Conference avoided the issue. Yet the problem, essential to a broader understanding of the dimensions of global stockpiles, is growing in importance.

Balancing the great range of types of deadly weapons with the limits of regulatory feasibility poses major challenges for national law enforcement and the international community. The problem of terror and craft weapons tests the old distinction between technological universality (the basis of international arms control and disarmament) and the intentions of specific recipients (the basis of most export control systems). Should small arms policy stress all weapons in specific categories or all weapons of a particular user? Does the stockpile of international concern include all small arms or only those of particular users?

In the shadow of 11 September 2001

Making terrorist small arms a priority means that other issues, such as small arms policy-making, get neglected.

Even before the election of US President George W. Bush, the shift from universal arms control towards more specific responses to international security problems was readily noticeable (Dhanapala, 2001). Since September 11, though, the American-led shift in security priorities to stress terrorism has created a new emphasis on intentions rather than capabilities. As the analyst Anthony Cordesman noted, '…one of the problems with asymmetric or terrorist warfare is you don't need highly sophisticated weapons to do a lot of damage' (Murphy and Freedberg, 2002).

Giving priority to terrorist small arms on the international security agenda is not without problems for small arms policy-making. The Bush Administration's preoccupation with terrorism tends to crowd out other issues and traditional small arms concerns may be pushed further down a busy international agenda. But there can be beneficial spillover as well. By compelling many governments to enforce strictly and tighten their regulations on potentially deadly technologies, the war on terror may improve treatment of small arms problems. This is most visible in eastern and central Europe, where anticipation of NATO and EU membership has been a massive force for reform (Grillot, 2002). But even there the process has been interrupted by repeated scandals—mostly, though, involving components for major weapon systems—proof that old ways will not disappear overnight (TRANSFERS).

In the short-run, Bush's 'war on terror' had little effect on global small arms inventories. In the United States—home to the world's largest civilian gun market—one immediate result of September 11 was a temporary surge in civilian gun buying (see Box 2.1), which subsided by early 2002 (Baker, 2001; Decker, 2002). Statistics are unavailable elsewhere, but anecdotal reports suggest smaller surges in other countries as well. This did not stop overall production from declining for the year (PRODUCERS).

The surge was offset slightly by renewed interest in weapons collection and destruction in 2002, most visibly as part of the UN sponsored Global Gun Destruction Day, 9 July. This led to destruction events in war-torn regions like Bosnia, Indonesia, the Philippines, and Serbia, as well as crime-ridden cities like Rio de Janeiro. Some of these involved only symbolic quantities—no more than a few hundred guns—although a few events involved more meaningful quantities, such as those in Mendoza, Argentina (13,000), Rio (10,000), and South Africa (22,787). Much larger

Box 2.1 American firearms: Almost one per person

Except for machine guns and fully automatic rifles, which are registered by the federal government, most of the states in the United States have no requirements for licensing owners or registering guns. Even so, available data leaves no doubt that the United States is by far the world's most heavily armed country, on the verge of the symbolic parity of having as many guns as it has people.

One widely-used estimate for the number of guns in America comes from a public survey conducted in 1994 for the Police Foundation, a private organization. This concluded that the American people then owned a total of 192 million firearms (Cook and Ludwig, 1996). It should be noted that this was a telephone survey, albeit carefully designed and statistically significant. Telephone surveys have lost credibility in the United States, as people increasingly refuse to co-operate or give false answers to sensitive questions.

Another approach examines gun buying. A report by the United States Bureau of Alcohol, Tobacco, and Firearms (BATF) showed that Americans bought 230.4 million newly manufactured guns between 1899 and 1994. This included domestic manufacturers' shipments to civilian and police buyers of 207.5 million firearms, minus manufacturers' exports of 16.7 million, plus 39.6 million newly-manufactured imported guns (United States BATF, 2000).

Whether the BATF report errs high or low is hard to say. The report *underestimates* by excluding antiques, imports of used guns, and former military weapons released to the public. This last category has become especially controversial as gun advocates lobby for the import and public sale of millions of military firearms previously sold abroad (Gerth and Stevenson, 2002). The BATF tends to *overestimate* by missing exports of used guns and failing to show the proportion of weapons destroyed or inoperable. Revelations of poor bookkeeping by the gun shop that armed the infamous Washington Sniper have cast even more doubt on the reliability of official figures, which are based on voluntary submissions by the industry (Boorstein and Eggen, 2002). At a general level, though, the total is intriguingly close to the Police Foundation survey finding.

Recent reports from manufacturers and brokers show that between 1995 and 1999, the last years for complete data, an additional 30.6 million guns reached American consumers. In recent years, American gun buying has declined from an all-time high of 7.8 million new firearms in 1993. In recent years the supply of new firearms in American public and police markets has been growing by some four million to five million annually, despite the temporary surge after September 11 (United States BATF, 2002). The State of California, which keeps its own data, reported that as of early 2002 sales of handguns were especially weak (Sappenfield, 2002).

If one uses the Police Foundation survey as a baseline and adds subsequent non-military purchases of new guns, extrapolating up to the present, there are currently some 234 million civilian firearms in the United States. Based on the BATF market data alone, there are approximately 273 million civilian and police guns. Adding police and military firearms increases the estimated totals to 238 million and 276 million respectively. Both figures should be used with caution. But, given an American population of some 287 million in 2002, either firearms figure leads to the conclusion that the United States is statistically approaching one gun per person, with roughly 83 to 96 guns per 100 people.

By any measure, the United States is the most armed country in the world. It far surpasses second-highest Yemen, home to roughly 33 to 50 firearms per 100 people, or third-highest Finland with 39 per 100.

Statistically, the United States is approaching one gun per person. It has 83–96 guns per 100 people.

quantities were destroyed in 2002 in Bulgaria (77,516 sub-machine guns) and Serbia (51,000 small arms and light weapons) under an American-financed disarmament program (BTA, 2002; I. Davis, 2002, p. 66). The scale of what systematic destruction can accomplish will be shown even more clearly if the Ukraine goes ahead with its apparent intention to destroy 1.5 million military firearms (WEAPONS COLLECTION). In Afghanistan, enormous quantities of ammunition have been seized and destroyed by American and British forces. Small arms have been recovered too, but many of them have been put in storage or re-circulated to the newly created Afghan National Army (see the section on Afghanistan below).

The expansion of global stockpiles due to 11 September 2001 seems to have been insignificant, but the effect on stockpile management appears to be deeper and more sustained, especially in terms of better monitoring and enforcement of small arms regulations and international agreements (MEASURES). Few, if any, of the reform measures implemented since the attacks on the World Trade Center and the Pentagon have been directed primarily at small arms. More significant are broader measures. American-led bilateral agreements to promote maritime container security, for example, raise barriers to all forms of smuggling (United States Customs Service, 2002). Evidence for the effect of this

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In a public ceremony in Quezon City, the Philippines, over 1,000 weapons are crushed.

and related initiatives appears in indirect indexes like small arms prices. In regions as diverse as Central Asia, Latin America, and Palestine, firearms prices are increasing, suggesting that supply is not keeping up with demand. In other cases where violent conflict is declining, like much of Africa, prices appear to be steady. There appears to be a growing market for craft weapons, another sign that small arms are not as readily available as some might like (PRODUCERS).

While far from conclusive, these observations suggest that stockpiles are harder to move. Older problems with weapons saturating post-conflict environments are being handled more skilfully (TRANSFERS). While there is no evidence that reforms have substantially reduced the overall global stockpile, they do seem to be slowing the speed with which weapons shift from one region to another.

Reforms may not have reduced the overall global stockpile, but they appear to inhibit movement of weapons from one region to another.

While there is some evidence of growing stockpile control, its exact causes are not easily identified. International policy reform led by the United Nations and regional organizations like the Organization for Security and Co-operation in Europe (OSCE), as well as greater national scrutiny, appear to be involved synergistically. This has been the conclusion of observers in related fields, like the international narcotics market (Brzezinski, 2002). Of the two forces, it appears that national policy reform has been the more fundamental, while terrorism motivated stronger enforcement. In general, though, events in 2002 reaffirmed the growing consensus that small arms activism and control efforts that began in the 1990s helped furnish governments with the policy framework and legal foundation on which to act.

Evaluating the impact of international and national measures to restrain small arms proliferation is not simple. Such measures appear to be emerging as important factors shaping global stockpiles. With innumerable forces and complicated motives at work, distinguishing the causes and effects of violence and weapons acquisition has never been easy. The examples discussed below suggest that effects can begin to be seen, but a high level of uncertainty is likely to remain for some time to come.

THE YEAR OF EUROPE

In most discussions of global small arms proliferation, Europe is above all a manufacturing and trading centre, the place from which much of the world's small arms exports originate (PRODUCERS). More recently, it has emerged as the most active source of proposals for policy reform. Europe is rarely portrayed as the victim of gun problems. As shown by a series of well-publicized events in 2001–02 (see Table 2.1), the simple distinction between suppliers and victims can no longer be sustained. To be sure, except for its own warring regions like Chechnya and the former

Yugoslavia, Europe's small arms problems are much smaller than those of less stable regions like South Asia or West Africa. As its own wars recede, Europe's gun problem increasingly is a matter of rising violent crime and mass murder, a shift that has begun to affect electoral politics as well.

Table 2.1 No place to hide: Europe's catalytic shootings, 2001–2002

Place	Date	Target	Killed/wounded	Weapons
Switzerland, Zug	27 Sept. 2001	Local parliament	14/14	Automatic rifle, grenade
France, Nanterre	27 March 2002	City council	8/12	Two 9mm pistols, 357 revolver
Germany, Erfurt	26 April 2002	Teachers	17/10	Pistol, pump shotgun
Netherlands, Hilversum	8 May 2002	Pim Fortuyn	1/0	Pistol
France, Paris	4 July 2002	President Chirac	0/0	.22 sporting rifle
Italy, Chieri	15 October 2002	Family/neighbours	8/?	Pistol, revolver, sub-machine gun

These events are part of a global trend in the early twenty-first century. The decline of communal conflict and organized warfare has been well documented. The number of major armed conflicts around the world declined from a high of 37 in 1990 to 24 in 2001. At the same time there has been a parallel decline in the deadliness of those wars that remain unresolved (SIPRI, 2002, pp. 63–64).

As communal conflict declines, there is greater concern with the criminal dangers posed by small arms. Regions like Central America are feeling the post-conflict effects of wartime expansions of public arsenals. Europe is becoming sensitive to similar problems. It has witnessed the end of warfare in Bosnia, Croatia, Georgia, Kosovo, Macedonia/Former Republic of Yugoslavia (FRY), Nagorno-Karabakh, Northern Ireland, and Serbia and Montenegro. Although it refuses to cease altogether, fighting has diminished in Chechnya, and so largely has Europe's terrorist violence. For all Europeans, the switch of primary concern from the use of small arms in politically-motivated combat to their use in crime necessitates a re-evaluation of small arms policy.

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An indirect product of Europe's firearms tragedies has been an increase in information. Murder and assassination can be a catalyst for revelations about the size of firearms stockpiles and the weakness of controls. These revelations can be surprising. Contrary to widely-accepted national myths, public gun ownership is commonplace in most European states. It may appear to some outside observers—especially Americans—that Europeans have blindly surrendered their gun rights (Heston, 2002). The reality is that the citizens of most European countries are better armed than they realize. Of course it is tempting to juxtapose peace-loving Europe against gun-wielding America (Kagan, 2002). Like most clichés, though, this is an exaggeration. In fact, many—but not all—countries of Europe have a strong gun culture. To be sure, European gun ownership does not begin to approach American levels. In most European countries, though, ownership is only slightly behind other well-armed places like Argentina, Australia, Canada, and New Zealand, where there are approximately 20 to 25 guns for every 100 people. In some European countries, ownership rates are strikingly higher. Except for a few states like the Netherlands and Poland, lower figures usually indicate highly incomplete data (see Table 2.2 and 2.3).

Public gun ownership is much higher in European countries than is commonly believed.

