



# Red Flags and Buicks: Global Firearm Stockpiles

# 2

## Introduction

When Chinese police announced that they had confiscated some 600,000 illegal firearms in the spring of 2001, they probably sought to demonstrate their ability to deal with one of the country's growing social problems (*The Economist*, 2001c). They may not have appreciated the window they were opening onto one of the most mysterious aspects of the global distribution of small arms. As a result of these revelations and others like it elsewhere, the picture of global small arms ownership gradually is becoming clearer.

The size of the global small arms stockpile is large enough to guarantee that the issue of small arms proliferation will continue to gain in political importance in the coming years. Since the 2001 UN Small Arms Conference, global awareness of the importance of small arms issues has grown and many pressing questions about global stockpiles are now being sufficiently answered to activate concrete policy responses. Despite the fact that some important details are still lacking, there is widespread agreement on the scope of the problem, on the scale of the global stockpile, and on which aspects are of the greatest concern.

This chapter broadly outlines the size of the global small arms stockpile, where the world's small arms are, and who controls them. It also illuminates trends of greatest concern. Key findings of this chapter include:

- The global small arms stockpile is at least 16 per cent greater than previously estimated, with over 638,900,000 firearms.
- Although far less numerous, shoulder-fired rocket launchers and mortars merit careful consideration as well.
- China and South Asia are major centres for small arms, home to tens of millions of firearms each.
- Insurgent arsenals are growing fastest in Colombia, the Palestinian territories, Central Asia, and parts of Indonesia. They appear to be stable or diminishing elsewhere.
- Small arms stockpiles change in size and composition primarily through the re-circulation of old weapons rather than new production.
- Destruction programmes have reduced global inventories by over four million small arms in the last decade.

The global small arms stockpile is at least 16 per cent greater than previously estimated, with 639 million firearms alone.

The assessment in this chapter reveals in most cases that the global stockpile is larger than was estimated in the *Small Arms Survey 2001*. In a few situations, however, the assessment identified decreases. Most of these changes are due to a greater awareness about small arms in a growing number of countries. The actual increase from new production is a small—but not insignificant—part of this new estimate of the global stockpile (PRODUCERS). Most of the increases revealed in this chapter can also be attributed to better information and research. In fact it is likely that the total number of small arms in the world has actually grown at a slower rate in the last year, than in previous years. Further adjustments, moreover, will be inevitable. Several major countries, for example, remain virtual blank spots on the map of global small arms stockpiles.

Caution also is in order. Widely cited in the news media, the *Small Arms Survey 2001* estimate of the total global firearms stockpile has joined the list of key numbers used to illustrate serious issues of public policy. Comparable statistics are increasingly common. Examples include the figure of 300,000 child soldiers around the globe promoted by the Coalition to Stop the Use of Child Soldiers, 22 million refugees according to the UN High Commissioner for Refugees, and the estimate of 230 million to 245 million landmines stockpiled worldwide from the International Campaign to Ban Landmines (UNHCR, 2000; International Campaign to Ban Landmines, 2001). Like these, the global firearms estimate is as much a symbol of the small arms issue as a representation of it.

Like any overall number it is subject to misuse. As Joel Best points out in *Damned Lies and Statistics* (2001), numbers come with agendas. Census figures, for example, matter not just as measures of population but also as a basis for political arguments over sharing resources. Crime statistics often reveal more about those who use them than they do about crime itself. Analysts of some of the statistics mentioned above are concerned about these issues as well (Bottigliero, 2000). This chapter strives to help minimize the biases typical in political numbers.

Above all, this chapter stresses the need for greater transparency and more careful consideration of small arms data. With these goals in mind, it is important that others assess the scale of the small arms problem as well. The military procurement analyst Gregory Fetter (2001c) has arrived at an alternative figure for the total number of firearms in the world today of approximately 594,000,000.<sup>1</sup> Of equal importance, he calls attention to the definitional problems of small arms and light arms, of deciding what to include and exclude. This is an issue that was deliberately avoided at the 2001 UN Small Arms Conference (CONFERENCE) and continues to pose obstacles to consensus in international law enforcement and small arms policy.