Table 2.2 Family portrait: Known civilian firearms in the European Union

Country	Registered minimum	Unregistered minimum	Year	Total	Firearms/ 100 persons
Austria		*1,400,000*	1996	1,400,000	17
Belgium	458,162	2,000,000	2002	2,458,000	16
Denmark	955,000		2001	955,000	18
Finland	1,700,000	100,000	2001	1,800,000	39
France	2,800,000	15-17,000,00	2001	17,800,000	30
Germany	7,200,000	17-20,000,000	2002/1972	24,200,000	30
Greece	805,000	350,000	1998/2001	1,155,000	11
Ireland					
Italy	*3,000,000*	1,500,000	1992	4,500,000	8
Luxembourg					
Netherlands	*300,000*	125,000	1992/2002	425,000	2
Portugal					
Spain	3,051,588	*1,500,000*	2002/1998	4,552,000	11
Sweden	2,096,798	27,000	2002	2,124,000	24
United Kingdom	1,793,712	*4,000,000*	2000	5,793,000	10
Total for the European Union (rounded)				**67,200,000**	**17.4**

Notes: blank entries indicate no available data. Numbers in italics are Small Arms Survey estimates based on information such as the national proportion of households with firearms, from sources listed below.

Sources: Agence France Presse (2002); Austria from Christoffel and Cukier (2002), citing research from Richard Block; Belgium from Christoffel and Cukier (2002); Killias (1993, p. 293); Denmark from Royal Danish Ministry of Foreign Affairs (2001); Finland from Kytömäki (2002); France from Giraudeau and Couvreur (2001); Germany from Dobler (1994); Kulick (2002); estimates of illegal guns in Greece from Sagramoso (2001, p. 22); Italy from Ministero dell'Interno, Dipartimento della Pubblica Sicrezza, courtesy of Silvia Cattaneo, August 2002, and Killias (1993, p. 293); Netherlands from Killias (1993); Spain, registered figure Ministry of the Interior, courtesy of Daniel Luz, June 2002, unregistered estimated from United Nations (1998); Sweden from Bjoerling and Luthander (2002); United Kingdom from United Kingdom Home Office (2001); United Kingdom, Scottish National Statistics (2001); Small Arms Survey (2001); all other countries from United Nations (1998, pp. 52–53).

In the 15 EU countries, there are at least 17.4 civilian guns for every 100 people.

The total number of guns in public hands in Europe still cannot be determined. Currently there is no way to evaluate, for example, the situation in the former Yugoslavia and the Caucasus. Much of eastern and central Europe still cannot be analysed because information is inadequate or untrustworthy. Data that does exist offers only the limited perspective of dubious official registrations (see Table 2.3). More surprisingly, even in some west European countries, like Ireland and Portugal, no data on public firearms ownership has been released, if it exists at all. Moreover, much of the existing data for other countries, such as Austria and Belgium, is based on surveys of the proportion of households with a gun, further limiting reliability.

Among the 15 formal member countries of the European Union, the total stockpile of civilian firearms is more than 67 million. With a total population of 375 million people, this amounts to 17.4 guns for every 100 people in the European Union. These figures cover only those guns whose existence can be reasonably confirmed. The stockpile figure might be considerably higher if comprehensive data was available for all EU countries.

Computing a comparable figure for the rest of Europe is difficult due to questions about which countries to include and the poor trustworthiness of data for some of the largest countries. As the numerous blank spots in Table 2.3

Table 2.3 Rest of the family: Known civilian firearms in other European countries

Country	Registered minimum	Unregistered minimum	Year	Total	Firearms/ 100 persons
Albania		*500,000*	2002	500,000	16
Belarus					
Bosnia					
Bulgaria					
Croatia	379,000		2001	379,000	11.5
Czech Republic	535,144		2000	535,144	5
Estonia	46,000		2001	46,000	3
Hungary	212,899		2001	212,899	2
Iceland					
Kosovo			2002	*380,000*	20
Latvia					
Lithuania					
Macedonia/FRY	*100,000*	200,000	2001	320,000	16
Malta	49,450		1998	49,450	13
Moldova	42,000		2001	42,000	1
Norway	990,000	610,000	2002	1,600,000	36
Poland	315,000	200,000	2001	515,000	1.5
Romania	67,388		1998	67,388	0.3
Russia	5,000,000	1,500,000	2000	6,500,000	4
Serbia and Montenegro	1,005,058		2001	1,005,058	10.5
Slovakia	170,357		1998	170,357	3
Slovenia	100,295		1998	100,295	5
Switzerland	465,000	*750,000*	2001	1,215,000	16
Ukraine					

Notes: blank entries indicate no available data. Numbers in italics are Small Arms Survey estimates based on information, such as the national proportion of households with firearms, from sources listed below.

Sources: Albania from Small Arms Survey (2002, pp. 68–69); Croatia from BICC (2002, p. 134); Czech Republic from Czech Republic Ministry of Foreign Affais (2001, p. 42); Estonia from Estonian Politseiamt, private correspondence with the Small Arms Survey, November 2002; Hungary from Grillot (2002, p. 21); Moldova courtesy of Nadejda Stoica; Norway from Henmo and Naero (2002); Lovo (1997); Poland, Polish Police Headquarters (2002); Russia from Russian Ministry of Interior, 2001, courtesy of CAST; Serbia from BICC (2002, p. 135); Switzerland from Small Arms Survey (2002, pp. 78, 79-80); Bachmann, 2002); all other countries from United Nations (1998, pp. 52–53)

reveal, data is lacking or incomplete for many important countries, notably Russia and Ukraine. The total number of civilian firearms relies on conservative estimates. The actual total number of civilian guns—the only part of the total that cannot be comprehensively estimated—is undoubtedly higher than the figures shown here.

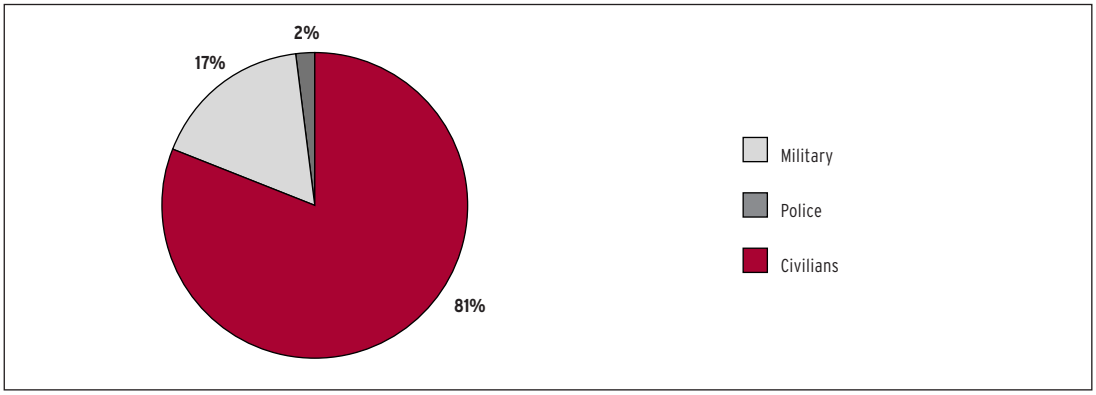
The distribution of all known firearms in the European Union is displayed in Table 2.4 and Figure 2.1. In these portraits, military and police data is the most complete. For the reasons just mentioned, major parts of civilian arsenals appear to be missing. A truly comprehensive total would show even greater predominance of civilian firearms in the European Union.

Table 2.4 Approximate distribution of firearms in the European Union

Owner	Population	Firearms	Firearms proportion (%)
Civilians	375,000,000	67,500,000	81
Military	5,449,000	13,900,000	17
Police	1,407,000	1,700,000	2
Total		**83,100,000**	**100**

Sources: civilian firearms from Table 2.2; current armed forces personnel (including reservists) from IISS (2002a); police from Bride (1999)

Figure 2.1 Approximate distribution of firearms in the European Union



Firearms diversity, not unity

In most of Europe, public officials admit that unlicensed owners and unregistered guns greatly outnumber legal ones.

European gun cultures differ greatly from country to country. Although the European Union has made impressive political and economic progress in many policy areas, gun laws have been resistant to change. Even the 80,000 pages of the European Union's *acquis communautaire*, the collection of EU law that all member countries must adopt, says little directly relevant to firearms regulation. Although the UN Firearms Protocol and the EU Code of Conduct have led to some standardization—especially regarding export controls—civilian ownership remains a national responsibility (MEASURES).

Regulations tightly control gun ownership in only a few European countries like the Netherlands, Poland, and the United Kingdom. In much of the rest of the continent, public officials readily admit that unlicensed owners and unregistered guns greatly outnumber legal ones. Germany, which is quite typical, began to require registration of newly purchased rifles only as recently as 1972. Police officials believe that the numbers of unregistered weapons still exceeds those formally recorded. France, which began to require gun registration only in 1995, likewise has no reliable, comprehensive figures. Other countries are only beginning to discuss the dimensions of public firearms stocks within their borders. Even in countries with traditions of meticulous statistical measurement of their societies, like the Nordic states, statistics on gun registration often cannot withstand rigorous scrutiny. Indeed, several northern European countries have released suspiciously low estimates of illegal gun ownership, which appears to indicate strong bureaucratic resistance to acknowledging the true situation.

One of the few unifying characteristics of European gun cultures is a preference for long guns (rifles and shotguns) over handguns. This can be readily seen in registration data from those countries that make national records available (see Table 2.5). The United Kingdom simply prohibited handgun ownership in 1997, but handguns were unusual

Box 2.2 Macedonia/FRY and the peril of gun numbers

Although European authorities are more likely to minimize the scale of private gun ownership, in particular circumstances they have contributed to exaggerations as well. As illustrated in the *Small Arms Survey 2001* with the example of Mozambique (Small Arms Survey, 2001, p. 64), there can be a natural temptation for political leaders to use the highest estimates available, if only to explain their inability to master dangerous situations or to mobilize action. Analysts are not immune to this tendency either, contributing to the exaggeration if only to emphasize the seriousness of a situation.

Exaggeration can have serious consequences. It can raise tensions and resentment, leading directly to otherwise unjustifiable and unnecessary counter-arming of the armed forces, militias, favoured groups, and factions. It can convince other countries and the international community that the situation has deteriorated beyond hope for outside intervention. It also can undermine interest in collection and destruction efforts which otherwise might achieve impressive results.

Map 2.1 Macedonia/FRY and its neighbours

All of these effects appear to be at work in Macedonia/FRY. With a population of fewer than two million, it is one of Europe's smallest states, but the politics of its restive Albanian minority of roughly 450,000 makes estimates of private firearms ownership highly political (population figures from IISS, 2002a).

When armed conflict between the Skopje government and the Albanian minority National Liberation Army (NLA) began in November 2000, initial reports suggested that the NLA had approximately 200 fighters and few weapons. By the summer of 2001, encouraged by military successes, the ranks of the secessionist Albanians had risen to a figure of 1,500–2,000[1] fighters and some 6,000 weapons. Macedonian sources soon produced much larger estimates, culminating in official government pronouncements that the NLA and its civilian sympathizers had some 50,000 to 80,000 small arms. The higher estimates were used to undermine the credibility of the NATO weapons collection effort, Essential Harvest. NATO took 3,800 NLA weapons as part of a political settlement that ended the fighting. Essential Harvest was a tangible success if one accepted the lower estimates, but it was purely symbolic if judged by the later, higher figures.

After the fighting had ended, the Macedonian Ministry of the Interior maintained that continued smuggling had pushed the number of local Albanian firearms to more than 200,000 (Stojanovska, 2002). With an eye on the parliamentary elections that took place in September 2002, the Ministry of the Interior released new estimates asserting that there were now 450,000 to 500,000 small arms in the hands of the country's Albanian minority (Delevska, 2002; Haralampie, 2002). It may be no accident that this would equal roughly one gun for every Macedonian Albanian. Gun registration among majority ethnic Macedonians reportedly has increased by ten times since the violence began. Prominent political parties have put forward disarmament proposals, but there has been no parliamentary debate on the matter, nor does one appear likely (Delevska, 2002; Madzovska, 2002).

there even before. As in countries like Australia and Canada, in Europe gun ownership is more common in rural areas, mostly for hunting and to a lesser extent for personal security. The large numbers of unregistered small arms in public hands appear to be largely of the same sort. Handguns are typically—but not exclusively—associated with urban gun ownership, something that appears to be less common in Europe. The major exception to this rule is smuggled small arms, discussed below. In Europe, most criminal guns appear to be handguns.

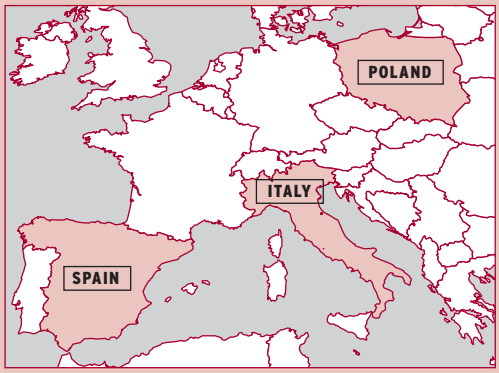
Box 2.3 European diversity

Hidden under the continental rubric of 'Europe' are diverse national firearms laws and attitudes. In the past, this was often concealed by a lack of adequate data. In lieu of reasonably accurate data on public gun ownership, it was tempting to assume that culturally similar and geographically close countries were relatively homogeneous in this respect too. Instead of analysing actual gun ownership rates, policy studies relied on survey statistics about the proportion of households with guns (e. g. Killias, 1993). While better than nothing, this was less than ideal. A series of investigations into actual ownership figures by the *Small Arms Survey* shows just how diverse Europe really is.

This diversity can be seen in the examples of Italy, Poland, and Spain, three countries for which little reliable data was available in the past. With populations of 57.2 million, 38.9 million, and 39.7 million respectively, they are among the continent's largest countries. They also are often overlooked in social comparisons. The conventional wisdom holds that Italy has some of the most restrictive gun laws imaginable, while Poland was swept up in post-Communist anarchy. Spain was somewhere in between.

European firearms ownership is characterized by national diversity, not regional homogeneity.

Map 2.2 Diverse firearms laws: Italy, Poland, and Spain



In reality, it is **Italy** that appears to have some of the most liberal civil firearms regulations on the continent. Far from being restrained, most Italian citizens are effectively free to own as many guns as they want. Owners need licences, and guns must be registered. A normal licence allows the owner up to three 'common' weapons, six sporting weapons, and an unlimited number of hunting guns. The total number of guns legally owned by the country's 1,102,587 licensed owners has not been made public, but can be safely assumed to total at least three million. Since Italy is a prominent trans-shipment centre for illegal guns—with an infamous criminal tradition of its own—actual ownership is almost certainly higher. Illegal firearms, estimated here at a minimum of 1.5 million, push the actual ownership far beyond the nominal rate of eight guns per 100 residents. If accurate, this still is low even for Europe, reflecting distinct national cultures (and perhaps poor data), not legal barriers.

In **Poland,** by contrast, gun ownership is rare. With a total of 315,000 firearms officially registered, and some 200,000 unregistered guns suspected by police authorities, Poland has the lowest rate of public gun ownership known among any major European country. At 1.3 guns per 100 people, it is significantly lower than even the United Kingdom. This is true even if illegal guns are two or three times as numerous as police think. Among major industrial states only Japan has a lower rate of gun ownership.

The reasons appear to be partly legal and partly traditional. While other post-Communist states have seen public ownership rocket–the Czech Republic, for example–Poland is restrained by a long-standing culture in which firearms are not seen as a normal part of daily life. Even today, licences still are difficult to acquire, requiring a series of examinations, even for air-powered 'toy' guns. Ownership is further discouraged by strict requirements on home storage. The biggest unknown in Poland remains military and police weapons. Having reduced the size of its active armed forces by over 40 per cent since 1989, and its reserves by even more, Poland probably has several hundred thousand military small arms in storage.

Spain, with 3,051,588 firearms registered among 2,135,850 owners, is more typical of Europe as a whole, but gun possession is still low. Allowing for some 1.5 million unlicensed public guns suspected to be in circulation, it has 11 firearms per 100 people. This is ten times as many per person as Poland, but still less than two-thirds the average for the European Union. Where Spain truly stands out is in its military small arms reserves, which may be among the largest in Europe. From 2.4 million reservists in 1989 (IISS, 1989), Spain has cut its reserve personnel to fewer than 329,000 troops today (IISS, 2002a). The fate of the enormous stockpiles required to arm that once massive force is unknown.

Sources: Italy, Ministero dell'Interno, Dipartimento della Pubblica Sicrezza, courtesy of Silvia Cattaneo, August 2002; Poland, Polish Police Headquarters (2002); Spain, Ministerio del Interior June 2002, courtesy of Daniel Luz

The official totals of national civilian gun numbers are unreliable throughout the European continent. Some European countries have made public their numbers of military and police small arms inventories. For most others, they can be readily estimated. The extent of public firearms ownership has been much more difficult to evaluate. Many European governments have revealed public firearms registration figures. Others—especially those with strong privacy rules, federal constitutions, or otherwise decentralized authority—are unable to do so. Even where registration data is available, informed guesses are essential to draw a complete picture.

When communism collapsed, new opportunities arose to acquire and hide guns. *Registered* guns became the exception.

Table 2.5 Cultural preferences in European gun ownership

Country	Year	Total registered private guns	Long guns	Handguns	Ratio
Czech Republic	2000	535,144	303,466	199,934	1.5/1
Denmark	2001	905,248	850,000	55,248	15.5/1
England & Wales	2001	1,617,732	1,504,493	183,610*	8.2/1
France	2002	2,802,057	2,039,726	762,331	2.7/1
Poland	2001	314,641	267,393	47,248	5.6/1
Scotland	2000	175,980	175,507	473	371/1
Sweden	2002	2,096,798	1,944,548	150,250	13.0/1

Note: *Approximately 60 per cent of registered English and Welsh handguns are antique muzzle-loaders.

Sources: Czech Republic Ministry of Foreign Affairs (2001, p. 42); Royal Danish Ministry of Foreign Affairs (2001); England and Wales from United Kingdom Home Office (2001); Scottish National Statistics (2001); France from Giraudeau and Couvreur (2001, pp. 32–33); Polish Police Headquarters (2002); Sweden from Bjoerling and Luthander (2002).

In many parts of Europe, however, even knowledgeable guesses are impossible. In central and eastern Europe, quiet resistance to over 40 years of socialist rule created a pervasive culture of non-cooperation with public authorities. When communism collapsed, leaving power to be inherited by weak and disorganized democratic regimes, innumerable opportunities arose for people to acquire and hide personal guns. It is no wonder that in much of the region *registered* guns appear to be the exception. In the Balkans, the situation is even harder to evaluate. The former Socialist Federal Republic of Yugoslavia kept excellent registration records, but its collapse in 1991 led to massive dislocations. As its successor states fought, they maximized local small arms production and imports (PRODUCERS). It may be a while before the scale of public ownership in the region is known.

Civilian stocks in Germany and France: Big and illustrative

Other common problems of evaluating European firearms ownership are illustrated by the two traditional leaders of the European Union, France and Germany. Contrary to the common assumption, guns are not rare or traditionally highly regulated in either country. Despite reputations for state power and careful administration, the reality is that no one in either country knows how many guns are in circulation.

Germany has a strong tradition of private firearms ownership and loose regulation. Although owners have long needed licences, their weapons were not consistently registered until 1972. In practice, though, that reform applied only to newly purchased firearms, so there are no accurate estimates of older holdings.

After the Erfurt school massacre on 26 April 2002, it was widely reported that Germany had 7.2 million registered small arms in the hands of 2.3 million owners (e.g. Kulick, 2002). Although they are intuitively satisfying, such

figures appear to be purely speculative. The country's federal constitution (the 1949 *Grundgesetz*) makes national gun data elusive. Germany has no central registry; registration and licensing data are maintained exclusively at the *Land* (province) or *Landkreis* (county) level. Regional officials have offered estimates of their own, such as the Munich police official who stated there are some 1.5 million registered firearms in the state of Bavaria and perhaps another three million unregistered (CTK, 2002). Other experts have estimated the unregistered stockpile of pre-1972 guns at between 17 million and 20 million guns (Dobler, 1994). None of these figures includes weapons illegally smuggled into the country since 1972.

While the number of publicly-owned firearms in Germany is unknown, the total undoubtedly is growing. Germany's civilian market reportedly grows by roughly one million (mostly new) firearms bought annually (Ezell, 2001). This is about one-quarter of the size of the United States market. In per capita terms, then, Germany (with 82 million residents) buys almost as many firearms as the United States (with over 280 million).

In per capita terms, Germany buys almost as many firearms as the United States.

The large German gun market leads one to suspect that the actual total of registered firearms is considerably higher than 7.2 million. Nor is there reason to believe that growth of its civilian arsenal is slowing. A well-publicized reform of the federal gun law passed by the Bundestag in June 2002 bans sales of pump-action shot guns and raises the minimum age for licences (*Bundesregierung*, 2002). Such measures are unlikely to affect national totals much. Based on the data presented here, it can be safely concluded that the total number of civilian firearms in Germany is at least 24.2 million, probably higher, and growing steadily.

France, of course, has long had a highly centralized government, but it has many of the same problems assessing firearms ownership. Until 1995, the country had no system of gun registration, preferring to license owners instead. Statistics recently released through the National Assembly reveal that the country now has a total of 2.8 million registered firearms. But since registration only recently became legally mandatory, applies only to handguns and automatic weapons, and is easily evaded, this figure is not very useful (Berkol, 2002, p. 37). Cautious estimates conclude that the actual total probably is 15 million to 17 million for civilian firearms of all types (Giraudeau and Couvreur, 2001). Other sources maintain the real total could be as high as 25 million (Dourel, 2002).

Europe's unregistered guns

Considerable confusion surrounds discussion of illegal guns in Europe, due largely to the different ways guns slip through regulatory schemes. Since many countries began registering small arms only in the 1970s or even 1990s, vast quantities of older firearms have been overlooked. Most unregistered firearms in Europe appear to be weapons purchased before national registration started or became comprehensive. A smaller quantity of firearms is smuggled into European countries every year. When European authorities speak of hundreds of thousands or millions of illegal weapons, they are usually referring to the former category. Figures in the hundreds or tens of thousands usually appear in the context of the latter.

Pre-registration guns have not been registered, largely—but not exclusively—due to negligence. These are weapons that generally were acquired legally but have become illegal through changes in national law. They tend to be inherited firearms, mostly older rifles and shotguns. Because they often are unwanted, they are more suitable for collection and destruction programs. As Sweden discovered when a new law requiring secure storage at home went into effect on 1 July 2002, these are the weapons most likely to simply be given to authorities by owners who do not want to be troubled (*Metro*, 2002). Although they are relatively common, pre-registration weapons appear to be

individually less dangerous. Exact statistics are lacking, but anecdotal reports suggest that the greatest danger is from accidental discharge or use in suicide. They can also be targets of theft, in which case they are unlikely to be reported since this would expose the owner to charges of criminal neglect.

Smuggled firearms, on the other hand, are the result of deliberate evasion of the law. These weapons are purchased largely by people unable to buy legally, often leading violent lives or with outright criminal intent. Whether intended for domestic or foreign recipients, they directly feed black markets. Smuggled guns tend to be newer, easily concealed handguns and some sub-machine guns or automatic rifles. They also tend to be more advanced, including a greater proportion of semi- and full automatics. Although they are fewer in number, they appear to be much more likely to be used violently and much less amenable to collection and destruction.

Most information about small arms smuggling comes from crime reports and tends to be anecdotal. Even so, some trends can be clearly identified. The traffic appears to flow largely from east to west, feeding petty and organized crime in western Europe. Easily concealed weapons, especially pistols but also some sub-machine guns, appear to be trickling into west European countries, mostly coming by land and sea through small-time smugglers. Although this flow is seldom dramatic, the unrelenting pace has led to a progressively more alarming build-up throughout Europe.

Helped by this process, European criminals appear to be switching to heavier armaments. Instead of less capable revolvers, they increasingly have fully automatic pistols. Instead of hunting weapons, police are more commonly recovering sub-machine guns. Even larger weapons appear irregularly, illustrated when British police seized heavy machine guns and a mortar in March 2001 (Davis, Hurst, and Mariani, 2001, p. 21). The small-scale ant trade of guns from the former Yugoslavia has gradually created a serious situation in Greece, where police believe that a criminal arsenal of approximately 350,000–400,000 illegal guns has accumulated (Davis, Hurst, and Mariani, 2001, p. 22). One of the largest transfers of illegal small arms and ammunition was intercepted by the Italian police in early 2001. This reportedly weighed 13,000 tons (Davis, Hurst, and Mariani, 2001, p. 47). If true, and if evenly divided between guns and ammunition, this would break down into hundreds of thousands of guns.