The concerns addressed in this chapter include:

- **How many small arms and light weapons are there in the world?**
- **How does the number of firearms compare with that of various types of light weapons?**
- **Who controls more of the world's small armaments: the military, police, or civilians?**
- **Which regions are experiencing the greatest expansion of weapons stocks?**

For practical reasons, the chapter focuses mostly on firearms, from handguns to heavy machine guns; these are the most numerous small arms and those for which data is most available. They also cause the most destruction, making them the target of most international attention. Changing patterns of distribution are revealed not only through raw numbers but also through price, a new key indicator used here. Price can be a red flag, warning when small arms dangers grow especially acute. The chapter also examines global inventories of two less commonly considered types of small arms: shoulder-fired anti-tank rockets and light mortars. The latter include weapons improvised from readily available scrap, such as car parts.

The second section of the chapter builds upon the approach pioneered in the *Small Arms Survey 2001*, surveying the major categories of small arms owners, from the police and armed forces to private civilians. It shows how important changes in military doctrines and insurgent warfare are changing not only the global stockpile but its distribution as well. Finally, the third section reviews the regions of the world where there were important changes in stockpiles or our understanding of those stockpiles. It estimates for the first time the approximate size and distribution of small arms stockpiles in South Asia and China.

## New approaches to small arms and light weapons

Contemporary small arms policy is governed by a general sense that the quantity of guns in the world is becoming an independent force in global affairs, surpassing the influence of existing regulations. While this undoubtedly is the case, it represents a simplification of the small arms issue. Factors other than raw numbers of weapons also can reveal critical aspects of the evolving challenge to policy-making.

As shown here, *price* can be an equally insightful indicator of the nature of small arms problems. The preoccupation with growing firearms inventories, while certainly justified, is an oversimplification. It inadvertently draws attention away from other light weapons and issues of serious concern. To help correct this imbalance, the basic issues surrounding the stocks of *shoulder-fired anti-tank rocket launchers* and *light mortars* are introduced in this chapter. Although the growth of the global inventory of small arms has become a steady trend, it is somewhat misleading. As shown in the section on weapons destruction, stockpiles do go down, especially when major organizations—typically the police or armed services—decide to destroy surplus or excess equipment.

### The price of small arms: A key indicator

In parts of the world where there are no figures on the number of small arms, the best guide to their availability often is price. Prices convey a general sense about demand and supply, demonstrating whether or not they can be easily obtained. Especially in situations where firearms are illegal, prices may be the only way of establishing whether they are commonplace or scarce, whether smuggling is effective or embargoes are working.

Prices are no panacea for overcoming the lack of information about quantities. While inventory data is subject to inaccuracies, modest fluctuations in supply can create big changes in price. Black markets for small arms appear to be exceptionally sensitive to changing political conditions; weapons worth thousands of dollars each in the midst of fighting can be virtually worthless the day peace breaks out. The resumption of hostilities may drive prices up just as quickly.

Another basic problem is that every firearms market, especially every illegal market, is unique; there does not appear to be a universal relationship between prices and supply. Each situation has to be judged on its own terms. An AK-47 may be worth USD 2,000 in both the United States and Kashmir. In both cases legal barriers on importation are the basic cause of exaggerated prices. But in reality the situations could not be more different. The American market is dominated by collectors, the Kashmiri market by secessionist rebels; American buyers split hairs over makes and models, the Kashmiri trade feeds a vicious civil war. The meaning of seemingly identical prices also varies. The cost of a Kalashnikov is not an insurmountable problem for typical buyers in the United States, but identical prices pose much greater obstacles for most Kashmiris. Taste can affect price too, as demonstrated by the cost of AK-47s in Columbia compared to M16s (see Tables 2.1 and 2.2).

Information about prices is best in legal markets, where the relationship between supply and demand is easily established. Prospective buyers need only turn to the Internet or trade publications. Producers and dealers can gauge market trends and regulate supply to minimize price fluctuations. The real value of prices for insight into stockpiles is in black-market situations, especially where insurgencies and rebellions create strong demand. The study of black-market gun prices is too primitive to reveal the number of guns available on any particular market, but it can inform observers about trends in supply and demand.