European criminals appear to be switching from less capable revolvers to fully automatic pistols.

For most recipients, though, the quantities are much smaller. If, as a prominent analysis of the phenomenon argues, a country's total arsenal of smuggled small arms is approximately equal to ten times the amount seized by police from criminals every year, general estimates may be feasible (Sagramoso, 2001, pp. 15–17). This approach leads to the conclusion that Dutch and Swedish authorities underestimate the number of smuggled weapons in their countries when they assert the totals are only 26,000 and 27,000 respectively. But it also leads to the conclusion that the Czech Republic has only 12,000 smuggled guns and Bulgaria just 8,400. These figures are so low that even the author of the report cautions against trusting them. More credibly, this same rule of thumb leads to the conclusion that Germany, where some 12,000–13,000 smuggled and stolen weapons are recovered annually, has a total of at least 120,000 in circulation (Sagramoso, 2001, pp. 29–30, 31). Other reports suggest that this approach underestimates European totals. Polish police, for example, seize roughly 3,000 smuggled and crime guns every year, but they believe the total number of unlicensed guns in the country is some 200,000 (Polish Police Headquarters, 2002). Much more work needs to be done in this area.

A major debate surrounds the exact source of intra-European small arms smuggling. Police in northern Europe tend to believe that illegal weapons are arriving largely from eastern and central Europe, especially the Czech Republic and the former Soviet Union. Southern European authorities tend to stress suppliers in the Balkans. This

finger-pointing is more than academic; at stake for those countries responsible are weighty matters like NATO and EU membership. Sagramoso concludes that '[t]he former Yugoslavia is probably the main source of small and light weapons smuggled into the EU' due to the region's well-integrated location and its legacy of enormous productive capacities. The Czech Republic and Bulgaria, she maintains, present more manageable problems (Sagramoso, 2001, p. 45). Another analyst agrees that eastern Europe 'has not turned out to be a big reservoir of cheap and easily available weapons for the EU illegal market', but notes that the flow of Bulgarian and especially Czech weapons is readily observable (Hirst, 2001, p. 17).

When quantity does not matter: European terror

For over 27 years, November 17 was one of the most mysterious and successful terrorist organizations. Taking its name from a student uprising in 1973, the group claimed responsibility for the deaths of 23 American, British, and Greek officials and business leaders. Its assassinations and attacks caused serious political problems for successive Greek governments, badly damaging the country's foreign relations. When the group's leaders and most of its members were apprehended in July 2002, it was striking just how small it was. With only some two dozen members (16 apprehended), November 17 based its terror campaign on a handful of guns. One of the revolvers recovered by Greek police had been used in at least six attacks (Gilson, 2002a, b).

The revelations about November 17 provide further evidence of the great political sensitivity of small numbers of particular weapons. Despite terrorist intentions, the group apparently had considerable trouble acquiring both weapons and the expertise to use them. The arrests in 2002 stemmed from a botched bombing. They confirmed that the same firearms were used repeatedly. The group's most successful acquisition of weapons was a raid on an army depot on Christmas day in 1989 that yielded 51 anti-tank rockets. Most of these have now been recovered (Gilson, 2002c). Whether the group was unable to use them or just unwilling to, they represented the limits of its interest in heavier arms.

November 17 may represent an extreme example of the tiny quantities of small arms required for an organized, long-term terror campaign. Other European terrorists have relied on more generous supplies. In Spain, Basque Homeland and Liberty (ETA) has been much more professional than November 17, relying less on firearms and more on hundreds of kilograms of raw explosives (Crawford, 2002).

In Northern Ireland, the Irish Republican Army (IRA) began to disarm, taking a first step in October 2001 and a second in April 2002 (WEAPONS COLLECTION). Caches reportedly were made unusable by pouring concrete into them (Oppenheimer, 2002). While the quantities of 'ammunition, arms and explosives' involved have not been publicized, there is no doubt that by themselves they are not sufficient to prevent a return to violence (White, 2002). Indeed, overall levels of political violence have gone down, but the peace process remains weak and hundreds of shootings and bombings still happen every year; Northern Ireland recorded 351 violent attacks by Catholic and Protestant paramilitaries in 2001 (United Kingdom MoD, 2002). IRA decommissioning shows rather that the enormous symbolic political significance of small arms can rival the power of their quantitative destructiveness. 'Without IRA decommissioning of weapons', one prominent writer noted, 'as had become abundantly clear in the fitful course of events since 1998, the institutions established under the Belfast Agreement could not survive' (O'Toole, 2002). Violence continues but, rather than being politically directed, it has become more criminal, gang, and faction related.

THE SMALL ARMS OF AL QAEDA AND AFGHANISTAN

The attacks of 11 September 2001 were on a completely different scale. They involved nothing traditionally understood as a small arm or light weapon. The destruction of al Qaeda's Afghan infrastructure and the capture of hundreds of its members just a few weeks later revealed a completely different kind of terrorist organization as well. Just as al Qaeda's goals were extremely ambitious, so were its preparations quite different from those of European terrorists.

The documents found at its offices and training centres showed that al Qaeda members were keenly interested in weapons of mass destruction and sophisticated delivery means. A vital aspect of the organization was its culture of military versatility and improvisation; its was interested in everything that could be used to kill and destroy. Its members were most familiar with small arms and light weapons, but they also trained with the kinds of major weapon systems available in Afghanistan (A. Davis, 2002a).

Although sworn members of the organization were estimated to number only 200–300, dedicated training camps were used to train sympathizers and create cells in some 60 countries. In all, an estimated 5,000 to 20,000 militants passed through these facilities during their five years of operation (Johnson, 2002). Some analysts believe that tens of thousands more were trained through affiliated facilities (Weiner, 2001). The cost of running these camps appears to have been the largest element in the al Qaeda budget, which the economist Friedrich Schneider estimates to have amounted to USD 20 million to 50 million annually (Williamson, 2002). Notes left behind reveal how students attended classes for up to six months, participated in field exercises, and trained on firing ranges. They were instructed in a mixture of orthodox infantry skills and terrorist methods that stressed familiarity with the normal types of small arms and light weapons (Chivers and Rohde, 2002). Despite the attention lavished on scribblings about nuclear and chemical bombs, it was these skills that represented the operational heart of the organization, the curriculum all its activists were expected to master. For all the imagination required to turn hijacked airliners into giant cruise missiles, the basic training syllabus stressed exactly the same small arms and light weapons ubiquitous elsewhere. When the American-led attacks began on 4 October 2001, it was on these kinds of weapons that al Qaeda activists and the Taliban would rely.

In combat against American forces, al Qaeda and Taliban troops relied on rifles, machine guns, rocket propelled grenades, and mortars. Occasionally they used heavier weapons like recoilless rifles, heavy anti-aircraft machine guns, artillery rockets, and shoulder-fired surface-to-air missiles. But the Islamist fighters' most sophisticated equipment tended to be support items, especially global positioning transponders, night vision devices, and advanced radio transmitters designed to avoid detection (Ricks, 2002). The discovery that they have been able to re-supply themselves, revealed mostly through captured equipment, illustrates much about al Qaeda and Taliban tactical priorities. Rather than small arms and ammunition—which they apparently have in abundance—recent acquisitions reportedly stress support equipment, especially medical, communications, and night vision gear (Scarborough, 2002).

British soldiers look on as they explode ordnance found in a cave in eastern Afghanistan.

The guns of Afghanistan

How many small arms were there in Afghanistan when the most recent fighting started? Careful consideration suggests that the total number is high, but much lower than commonly thought. As a result, the situation does not appear to be as hopeless as often assumed. Disarmament and demobilization, based on removing a large proportion of the firearms in circulation, may be feasible even in Afghanistan.

A figure of ten million Afghan small arms has been widely cited for many years. This does not withstand scrutiny. It would imply more than enough guns to equip every one of the estimated 7.6 million adult men in the country (CIA, 2002). This would be almost twice as many armed men as in Yemen, which has the well-deserved reputation of being one of the best armed places on earth (YEMEN). No observer has suggested that firearms are as publicly visible in Afghanistan as they are in Yemen. Nor have ground operations since the fall of the Taliban revealed massive caches of firearms.

The total number of small arms in Afghanistan probably stands at between 500,000 and 1.5 million weapons.

Another widely cited estimate of two million armed fighters (Shanker, 2002) does not hold up either. At the height of countrywide fighting in the early 1990s, the Afghan military and guerrilla factions claimed a total combined strength of just fewer than 500,000 combatants, including militiamen (IISS, 1994). Today it is widely accepted that there are 75,000 full-time soldiers, tribal levies, and insurgents in the country. Another 100,000 militiamen are said to be available if called by their Afghan commanders (*The Economist*, 2002c). Even this may reflect some padding: Afghan leaders have habitually exaggerated their forces in order to look stronger or justify extra salaries from foreign sponsors. A systematic breakdown of the forces currently claimed by individual tribal leaders and regional warlords reveals just 40,000 full-time fighters (A. Davis, 2002b). These figures do not include native Afghan Taliban, most of whom appear to have fled the country.

Orthodox estimating techniques suggest that the small arms of these active combatants and current militiamen number between 200,000 and 290,000 weapons, depending on the exact number of full-time combatants. The scale of other stockpiles, those of former soldiers, militia, and private citizens, is elusive. But there is no evidence of a huge weapons surplus of the order of millions of guns. The existence of a healthy domestic weapons market operating at standard world prices (USD 120–150 for a used AK-47) adds support to the conclusion that demand is roughly equal to supply (Buchbinder, 2002). Other reports, however, speak of declining prices, as individuals offer unwanted guns for as little as USD 80 in a glutted market (Institute for War and Peace Reporting, 2002). The lower price is consistent with a saturated but not glutted market. The biggest hidden stockpile almost certainly remains the individual weapons of the large number of former combatants.

These reports of numbers of combatants and market trends support the conclusion that the total number of small arms in Afghanistan probably stands at between 500,000 and 1.5 million weapons. While far lower than previous estimates, such a total is more than enough to permit a rapid start of large-scale warfare should the government of Hamid Kharzi collapse.

Since the fall of the Taliban, Afghan authorities have acknowledged the need to disarm former militias in order to consolidate their new government. They claim to have recovered at least 60,000 small arms, mostly in the regions surrounding Kabul and Kandahar, although other reports place the total at just 10,000. The majority of these weapons are said to be AK-47s and similar rifles, recovered individually at checkpoints and from caches found mostly through informants. Former Interior Minister, Yunus Qanooni, has suggested that buying up all available small arms—all those that might be surrendered voluntarily—would cost some USD 200 million (Hanley, 2002). The revised stockpile figures presented here suggest it might cost even less.

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Afghan children squat next to grenade launchers handed in by local villagers to the UN as part of a voluntary weapons collection effort.

Afghan ammunition stockpiles

Much of the Afghan arsenal is not under anyone's direct control. After more than 22 years of near-continuous fighting, Afghanistan has been transformed into a warren of arsenals, many crammed with more military equipment than even the most knowledgeable analysts can estimate. One special characteristic of this Afghan arsenal is a greater emphasis on ammunition than on guns. Since successive generations of Afghan governments and guerrillas were fighting long insurgent-style campaigns, re-supply of military consumables was more important than new weapons. In planning for a near-permanent state of war, enormous stockpiles of ammunition were more important than guns to sustain fighting day after day, year after year. The result was almost certainly one of the world's largest stockpiles of ammunition.

Some of the most impressive evidence for the scale of Afghan armaments comes from the reports of stockpiles discovered in the course of military ground operations. Tabulations provided by United States and British forces reveal that these stockpiles include small numbers of small arms and light weapons. The finds include moderate amounts of small arms ammunition and larger quantities of ammunition for light weapons and major weapon systems like artillery. These caches underline the importance of an often-overlooked dimension of small arms stockpiles. There is a natural tendency for experts and negotiators to de-emphasize ammunition and explosives in small arms work. The size and number of Afghan ammunition caches should leave less doubt about their importance (see Table 2.6).

Unfortunately there is no overall accounting of these weapons; individual units keep their own records. Most of the ammunition and heavy weaponry captured by the US and British forces is destroyed where it is found. Some of the small arms have been set aside for the newly created Afghan National Army (Murphy and Freedberg, 2002). Outside knowledge of these caches comes exclusively from reports of those found by the US, British, and other foreign forces. This may give rise to misleading impressions. The equipment found by foreign forces illustrates the range and proportions of items found, but not the total quantities. Since most of the ground fighting since October 2001 has been undertaken by indigenous Afghani forces, it is reasonable to conclude that much more has been captured by them. Given their poor finances, moreover, their discoveries are more likely to be kept than destroyed.

Experts and negotiators tend to de-emphasize ammunition and explosives in small arms work.

Even if only a small proportion of captured caches are publicized, these are the biggest hauls of munitions captured since Israel took most of the Palestine Liberation Organization (PLO) arsenal in Lebanon in 1982 and Chad defeated Libya in 1986. They also are very distinctive. The relatively small numbers of small arms and small arms ammunition suggest that the tactically limited troops of al Qaeda and the Taliban want to keep only what they can carry. Like other Afghan warriors of the past two decades, they are preparing to fight a long-term struggle based on small arms.

Table 2.6 Weapons and ammunition captured by CJTF180 in Afghanistan, 4 October 2001–29 June 2002

Type	Weapons	Ammunition
Makarov pistol	1	80
Tokarev pistol	1	300
Lee Enfield rifle	1	55,000
AK-47 rifles	1,576	420,003
Medium machine guns	3	
RPG launcher	51	9,979
Hand grenades		544
Anti-personnel mines		374
Riot/tear gas		30
Heavy machine guns	8	
DSHK anti-aircraft gun	173	1,921,725
ZPU anti-aircraft artillery	6	1,535,475
ZSU anti-aircraft artillery	2	23,084
57mm howitzer	1	
76mm howitzer	1	804
130mm howitzer	5	
152mm howitzer	1	1,324
60mm mortar	4	430
82mm mortar	15	48,741
120mm mortar	33	2,255
122mm mortar		3,000
73mm recoilless rifle	67	62
75mm recoilless rifle	11	8,115
82mm recoilless rifle		58,474
85mm recoilless rifle	27	638
57mm artillery rocket		16,605
107mm artillery rocket	1	25,313
122mm artillery rocket		119
240mm artillery rocket		17
Blowpipe MANPAD	2	2

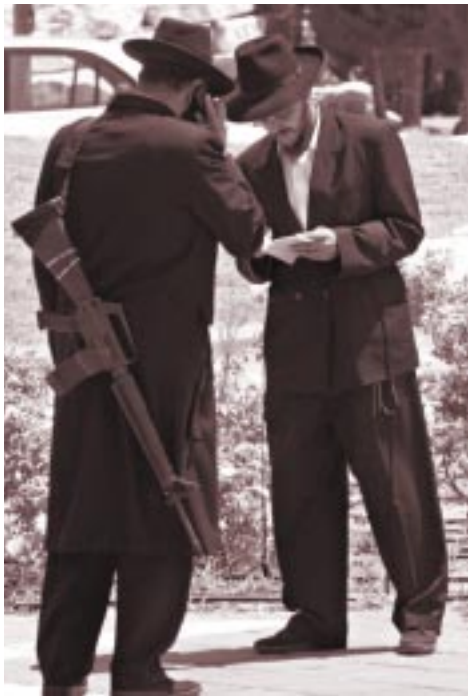
Note: CJTF180 also recorded finding components for SA-2 surface-to-air missiles, air-to-air missiles, helicopter-fired rockets, aircraft bombs, cluster bombs, anti-tank mines, fuses, flares, and demolition material.

Source: CJTF180, private correspondence, 24 July 2002

Of greatest concern for international security are the numbers of man-portable surface-to-air missiles. US troops reported finding 30 Chinese made SA-7s in one cache alone (NewsAsia, 2002). Just as intriguing are the limited finds of more advanced systems supplied by the United States and United Kingdom in 1986. So far two British Blowpipes have turned up. Despite the large bounties that have been offered, no complete American FIM-92 Stinger missiles have been discovered, only components thereof (Murphy and Freedberg, 2002). This could mean that the Stinger missiles have metastasized out of Afghanistan. Another possibility is that this particular aspect of the problem has simply been exaggerated beyond reality.

DEADLY INTENT: STOCKPILES IN ISRAEL AND PALESTINE

Since fighting began in September 2000, the conflict between Israel and the Palestinians has gone through several phases. The dominant images of the conflict show Israeli major weapon systems—especially missile-armed helicopters and armoured vehicles—versus Palestinian guns and improvised explosives. Reality is more nuanced. Small arms are an essential element in Israeli security strategy. Since 2002, Israelis have been buying firearms and preparing to use them in record numbers. Meanwhile the role of traditional small arms has declined among Palestinians, due to scarcity and tactical choice.



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Hasidic Jewish men carrying weapons in Israel.

Israeli small arms policy is complicated and, as might be expected of a small state under great pressure, often shifts significantly. While the most common Israeli Defense Forces (IDF) small arms are American-made M16 automatic rifles, with lesser numbers of Galil rifles and Uzi sub-machine guns, the public can buy only pistols and hunting weapons. Despite an omnipresent image of guns, private weapons appear to be carefully restricted. In March 2002, it was revealed that the Israeli public had 265,325 privately-owned weapons. Fewer than 10,000 were for hunting. Another 98,000 permits have been issued to organizations, ranging from security companies to bus lines, enabling them to issue weapons to their employees. Thus Israel has at least 363,000 registered weapons in public hands. This equals almost six civilian firearms per 100 citizens.

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Requests for Israeli gun licences went up from 4,417 requests in 2000 to 7,790 in 2001. Of the latter, 4,588 or 58 per cent were granted (Mualem, 2002a). Despite ongoing fighting, this remains the lowest known approval rate of any western country. Licensing was tightened by regulatory reforms in 1992 and 1995. Another reform in December 2001 further restricted the right to carry a concealed weapon (Shavit, 2002). Israelis wanting to buy guns because of the intifada have complained about shortages and price gouging. The shortages reportedly reflect not European embargoes—which have had little effect—but the hesitancy of the country's own Ministry of the Interior (Mualem, 2002b).

But there is more to public firearms in Israel than private ownership. Although IDF reservists generally are not allowed to keep military firearms at home, the IDF issues weapons to Jewish settlements in potentially dangerous areas, in northern Israel and especially the West Bank and Gaza. According to estimates by the Small Arms Survey, a total of some 41,000 weapons (mostly automatic rifles) have been issued, although other sources place the figure between 32,000 and 56,000 (Ben-Nun, 2002). The number of IDF weapons on issue to settlements varies; even during the current fighting, settlements have found their arsenals withdrawn as tensions move from place to place (Bennet, 2001). The distribution of these firearms is outlined in Table 2.7.

In Palestinian areas, the most important change in the weapons of the intifada during 2002 was a shift of emphasis from rifle attacks to suicide bombings. Behind this were more general shifts in the availability of small arms, in political

leadership, and in strategy. Above all, this was part of a political transformation, as the radicalization of the revolt saw much of the initiative and authority pass from Yassir Arafat's Palestinian Authority (PA) to extremist militias, such as Al Aqsa Martyrs Brigades, Hamas, and Islamic Jihad (Sayigh, 2002-03). The first 18 months of the Intifada saw large numbers of sniper attacks on Israeli soldiers and civilians. Palestinian spokesmen claim the guns come mostly from sympathizers and criminals in Israel. Israeli authorities believe that most are smuggled from Egypt and Jordan and by sea. In either event, by the end of 2001, firearms appeared to have become less common in Palestinian areas. This shortage and rising frustration with the limited gains of the sniper campaign was the most likely motive behind the attempt to acquire major weapon systems, an effort that appears to have diminished since the interception of the arms ship *Karine-A* in January 2002 (Small Arms Survey, 2002, pp. 93–94).

Table 2.7 Registered personal firearms of Israeli citizens

Location	Population	Firearms	Firearms/100 people
Israel proper	6,140,000	363,000*	6/100
West Bank and Gaza	195,000	41,000	21/100

Note: * An unknown proportion of the privately owned firearms listed in the figure for Israel proper actually are owned by Jewish residents of the West Bank and Gaza.

Sources: see corresponding text

Further evidence of the growing Palestinian gun shortage comes from reports of prices for smuggled weapons. At the beginning of the intifada in 2000, a former Israeli M16 typically cost USD 2,000. Eighteen months later, in early 2002, the price had increased to approximately USD 4,000, and by the summer of 2002 it had increased to over USD 6,000 (Rubinstein, 2002; Singer, 2002). Clearly, demand far exceeds supply. Border controls appear to be inhibiting smuggling, while aggressive patrolling by the IDF reduces the chances that equipment that does get through will remain long enough to be used. Contributing to the shortage were Israeli military operations like the controversial siege of the Palestinian town of Jenin. According to the IDF, this netted 5,323 firearms (IDF, 2002). In all, the IDF says, 5,000 of the 44,000 weapons issued to the Palestinian Authority under the Oslo peace process have been taken by the IDF and Israeli police (Cashman, 2002).

Frustration with the firearms-dominated phase of the intifada led different groups to turn to suicide bombings (Williams, 2002). Although they are made through craft techniques, most of these bombs are too standardized to be considered improvised. Bombs range from light weapons—typically a charge weighing 10–15kg strapped to a bomber's body—to much larger car bombs weighing 400kg or more. Although smaller weapons originally were based on commercial or military grade explosives, by the summer of 2002 this material was in short supply and homemade explosives became more common, typically based on nitrate fertilizer (Anderson, 2002; Greenberg, 2002). At the height of the suicide-bombing campaign in May 2002, Israeli authorities reported between five and seven attempts per day, although this quickly declined to between ten and twelve per week and continued to drop through the rest of the year (Moore, 2002; Morris, 2002).

Palestinian men carrying weapons protest the deaths of fellow Palestinians.

ELSEWHERE IN THE MIDDLE EAST: CONTROLLING THE GUN?

In other parts of the Middle East, gun violence appears to be declining as governments consolidate their control over Islamist insurgents and centralize state authority. This trend is clearest in Egypt and Algeria, where the Muslim insurgencies of the 1990s have gradually been defeated. Although low-scale fighting continues in Algeria, in June 2002 the *Gama'a al-Islamiyya*, Egypt's largest militant Islamist organization, formally repudiated violence (Blanche, 2002; Drummond, 2002). In 1999–2000, Turkey defeated the Marxist-nationalist Kurdish Workers Party (PKK), helping to explain the drastic reduction in civilian firearms sales there (PRODUCERS).

In each case, groups opposed to the state tried to wrest society away from it. Their failure was largely tactical. As the French scholar Gilles Kepel (2002b) argues, escalation made them enemies of the people whose support they needed, ensuring their eventual defeat. Lacking safe havens, these groups have been unable to husband their small arms and have lost large numbers to the state. Turkey, for example, recently announced the seizure of a total of 36,563 guerrilla small arms (Sabrihomuglu, 2002). As government forces have reclaimed the military initiative, it has been difficult for these groups to replace lost weapons, although nowhere does traffic cease completely.

Domestic security fears have led several Arab governments to assert greater control over small arms proliferation. As in many other Arab countries, reform in Jordan concentrates on strengthening gun laws. New regulations in 2000 required owners to renew their licences annually. Efforts to set up government offices to implement the reform package have been blocked, however, by constitutional concerns. While progress has been uneven, public officials are increasingly aware of the need to re-evaluate existing policy. As of 2000, Jordan granted licences for 125,312 privately-owned firearms. But, according to the Director of the Jordanian Directorate of Public Security, Fahad Al-Fawaz (2002, p. 91), licensed weapons account for 20 per cent of the civilian total. If so, the total number of firearms in public hands in Jordan is closer to 600,000. With a population of five million in 2000, this would mean Jordan had roughly 12 civilian guns per 100 residents.

Only in Lebanon do armed Islamist groups receive widespread support. Hezbollah is an accepted part of domestic political order, receiving foreign armaments, mostly from Iran and Syria.