Black-market prices also illustrate how the trade in second-hand equipment affects the global distribution of firearms. Newly manufactured small arms are a relatively minor factor in the overall global stockpile, contributing

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roughly one per cent of the global stockpile each year (PRODUCERS). Since most small arms last a long time, second-hand weapons dominate the trade. With important exceptions, it is not so much transfers of newly produced weapons as the re-circulation of second-hand equipment that cause national stockpiles to rise and fall most. The exceptions where newly produced firearms predominate include civilian and police markets in wealthier, firearms-producing countries like the United States, western Europe, parts of Brazil, South Africa, and the Middle East, and military markets for sovereign states. Elsewhere, civilian buyers tend to receive weapons that have been previously owned. Insurgencies as well appear to be heavily dependent on access to second-hand weapons. Often such weapons actually are unused, taken from long-term storage in military arsenals. But they cannot be regarded as new production.

Transfers of second-hand small arms have a major effect on the distribution of firearms, moving them from regions of high concentration to regions of sparser availability. High prices play an instrumental role in this process, attracting brokers and persuading others to disregard the legal and personal risks of selling weapons in regions of conflict.

Table 2.1 lists a sample of black-market AK-47 prices from the Small Arms Survey database. The AK-47 is especially revealing because of its ubiquity, with an estimated 70 million to 100 million in existence, and the large number of price reports. For comparison, Table 2.2 lists prices for black-market sales of the M16, which is less common, with some seven million in circulation (Small Arms Survey, 2001, p. 20). Price disparities and more rigorous export licensing by the United States and its clients largely explain the fact that reports of AK-47 sales are much more numerous, by a factor of roughly ten to one. These tables allow only general comparisons; although quantity is a major factor in pricing, for example, it is not possible to be certain that all prices listed here are for sales of a single weapon. Bulk purchases must be evaluated separately: an AK-47 which normally might cost USD 120 to 250 purchased singly can cost as little as USD 40 when bought in quantities of several thousand, even on the black market (Tamayo, 2000). The specific model, manufacturer, and condition of the weapons involved—potentially with major effects on price—usually are not known either.

**TABLE 2.1** Examples of black-market prices for a single, used AK-47 rifle (various models)

Price (current USD)	Location	Year
10	Afghanistan	2001
12	Angola-Namibia border	1998
15	Mozambique	1999
25	Honduras	1997
40	Phnom Pen, Cambodia	2001
86	Uganda-Sudan border	2001
100	Nicaragua	2001
100	Warri, Nigeria	2001
120	Somalia	2000
250	Sakhkot, Pakistan	2001
400	Siberia, Russia	1998
800	Colombia	2001
1,200	Bangladesh	2000
2,400	Indian Kashmir	2000
3,000	Colombia	2000
3,000	West Bank, Palestinian territories	1999
3,800	Bihar, India	2001

*Source: Press reports in the Small Arms Survey database, available on request*

The most remarkable revelation here is the volatility of prices. Each price level is associated with a general set of market conditions. Since most of these prices come from journalists' reports and often represent only specific transactions or hearsay, their individual reliability is low. At the extremes, moreover, some exaggeration must be discounted. Tales of automatic rifles being traded for a chicken in Africa are a gun-trade favourite, despite their obvious absurdity. But, as a set, these prices clearly reveal major tendencies in the market.

There does seem to be a real bottom price for used, factory-made AK-47s, generally of USD 35 to 40 each. This price is found in many regions when peace arrives suddenly. In conflict situations, strong demand attracts ever-larger supplies, and with the end of fighting there simply is no demand for the weapons. This cannot be sustained. Over the ensuing months these weapons will disappear, whether bought by the formerly warring sides or exported, and prices will tend to go up somewhat.

**TABLE 2.2 Black-market prices for a single, used M16 rifle (various models)**

Price (current USD)	Location	Year
100	Somalia	2001
700	Moluccas, Indonesia	2001
1,100	Solomon Islands	2001
2,000	São Paulo, Brazil	2000
3,000	Colombia	2001
10,000	Palestinian territories	2001

*Note: for comparison, the US Army currently pays approximately USD 387 for each new M16A4 rifle when purchased in quantity.*  
*Source: Press reports in the Small Arms Survey database, available on request*

Slightly higher prices are typical of the large-scale, state-to-state trade in second-hand models. There is a clear hierarchy in the international market for AK-47s and lookalike versions, with the Russians able to ask for the highest prices, followed by central and east European manufacturers. Chinese exporters usually charge the least of all major producers, except when North Korean versions are present. Quality seems to be comparable in all cases—this is a product of 1940s vintage, after all—so the differences are due entirely to differences in image. The only exceptions are locally made weapons from garage workshops like Pakistan's infamous Darra market, where low-quality versions typically sell new for about USD 65 each (*The Hindu*, 2001).

Legal civilian markets for individual weapons normally appear to sustain prices of USD 230 to 400 each. This is what American buyers pay for slightly modified versions only capable of semi-automatic fire, although collectable models can go for considerably more. Nothing drives up prices beyond this level like fighting. As a general rule, when black-market prices for individual small arms rise beyond the widely established prices of legal markets, social order is in jeopardy. Extremely high prices—a sign of desperation—are evidence of active fighting or organized combat. Prices for AK-47s above USD 1,000 each are a red flag, a warning sign that, market peculiarities aside, demand is so strong that normal economic considerations have been abandoned. Prices this high indicate two important aspects of the market. First, they show that border controls are having a strong effect; weapons are not getting through as quickly as prospective buyers would like. Second, they are proof that demand cannot be easily satisfied. In a better market, buyers would snap up significantly more.

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Not all price increases are equally dangerous. In the United States, new Chinese-made AK-47s sold for about USD 100 each in the late 1980s. This was due to a glut on the market created when merchants overestimated the scale of public

demand and over-ordered (Smothers, 1989). After the administration of President George H. Bush began to discuss banning imports in early 1989, American prices rose to roughly USD 300 each (Mathews, 1989). Although a ban was not enacted until 1994, the threat alone was enough to sustain the high prices, to the benefit of importers who sold them in unprecedented numbers anyway. Several Internet sites list second-hand 'pre-ban' fully automatic rifles selling in the United States for between USD 400 and USD 2,000. Collectable models can cost much more. This situation is highly exceptional; in most of the world prices that high are associated with black markets or active armed conflict.

Very high small arms prices should be a serious warning for outside observers. They are characteristic of situations—often very bad already—with the potential to rapidly degenerate. Although Indian authorities may believe they have stabilized the situation in Kashmir, exceptionally high gun prices there suggest otherwise. The Kashmiri market is waiting, in a sense, for a clever broker to find a new supply route. Similarly, high prices in the Palestinian territories show that there are many Palestinians without automatic rifles who desperately want them. Although less extreme, the high prices paid by guerrillas in Colombia indicate that they too could expand their forces and conduct more aggressive operations if small arms supplies were more generous.

Especially serious are rapid increases in small arms prices. Spiking prices should be a red flag to policy-makers. They announce a situation on the verge of deadly deterioration. Rapid price increases or sustained high prices, the typical result of strong demand and constrained supply, indicate that buyers are aggressively searching for sellers. Fighting may be about to start or may be set to become much worse. Authorities will be under grave pressure to prevent smuggling, aware that, if the conflict does not abate soon, the temptation of extremely high prices means that sources of supply almost invariably will emerge.

In the same way, very low prices can be a good thing, meaning that no one wants readily available guns. Low prices, created by high supply and low demand, can be linked to the end of a conflict. This situation is not without its dangers. Low prices enable less motivated gunmen—especially petty criminals—to step into greater firepower. It is through low prices that cheap thugs replace expensive guerrillas. The other danger of low prices is for outside regions. The prospect of easily stocking up attracts brokers interested in capitalizing on peace in one area to sell at higher prices in less fortunate areas, shifting the cycle of prices and violence from one region to another.

Spiking small arms prices are a red flag, warning of a situation on the verge of degeneration.