Only in Lebanon does an armed, militant Islamist group continue to receive widespread support. Hezbollah is accepted as part of the domestic political order and receives foreign armaments, mostly from Iran and Syria. In 2002, Hezbollah concentrated on building up a stockpile of short-range artillery rockets, ranging from man-portable 107mm Katyushas with a range of 5km to much larger weapons like Fajr missiles with a range of about 70km. Israeli sources estimate that 8,000 to 9,000 are stockpiled in South Lebanon (Gordon, 2002b). Although the smaller rockets are not very destructive individually, in great numbers they can destroy cities, as shown in 1994 when Afghan warlord Gulbuddin Hekmatyar's Hizbi-Islami (Islamic Party) used them to lay waste to much of Kabul. In the early 1980s hundreds were fired by the PLO into northern Israel, provoking the Israeli invasion of Lebanon in June 1982. Israeli officials have become increasingly agitated about the potential dangers of the much larger Hezbollah stockpile.

In Yemen, where tribal feuding is a greater problem than Islamist extremism, President Ali Abdullah Saleh keeps trying to extend state authority over tribes by restricting firearms (YEMEN). Public display of guns has been banned in the cities (*The Economist*, 2002a). Firearms prices have increased as a result. A new AK-47 sells for almost USD 400, indicating that government controls have slowed imports as well (Kristof, 2002).

A possible catalyst for large-scale small arms buildings in the Middle East is a new war with Iraq, which could lead to massive arming of Iraqi civilians loyal to Saddam Hussein or to subsequent rearming of the Kurds. The political aspirations of the factions representing the estimated 12 million to 25 million Kurdish people are well known. Northern Iraq, home to an estimated 3.6 million Kurds, is where formal autonomy or independence is most feasible.

Kurdish militia factions there can field roughly 70,000 soldiers. Recalling the disappointments and defeats of the past, they have been slow to volunteer support for a new war against Saddam Hussein (Burns, 2002). To engage the Iraqi armed forces, they would require large-scale rearming. So far, this does not appear to be happening (as of early 2003). In Kurdish gun bazaars, small arms prices remain near or even below normal global market values. An RPG-7 rocket launcher that costs USD 500 in Yemen, for example, costs only USD 100 in the Iraqi-Kurdish city of Arbil. This suggests that, whether or not new supplies are being smuggled in, demand is very weak (Dinmore, 2002).

AFRICA: LESS CONFLICT, FEWER GUNS?

In August 2002, delegates met in Nairobi to evaluate the lessons from two years of political efforts to deal with illegal small arms trafficking in eastern Africa and the Horn of Africa. The proposal that received the most international attention was a recommendation to prohibit civilian ownership of military-style weapons, including automatic rifles, machine guns, and light weapons. This would leave only sporting rifles, shotguns, and handguns in public hands (BBC, 2002a). While not formalized, the idea symbolized African frustration with endless wars and rising social chaos fed by the flow of small arms to insurgencies, rebel movements, and crime.

Among all 44 countries of sub-Saharan Africa, there are probably no more than 30 million firearms.

Also at work was a feeling of despair, undoubtedly exacerbated by the common estimate that Africa was awash with 100 million illicit small arms. Such a stockpile would pose an enormous barrier to the restoration of civil order. West Africa alone, it has been said many times, has between seven million and eight million small arms outside government control (Musah, 2002, p. 240; IRIN, 2002a). Eastern Africa is said to have another five million (Africa News Service, 2002a). In Mozambique, estimates of up to ten million guns in the hands of former militiamen and criminals are still taken seriously (Lusa, 2002), despite research indicating otherwise.

Contrary to the impression created by statistics on warfare and crime, guns are not so common in Africa that hope of control must be abandoned or that restraint is pointless. In reality, among all 44 countries of sub-Saharan Africa there probably are no more than 30 million firearms in all, including civilian, insurgent, and government owners (see Table 2.8). This is enough guns to perpetuate fighting in many countries and raise the danger of criminal violence in many others, but it is not enough to render the situation totally beyond hope.

Table 2.8 Estimated distribution of firearms in sub-Saharan Africa

Group	Number	Number of firearms	Proportion of firearms (%)
Civilians	643,000,000	*23,000,000*	*79*
Insurgents*	*237,000*	*600,000*	*2*
Military	1,900,000	*4,850,000*	*16*
Police	*800,000*	*800,000*	*3*
Total		***29,250,000***	***100***

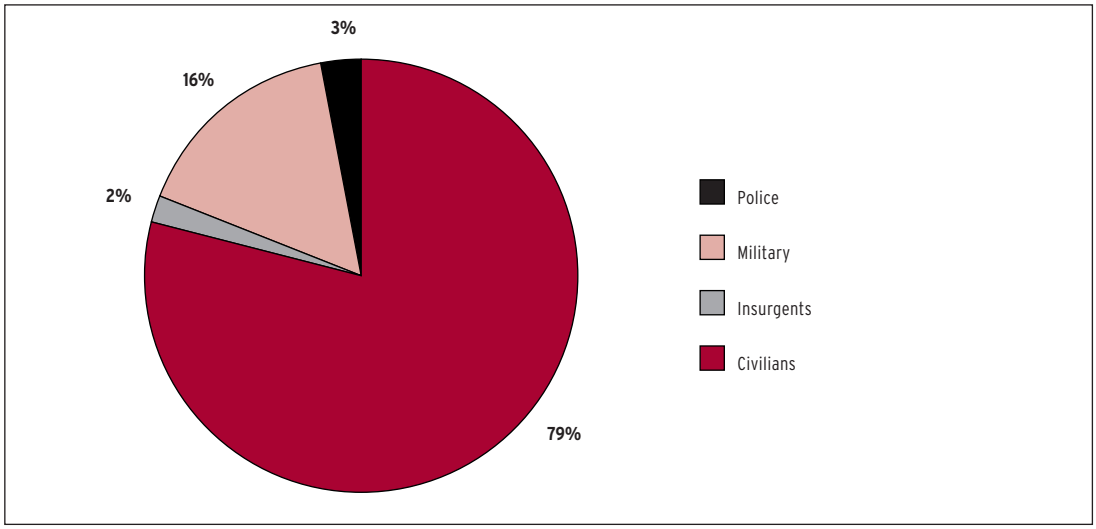
Notes: * The highest combined total of peak numbers of armed combatants for all insurgencies, rebel groups, and non-state armed forces active at any time from 1990 through 2001. Figures in italics are Small Arms Survey estimates.

Sources: military and population figures from United States Department of State (2001); insurgent figures from IISS, Military Balance (various editions); Jane's World Insurgency and Terrorism, various editions

While small arms proliferation has been especially dangerous for much of Africa, contributing to the collapse of whole states and plaguing the lives of tens of millions of people, the situation is not as dismal as it seemed just a few years ago. A series of peace agreements signed in 2002 signal a reduction of armed conflict across the continent. Several of these agreements include disarmament provisions that have transferred large quantities of small arms to government control. Not only is there less conflict, which decreases the demand for weapons, there also appear to be considerably fewer small arms in the region than is often assumed. Many of Africa's gun problems may be smaller than realized and more amenable to solution.

Armed fighting has declined in Africa and there are fewer small arms in the region than is often assumed. Africa's gun problems may be smaller than expected and more amenable to solution.

Figure 2.2 Estimated distribution of firearms in sub-Saharan Africa



The apparent resolution of civil war in Angola and Sierra Leone, possibly in southern Sudan, as well as the Luanda Agreement to end multi-national fighting in eastern DRC, all have the potential to cut demand for small arms. None of these agreements is guaranteed to succeed; in a part of the world that has inspired much diplomatic cynicism, many expect them to fail. The apparent peace in the Sudan was the first to collapse. But several other settlements have already produced tangible results, including the disarmament of most members of the rebel Revolutionary Union Front and the pro-government Civil Defence Forces in Sierra Leone, and the cantonment and planned disarmament of 80,000 former UNITA soldiers in Angola. If fulfilled, a pledge by the Democratic Republic of Congo (formerly Zaire) to disarm the roughly 30,000 Hutu troops on its soil would achieve much as well.

If one believes that there are 100 million small arms in the hands of non-state forces and individuals in Africa, such disarmament steps do not accomplish much. But there are strong reasons to think that the actual total of illicit military-style weapons is much smaller than the figures publicizing the problem imply. Correspondingly, efforts to remove arms from these societies may be more effective than generally assumed. It is more likely that these estimates exaggerate the African gun problem by one or two orders of magnitude. The total number of illicit military-style guns is unlikely to surpass one million for all of sub-Saharan Africa, and may be considerably lower. As shown below, the number of privately-owned firearms, legal and illegal, appears to be between 12 million and 24 million.

West African insurgencies and civilian holdings

If rebel forces are armed in roughly the same way as typical soldiers elsewhere in the world, with an average of 1.2–2.25 small arms each, the total number of insurgent small arms in west Africa alone never reached the widely assumed seven million to eight million. The widespread destruction, and the killing and flight of refugees, appear to have been caused by far fewer weapons in the hands of tens of thousands of fighters.

At the height of regional fighting, in the 1990s, the total number of insurgent fighters and armed sympathizers with major factions in the region totalled perhaps 47,000, with a combined arsenal of some 60,000–80,000 weapons (see Table 2.9). Some confusion has been caused by the tendency for insurgent numbers to surge as conflicts end, when non-combatants and peripheral supporters take advantage of internationally-sponsored demobilization programmes to receive benefits. If we assume considerable wastage of equipment and turnover among recruits (many left to become bandits, for example, taking their guns with them), it is unlikely that all these west African groups acquired more than 250,000 small arms throughout the decade. A well-documented stream of shady arms dealers emerged to supply their military needs (Wood and Peleman, 1999). But the scale of armaments appears to have been much smaller than the scale of the evils perpetrated on their victims. Through normal combat attrition, moreover, much of that arsenal is gone now.

Table 2.9 Small but deadly: Small arms of major west African insurgencies

Group	Country	Maximum troops	Years active	Est. small arms arsenal*
Movement of Democratic Forces	Guinea	500	1993–97	1,000
Patriotic Movement of Ivory Coast	Ivory Coast	600	2002–	2,000
National Patriotic Front of Liberia	Liberia	12,000	1989–96	20,000
United Front for the Liberation of Liberia	Liberia	7,000	1989–96	11,000
Liberians United for Reconciliation and Democracy	Liberia	2,500	1999–	4,000
Touareg groups	Mali	2,500	1990–96	4,000
Casamance Movement	Senegal	2,000	1980–98	3,000
Civil Defence Force	Sierra Leone	7,000	1995–99	11,000
Revolutionary United Front	Sierra Leone	13,000	1990–99	21,000
Combined highest arsenal of West African insurgencies				77,000

Note: *Estimated peak number of small arms and light weapons held during active years, including weapons likely lost through wastage. Not all of these factions held their peak arsenals at the same time. Based on acquisition model developed in the *Small Arms Survey* (2001, pp. 80–81).

Sources: all other data from IISS, Military Balance (various editions); Jane's World Insurgency and Terrorism (various editions)

This more restrained view of African small arms proliferation is supported by the estimate by Lt. Gen. Emmanuel Erskine that his country, Ghana, has 40,000 small arms outside state control (Mensah, 2002). Like most west African countries, Ghana is politically stable and was not directly affected by west African fighting. Weapons still seeped in, though, made available by fighting in the region. Further substantiating this order of magnitude is a study of the Republic of Congo carried out by the Small Arms Survey. This concluded that during the 1990s rebels there acquired a combined total of approximately 71,000 small arms, both by looting military arsenals and through illicit imports. Of these, some 41,000 probably remain in existence (CONGO). The largest country in the region, Nigeria, with some 115 million people, was also free of major insurgencies during these years, but faced considerable social strife. Estimates that Nigeria has become home to some one million private small arms are not unreasonable (Mensah, 2002).

On the opposite side of the continent, the number of small arms in eastern Africa is more difficult to estimate. A large proportion is in the hands, not of semi-organized insurgencies, but of more obscure criminal bands and rural civilians. But to attribute five million weapons to these groups is impossible even if the definition of eastern Africa is stretched to include the Sudan and Somalia. As shown by the recent disarmament of the Karamoja tribesmen in Uganda, intended to suppress rampant lawlessness, gun numbers of the scale of 10,000 for a major faction may be more typical (IRIN, 2002b). Other reports of rising firearms prices and the growing demand for improvised firearms in the region offer further evidence of an apparent high demand for guns (IRIN, 2002c; Obdula, 2002).