### BOX 2.1 Up and down: Supply and demand in Albania and Kosovo

The images of Albanian weapons being pilfered as government offices and arsenals were ransacked in March 1997 are among the strongest images of state collapse and anarchy. In a span of days virtually the entire military arsenal of the small, impoverished country was looted. Most of the larger items, like armoured vehicles and artillery, were quickly recovered as the government restored order. But left unaccounted for were the vast majority of the country's official inventory of 643,000 firearms, 1.5 billion rounds of ammunition, and 3.5 million hand grenades, which were never recovered (United Nations, n.d.).

The effect on weapons prices was entirely predictable at first. Automatic rifles, which had not been legally traded by civilians previously and normally would have been in high demand, were worth only USD 35–40 one month later (O'Connor, 1997). But low prices invited the attention of brokers, as well as criminals and rebels. For a brief period, Albania became a major export centre in the international small arms business.

Another effect of the sudden availability of small arms was felt in neighbouring Kosovo, helping to transform the Kosovo Liberation Army (KLA) from a small rebel band into a much larger force ready to provoke the ruling Serbs. Founded in 1992, the KLA had been irrelevant for years. But with weapons pouring in it began to attract greater support, growing more confident and assertive (Wagstyl, 1999). Its first raids against Serbian police and military facilities occurred in the summer of 1997, a few months after the arsenal looting the previous March.

**BOX 2.1 Up and down: Supply and demand in Albania and Kosovo (continued)**

Strong demand in neighbouring regions rapidly exhausted even this large supply. Predictably, prices began to rise (see Table 2.3). One year later AK-47s were trading in Albania for some USD 300 each, considerably more than their normal market value and the gun surplus evaporated (Sagramoso, 2000/01). As the conflict in neighbouring Kosovo intensified, the price of weapons in Albania continued to rise. By the late summer of 1998, Kalashnikov rifles were trading there for USD 650 (Smith and Sagramoso, 1999).

At this point the market underwent a fundamental transformation as traders reversed the direction of the weapons flow and began to import weapons from elsewhere. For some suppliers political motives may have been primary, for others economic incentives explain everything. Many of the new weapons appeared to come through Croatia (*The Economist*, 1999). The guns released in the March crisis, in other words, helped ignite the Kosovo crisis, but were not sufficient to sustain it. With much of the funding coming from ethnic Albanians in Germany, Switzerland, and the United States, the KLA was attracting completely new supplies (Sagramoso, 2000/01).

When the Kosovo fighting ended in June 1999, the weapons path took a new twist. Although NATO commander Wesley Clark had indicated that the peacekeepers would try to fulfil the promise made at Rambouillet and disarm the KLA, without the KLA's co-operation this was never practical (Rhode, 1999). In all, over 9,000 small arms were collected from Kosovo, but reserve stocks in Albania were not touched (*Jane's Intelligence Review*, 2000). Where voluntary collection and destruction failed, market forces began to have an effect again, creating a situation in which the flow of weapons has seen-sawed back and forth as political tensions rise and fall.



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An Albanian man and his son carry rifles and ammunition they have looted on 10 March 1997.

**Table 2.3 Black-market AK-47 prices in Albania, 1997–1999**

Period	Price (then-year USD)
Spring 1997	40
Winter 1997–98	150
Spring 1998	300
Autumn 1998	650
Autumn 1999	125

Source: Press reports in the Small Arms Survey database, available on request

With Serbia defeated and its troops withdrawn, in late 1999, Kosovo was awash with unneeded firearms. Most former soldiers appear to have kept their weapons, but some would appear with the Albanian National Liberation Army in Macedonia a little more than one year later. Others showed up in regional markets. Weapons from Kosovo, available and cheap, began to flow into the arsenals of other groups like the Real IRA in Northern Ireland (*The Economist*, 2001a). Once fighting resumed, this time in Macedonia in early 2001, the flow reversed and weapons began to flow into the region again (B92 Radio News, 2001).

The government of Albania, which had been virtually stripped of small arms, was rearmed by Western governments through NATO's Partnership for Peace. As if to make the ironies of the situation complete, allegations have since been raised charging that some of these weapons have been sold illegally by the Logistics Department of the Public Order Ministry (Feci and Hoxhaj, 2001).