The firearms of African civilians and other major groups

Much more common than military-style rifles in the hands of insurgents and bandits are automatic rifles, sporting handguns, and homemade firearms among civilians. Unfortunately there is no reliable information on the total number of civilian firearms in Africa. The lack of data is only part of the problem. It is compounded by the difficulty of distinguishing civilians from combatants in many regions of the continent. Combatants return to their villages to hide as tactical needs dictate; and civilians are drafted into guerrilla service unpredictably.

Of the 44 countries of sub-Saharan Africa, relevant and comprehensive data has been produced or can be deduced for only a handful. For Nigeria, the continent's most populous state, the only data is a semi-official statement that the country's 115 million people own approximately one million firearms (Mensah, 2002). In South Africa, the wealthiest African state, the quality of data is much better. According to official registration reports for 2001, South Africa had 4.3 million registered firearms. Another 300,000 were suspected to be in public hands. Together, this would mean 11 civilian firearms for every 100 South African residents (Hennop and Meek, 2002).

The greatest factor contributing to the growth of east African military small arms inventories is the dramatic increase in the size of its military establishments.

It is possible to estimate with a lower degree of certainty the firearms stockpiles of more typical African countries like Kenya, Tanzania, and Uganda. The most detailed data comes from Tanzania. Although the government has not made available data on firearms ownership, it recently completed one of the most extensive studies of public firearms ownership undertaken anywhere. This revealed that roughly ten per cent of respondents had access to a firearm, in their own or a friend's house (Jefferson and Urquhart, 2002). Because it relied on police interviewers, there are serious methodological questions about the research. But if its validity is accepted, the general impression is that about ten per cent of all Tanzanian households have at least one gun. This would suggest that there are between 500,000 and one million privately owned guns in the country.

Another approach is to rely on estimating procedures developed in previous editions of the *Small Arms Survey*. In Kenya, Tanzania, and Uganda, as in most of the world, military small arms can be estimated on the standard military multiplier of 2.25 firearms per soldier. There is no obvious reason not to use this for eastern Africa as well. National militaries can be armed to a lesser standard, as shown by Togo, which reported to the United Nations the unusually low ratio of just 1.34 small arms per soldier (*Small Arms Survey 2002*, pp. 81–82). But Togo appears to be exceptional.

The greatest factor contributing to the growth of east African military small arms inventories is the dramatic increase in the size of its military establishments. Among the three countries considered here, the smallest military expansion was in Kenya, where it doubled over the last decade. The Tanzanian armed forces increased their personnel by about 2.5 times, while Uganda saw its total armed forces (including official government militias) grow by a factor of 15 to 20 (IISS, 1992; 2002a). At standard rates of armament, this would indicate the existence of military small arms inventories as outlined in Table 2.10.

Table 2.10 Military small arms inventories in three east African countries (approximate)

Country	Troops	Military small arms
Kenya	24,000	54,000
Tanzania	107,000	241,000
Uganda	120,000	270,000

Sources: IISS (2001); Small Arms Survey (2001)

The scale of insurgent forces in these countries is more elusive, largely because the absolute number of rebels and other non-state combatants is small. Consequently, estimates of their armaments are sensitive to what otherwise would be modest changes in the size of rebel forces. The largest concentration is in Uganda, where the Lords' Resistance Army is said to have roughly 2,000 active combatants. For these, the usual multiplier of 1.6 small arms per active insurgent combatant is probably the best available. In addition, the Kenyan and Ugandan governments face major challenges from heavily-armed tribes, with approximately 10,000 to 20,000 armed tribal militia fighters each (IRIN, 2002b). For the latter a multiplier of 1.2 small arms per armed tribal militia member (the normal multiplier for semi-active militias, see Small Arms Survey, 2001, pp. 80-81) seems to be a useful guide (see Table 2.11).

Table 2.11 Insurgent small arms inventories in three east African countries (approximate)

Country	Armed insurgents and tribals	Small arms
Kenya	10,000–20,000	12,000–24,000
Tanzania	–	–
Uganda	12,000–22,000	15,000–27,0000

Civilian weapons are estimated here based on the limited data available in 2002, extrapolated from population statistics, press reports, and the studies discussed above. The result is not a single estimate but a probable range for the total number of civilian firearms, including homemade firearms, in each country. Police small arms stocks are calculated at 1.2 weapons per sworn officer, the rule-of-thumb established in *Small Arms Survey 2001*, p. 70 (see Tables 2.12 and 2.13).

Table 2.12 Civilian small arms inventories in three east African countries (approximate)

Country	Civilian population	Civilian firearms
Kenya	31,000,000	430,000–860,000
Tanzania	36,000,000	500,000–1,000,000
Uganda	22,000,000	310,000–620,000

Table 2.13 Police small arms inventories in three east African countries (approximate)

Country	Sworn police officers	Police small arms
Kenya	30,000	36,000
Tanzania	35,000	42,000
Uganda	20,000	24,000

Summing up these estimates reveals that each of these three countries has a total stockpile of roughly between 500,000 and one million small arms. Population and military manpower are the most important determinant of the relative scale of their national holdings. The combined figures reveal that only in Uganda does the state seem to control a major proportion of the country's small arms. Uganda also appears to be proportionately the most per capita heavily-armed of the three. Civilian ownership predominates in Kenya and Tanzania (see Table 2.14).

Table 2.14 Approximate national small arms inventories in three east African countries

Country	Total small arms	Small arms/100 people
Kenya	530,000–960,000	1.5–3
Tanzania	780,000–1,280,000	2–3.5
Uganda	630,000–950,000	3–4.5

African totals and trends

Extrapolating from these examples is not straightforward because they are so different. South Africa especially stands out; it is far wealthier than any other sub-Saharan African country and has a much higher level of civilian firearms ownership. Based on the Nigerian and east African examples, more typical African countries appear to average no more than three or four guns per 100 people, although lower and higher levels of gun ownership clearly exist on the continent as well.

Small arms are scarce in Africa compared with other impoverished regions like south Asia.

Multiplied for the continent as a whole, this suggests that there is a total of approximately 18 million privately owned firearms across the continent. If, in recognition of its exceptional status, the South African total is added to this, the conclusion is that in all of sub-Saharan Africa there is a total of about 23 million privately-owned firearms, including licensed and unlicensed weapons (see Table 2.15). If other small arms categories are added—police, military, and insurgencies—the sub-continent has a total of no more than approximately 30 million small arms in all (see Figure 2.2).

Table 2.15 Firearms in civilian hands in sub-Saharan Africa

Base country	Population (millions)	Per capita GNP (USD)	Approx. firearms (millions)	Civil firearms/ 100 people	Extrapolated to all sub-Saharan Africa
Nigeria	115	1,300	1	0.9	6 million guns
South Africa	41	6,300	4.7	11	70 million guns
Tanzania	35	700	0.5–1	8	9–18 million guns

Note: The population for all of sub-Saharan Africa in 1999 was approximately 643 million people.

Sources: Hennop and Meek (2000); Jefferson and Urquhart (2002). Non-firearms statistics from United States Department of State (2001)

Small arms appear to be scarce in most parts of Africa compared with other parts of the world, including equally impoverished regions like south Asia. Even countries with a reputation for being heavily armed, such as Mozambique, have fewer in absolute numbers than many realize (Small Arms Survey, 2001, p. 64). The most important exceptions to this relative scarcity appear to be its wealthiest countries, notably South Africa. The other likely exceptions are countries afflicted by years of warfare like Angola and Sudan, but this remains to be fully substantiated by field research.

Observers have reported a recent decline in African small arms smuggling (Meek, 2002). Regional agreements such as the Southern African Development Community (SADC) Firearms Protocol, international measures, improved national export controls and regulation, explicit oversight of brokering, and general sensitivity to the issue all play a role (MEASURES). African small arms stockpiles are growing, but, to judge from the state of prices, the rate of growth is slowing for now.

Market saturation is not a factor. Potential buyers would happily pay for more guns than are available. A study of firearms in Kenya found that AK-47 automatic rifles were readily available in border regions at a standard world market price of USD 135, but the same study noted that prices rose by a factor of three or four in Nairobi (Misol *et al.*, 2002). More recent press reports place the cost in the north of the country at roughly USD 200 per automatic rifle (Thibodeaux, 2002). In Tanzania prices for AK-47s were slightly higher (Africa News Service, 2002b). The general impression is that there is no post-conflict glut on the market.

On the contrary, there is growing evidence of continued high levels of unmet demand for small arms in some parts of the continent. For example, the Lords Resistance Army in Uganda reportedly relies now on crude, improvised weapons (IRIN, 2002c). Reinforcing this impression of scarcity is the rise of one of the most revealing curiosities of the small arms market, a rental business for guns. AK-47s can reportedly be hired in Nairobi for USD 30 for three days (Robinson, 2001). Similarly, Tanzanians have developed a renewed interest in improvised firearms of their own, further testifying to a gun shortage of sorts (Radio Tanzania, 2002).

Box 2.4 Still guessing: China's firearms

Although China probably is home to a civilian arsenal of several tens of millions of guns, the nation's authorities remain unwilling to discuss the overall numbers. The general conclusions about the scale of the Chinese stockpile in the *Small Arms Survey 2002* were based largely on police reports of massive seizures of illegal firearms. Since 2001, however, such information has suddenly become almost unavailable. No revelations have emerged from China since 2001 that would call into question the conclusion that 'China must have more publicly owned firearms than almost any other country in the world, (Small Arms Survey, 2002, p. 97). Indirect evidence suggests that, to the contrary, the actual figures may be even higher than previously thought.

Through June 2001, Chinese police announced a series of massive gun seizures as part of periodic 'Strike Hard' campaigns. In July 2001, reports of major hauls suddenly ceased. According to one report, a total of 1.34 million illegal firearms were taken before the process was halted or reports were suppressed (Lam, 2002). In 2002 regional police began to report gun seizures again, but the numbers involved were hundreds, no longer hundreds of thousands (Bao, 2002; People's Daily, 2002).

One possible explanation has to do with the redirection of Strike Hard campaigns in mid-2001. Instead of firearms, they appear to have been reoriented to combat less provocative criminal problems, such as bicycle theft, counterfeiting, and smuggling (Xinhua News Agency, 2002). It may be that Chinese authorities realized that the enormous gun hauls they were publicizing were not contributing to a positive image of Chinese society and official authority.

A related problem comes from growing evidence that Chinese leaders systematically massage data on a vast range of national statistics. Growing doubt over official economic data has received the most attention (*The Economist,* 2002b). Law enforcement reporting has also been questioned. In one prominent example, Politburo member Luo Gan, Secretary of the Central Disciplinary Inspection Commission, is cited stating that the annual number of criminal executions in China is not 2,500, as compiled by Amnesty International, but more like 15,000 (Nathan and Gilley, 2002). If reports about other social concerns like illegal gun ownership have been suppressed, the total number of firearms in China may be much greater than assumed as well.

LATIN AMERICA: DANGERS OF INSTABILITY

Throughout the 1990s, the greatest dangers of violence in Latin America came from guerrilla warfare and crime, mostly involving small arms. With the decline of the region's major insurgencies—except in Colombia—crime is emerging as Latin America's outstanding small arms problem. This trend remains, but rising concerns over political instability have raised new fears of popular revolt and political violence. Growing political tensions in Argentina and Venezuela, for example, appear to have aroused increasing public demand for firearms (*The Economist*, 2002d).

Although the region's economic difficulties finally began to affect the Brazilian economy as well in the summer of 2002, so far Latin America's largest nation has proved to be more resistant to violent political instability than its neighbours. Crime remains the fundamental Brazilian small arms problem. Even though the country may have the largest public firearms stockpiles in all of Latin America, anything beyond informed speculation about the national total remains impossible. The same may be true of Mexico, but even less is known about the situation there. Estimates, such as the figure of 18.5 million guns in the hands of the Brazilian public, must be treated with caution.

The only concrete data on Brazilian firearms ownership remains a report from July 1999 on the progress of the national gun registration system established in 1997. At that time, registrations, mostly of newly-purchased firearms, had reached 1.6 million (Gasparini Alves, 2001, p. 35). The only other evidence providing a sense of scale comes from police apprehension of crime guns in Rio de Janeiro, where some 10,000 crime guns are confiscated annually in a state of roughly 13 million residents (Reuters, 2002). If multiplied for the entire country of 172 million people, this would equal roughly 132,000 guns confiscated annually nationwide. By comparison, US police take only some 34,000 crime guns annually.

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A Brazilian soldier guards a mountain of confiscated firearms to be destroyed by the government of Rio de Janeiro.

The most dynamic firearms situation in Latin America remains Colombia, the only country in the region still afflicted by large insurgencies. The controversial peace process between the government of then-President Andres Pastrana and the rebel Fuerzas Armadas Revolucionarias de Colombia (FARC) collapsed on 20 February 2002. Immediately after, government forces attempted to restore control over a large region of the country granted to the rebels as a safe haven in November 1998. This wrested the military initiative from the rebel movement, but is not expected to be permanent. The government armed forces are too small and ill-equipped to match the 18,000 FARC guerrillas, who show no sign of relenting (McDermott, 2002). This situation makes Colombia the largest market for weapons smuggling in Latin America. The FARC, financed through kidnapping and drug revenues, uses the black market with near impunity. In 2002, controversy surrounded the transfer of 3,117 used AK-47s that the rival United Self-Defense Forces of Colombia (AUC) acquired through intermediaries from Nicaragua. Authorities in Managua reportedly were tricked into believing that the used weapons were for the Panamanian police (TRANSFERS).

In Central America, stockpiles remaining from the civil wars of the 1980s continue to feed post-conflict crime and political tension. A decade after the wars ended, though, the numbers of weapons left in civilian hands continue to be a source of sharp disagreement. According to Jose Miguel Cruz of the Central American University, there could be more than three million guns in the hands of Central America's 35 million people (Munoz, 2001). If such estimates are even roughly correct, very few of these guns are legally registered. A prominent study by researcher Elvira Cuadra Lira noted that the number of registered firearms in all of Nicaragua was only 62,585 as of February 2002. This was an increase over previous years, but the figure is irreconcilable with the much higher regional estimates (*El Neuvo Diario*, 2002).

Table 2.16 Estimated firearms in Central America*, 2002

Civilian, registered	537,000
Civilian, unregistered	806,000
Police and military	153,000
Private security	93,000
Total	**1,589,000**

Note: *Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama.

Source: Godnick (2002, p. 6)

Box 2.5 Firearms of the Pacific

The Pacific may be the world's most diverse and complicated region. It comes as no surprise that it has a variety of gun cultures to match. It ranges from one of the world's largest countries in surface area (Australia) to a collection of the world's smallest micro-states. Its islands show the full range of ethnic, economic, and political situations, stretched across much more of the earth's surface than all of the Eurasian landmass combined (50 million square km compared with Eurasia's 34 million square km). Guns are relatively commonplace in some parts, rare in others.

The one characteristic gun tradition this enormous area seems to display is a tendency towards low-calibre hunting rifles. In recent years, Australia and New Zealand have acted aggressively to get rid of military-style weapons in public hands. But rising political tensions and communal conflict elsewhere, for example in Bougainville and the Solomon Islands, have fuelled greater demand for firepower like automatic rifles and pump-action shotguns.

Research by Philip Alpers and Conor Twyford shows that gun ownership is heavily concentrated in the region's two largest and wealthiest states: Australia, where civilians own more than two million legal firearms, and New Zealand, where citizens own nearly one million. No other country in the southern Pacific comes close to such totals, although the third-largest centre of public gun ownership, Papua New Guinea, has far more legal guns than any of the others, and the tiny community of Niue surpasses all Pacific island nations in gun ownership per person (see Table 2.17).

By no stretch of the imagination can the rest of the Pacific be considered free of firearms, even though its stockpiles are among the smallest of any known state or autonomous territory. With populations that vary from the size of a large city (Fiji) to little more than a village (Niue), small arms figures often seem almost irrelevant to observers more accustomed to millions than hundreds. Similarly, police forces can be tiny and in most islands armed forces simply do not exist. But the stability of this situation is increasingly dubious. Events in the 1990s showed that with small absolute numbers comes great sensitivity to relative change.

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In June 2002, more than 2,000 weapons were handed in in the Solomon Islands and thrown overboard into the sea.

Box 2.5 Firearms of the Pacific (continued)

Table 2.17 Firearms in the Pacific (civilian, police, and military)

Country	Population	Lawfully-held civilian firearms	Police firearms (estimate)	Military firearms (estimate)	Known national total (estimate)
American Samoa	61,000	250	58	0	308
Australia	19,707,200	2,165,170	56,839	114,075	2,336,084
Cook Islands	20,000	500	29	0	529
Fiji	840,000	1,538	571	7,875	9,984
French Polynesia	241,000	610	286	1,192	2,088
Kiribati	92,000	8	133	0	141
Marshall Islands	54,000	30	38	0	68
Micronesia (FSM)	124,000	612	650	0	1,262
Nauru	12,000	0	23	0	23
New Caledonia	224,000	19,000	348	1,584	20,932
New Zealand	3,820,749	850,000	2,000	19,564	871,564
Niue	2,000	397	5	0	402
Palau	20,000	0	98	0	98
Papua New Guinea	5,028,000	50,000	6,904	9,900	66,804
Samoa	160,000	17,845	142	0	17,987
Solomon Islands	479,000	800	1,875	0	2,675
Tonga	101,000	800	121	877	1,798
Tuvalu	10,000	12	21	0	33
Vanuatu	207,000	4,700	92	576	5,368
Wallis and Futuna	14,700	Not available	26	104	130
Total	**31,217,649**	**3,112,272**	**70,259**	**155,747**	**3,338,278**

Sources: Alpers and Twyford (2003); military figures calculated from IISS (1986)

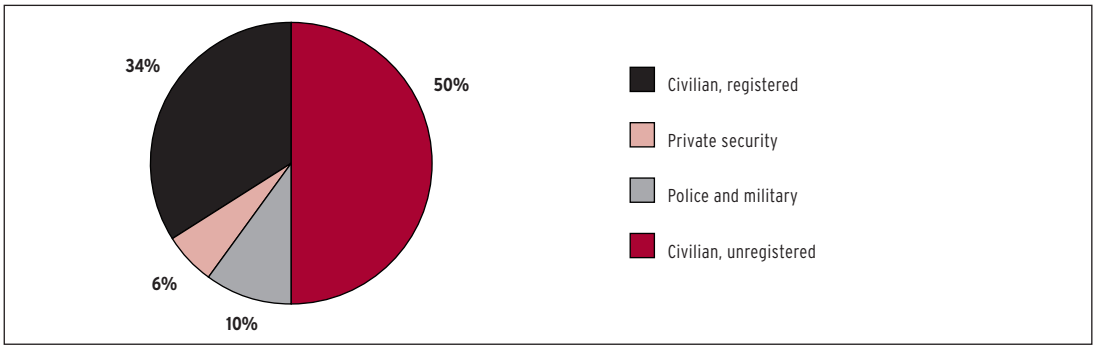
Throughout the Pacific, illegal ownership remains a vital unknown.

Throughout the Pacific as elsewhere, it is illegal ownership that remains the vital unknown, making it impossible to complete a regional firearms portrait. In Australia, surveys suggest that there are a total of 3.6 million firearms in civilian hands, considerably more than the two million registered with public authorities. In the Cook Islands, where officials have examined the issue, it is believed that illegal weapons outnumber registered weapons by more than two and a half times. In states with weak governments and large or poorly policed territories, the unregistered proportion could be much higher.

In Central America, the majority of small arms are in civilian hands. But these weapons are used with exceptional frequency, resulting in some of the highest homicide rates anywhere.

A middle estimate emerged from a study commissioned by the Small Arms Survey. This concluded that there are more than 1.5 million firearms in Central America (see Table 2.16). While these figures are estimates, they help give sense of a region at once similar to much of the world and highly distinctive. In Central America as in most parts of the world, the majority of small arms are in civilian hands. But these weapons are used with exceptional frequency, resulting in some of the highest homicide rates anywhere.

Figure 2.3 Estimated firearms in Central America, 2002



CONCLUSION

This chapter shows that the struggle for greater transparency in global small arms stockpiles can claim important successes. Through the contributions of communities of dedicated individuals, the disposition of small arms in North America and much of Europe is increasingly understood—in outline if not in detail. Although the quality of their data is below even this forgiving standard, the co-operation of government officials and the efforts of independent researchers have greatly improved our understanding of regions like South Asia (examined in the *Small Arms Survey 2002*), Central America, and the southern Pacific. Often a handful of revelations have been enough to permit construction of models that give a general picture of the regional situation, as in sub-Saharan Africa. In every one of these regions, however, much remains to be done to improve the accuracy and detail of our understanding.

For every country whose small arms stockpiles is understood, another lies in darkness.

Clarity comes, but unevenly. For every country whose small arms stockpiles we understand better, another still lies in darkness. Sometimes this is not because of any lack of good will, as in Brazil and Russia, but because public authorities are themselves still trying to understand the situation. Other major countries like China, Indonesia, and the Ukraine have yet to release basic data about their small arms and do little to aid research. In some cases, whole regions still lie off the global small arms map, especially the Middle East, northern Africa, central Asia, and much of South America. Even countries leading international disarmament diplomacy like Austria, Ireland, and Mexico remain *terra incognita* for small arms analysis.

No less a problem than large and poorly understood stockpiles are smaller ones that have been exaggerated out of proportion. Especially in war-torn regions, there is an understandable tendency for commonly-used gun numbers to grow as observers try to call attention to the situation. Numbers can be blown up by as much as a factor of ten. Whether in Mozambique, Yemen, Macedonia/FRY, or Afghanistan, such exaggeration poses serious political dangers. It creates the impression of hopeless problems when solutions may be closer and more feasible than assumed.

Most of the attention devoted to global stockpiles naturally concentrates on their numbers. The experiences of 2002 give insights into gradual improvements in the management of those stockpiles as well. Some of these are the result of dedicated international processes. Others are side-effects of more idiosyncratic forces like NATO and EU membership and international responses to al Qaeda. Although black and grey markets continue to pose major problems for peace and stability, one can see the beginning of better international stockpile management. Increasingly, the biggest stockpile problems arise not from global proliferation but from a lack of control over small arms within countries. Winning signatures for international reform, it seems, may be easier than implementing it domestically (MEASURES).

One finding that emerged from this and similar assessments is the importance of understanding where the world's small arms and light weapons are at any moment in time. It would be convenient, analytically and politically, to focus exclusively on the relatively small proportion of the global stockpile used to kill, maim, and intimidate. Along these lines, a major school of thought seeks to limit all small arms policy and study exclusively those weapons used illegally.

The issues examined here, however, reveal a need for more comprehensive awareness and policy. As shown in the examples in this chapter, small arms stockpiles must be understood in all the depth and breadth possible. Since all small arms can be misused, they all require consideration. The distinction between legal and illegal small arms obscures the reality of a simple technology with no intrinsic nature of its own except its lethality. There is no external difference between legal and illegal small arms. A broker or a user can transform a legal weapon into an illegal one in an instant. Because every gun has the capability to be misused, it is imperative to always know where it is and who is responsible for it. Better transparency and better management are the best ways to inhibit the easy descent from the responsible to the deadly.

2. LIST OF ABBREVIATIONS

AUC	United Self-Defense Forces of Colombia
DRC	Democratic Republic of Congo
ELN	National Liberation Army
ETA	Euskadi Ta Askatasuna (Basque Homeland and Liberty)
EU	European Union
FARC	Fuerzas Armadas Revolucionarias de Colombia
FRY	Former Republic of Yugoslavia
IDF	Israeli Defense Forces
IRA	Irish Republican Army
MANPAD	Man-portable anti-aircraft missile
MoD	Ministry of Defence
NATO	North Atlantic Treaty Organization
NLA	National Liberation Army
OSCE	Organization for Security and Co-operation in Europe
PA	Palestinian Authority
PKK	Kurdish Workers Party
PLO	Palestine Liberation Organization
SADC	Southern African Development Community
UNITA	União Nacional para a Independência Total de Angola

2. ENDNOTES

[1] Information provided by NATO, March 2003.

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ACKNOWLEDGEMENTS

Contributors

Philip Alpers, Peter Batchelor, Gilad Ben-Nun, Christophe Carle, Silvia Cattaneo, Daniel Luz, Glenn McDonald, and Mariusz Okapiec.