**BOX 2.2      Weapon prices and fashion**

Although the laws of supply and demand heavily influence the global flow of small arms, it would be a mistake to think that these two factors are based on security concerns alone. In many regions, consumer taste is no less important.

In much of the Middle East and Central Asia, for example, the AK-47 is the individual weapon of choice, so much so that throughout much of this part of the world the term 'Kalashnikov culture' is immediately understood (Cohn, 2001). Buyers often will pay a premium for the automatic rifle that symbolizes rebellion in much of the world and masculine responses to social chaos elsewhere. As a result it has become a weirdly normal postmodern fashion accessory.

In Somalia, for example, a Russian-made AK-47 costs USD 250, while an American M16 left from before the country's government collapsed trades for just USD 100. 'There aren't as many American guns here', reports a trader. 'We don't think they're as good as the Russian weapons' (Coker, 2001). A reputation for reliability is important, but—more to the point—in these regions it simply would look odd for a man to be seen carrying anything other than a Kalashnikov.

If all things were equal, all automatic rifles would cost roughly the same. In Colombia this was the case in the late 1990s, where an AK-47 and an M16 both cost roughly USD 3,000 (Policia Nacional, 2001). Similarly, in the illegal markets of Brazil today, either weapon typically sells for USD 2,000. The same is true in Indonesia's Molucca Islands, where soldiers and police currently sell either weapon to rebels for USD 700 each (*O Estado de Sao Paulo*, 2000).

When choice is available, though, even guerrillas appear to be vulnerable to fashion. When Peru's intelligence chief Vladimiro Montesinos transferred 10,000 AK-47s to guerrillas of the Fuerzas Armadas Revolucionarias de Colombia (FARC), local black-market prices for AK-47s fell from USD 3,000 before to USD 600 soon after (Otero, 2000). The price of M16s, on the other hand, held steady at roughly USD 3,000 each (Policia Nacional, 2001). Apparently Colombian guerrillas are picky customers, and will pay a steep premium for their favourite.

Images of radical defiance also explain why scarce M16s feature prominently in Palestinian martial displays, where they are preferred to readily available Kalashnikovs. The latter are the standard firearms of sympathetic Islamic states, many of which are believed to assist smuggling. Suppliers also prefer them because their ubiquity makes them harder to trace when apprehended. More readily available, although still considerably scarce compared with Palestinian demand, Kalashnikovs are traded there for some USD 3,000 each. M16s are much less common. They come almost exclusively through raids on Israel. Their dangerous origins compound the inevitable appeal of using an enemy's weapon against him. Not surprisingly, their price can escalate beyond USD 10,000.

Even guerrillas appear to be vulnerable to pressures of fashion.

**Light weapons: Shoulder-fired rocket launchers and mortars**

The *shoulder-fired anti-tank rocket launcher* was invented, more or less simultaneously, by all the major powers in the Second World War as a portable anti-tank weapon. Simple designs like the American Bazooka, the British PIAT, and German Panzerfaust were highly effective against the thinly armoured vehicles of their day. The concept of an unguided, fin-stabilized rocket as an inexpensive anti-tank weapon had enormous military appeal and designs were continuously updated throughout the Cold War. Several types remain in production today. Although their relevance varies from country to country, they are in use with virtually all government armed forces and many insurgencies.

All of these weapons share similar strengths and weaknesses. Simple rocket launchers are unguided after launch. Most do not carry large enough warheads to be highly effective against contemporary armoured vehicles, especially main battle tanks. The anti-tank mission has shifted to the larger and more costly, fully guided systems that appeared in the 1960s. Yet unguided shoulder-fired weapons still remain highly effective against a wide range of softer targets, especially field fortifications, bunkers, and trucks.

Because it is seen as an offensive infantry weapon, not all armed forces have a doctrinal place for it. Most NATO armies, with their emphasis on fast mechanized operations, rarely stressed small groups of soldiers hunting targets of opportunity and never gave it much prominence. It was among Soviet-style forces and ex-Soviet clients that rocket

launchers came into their own. Today, however, the rocket launcher has emerged as an irregular soldier's most powerful weapon. In Somalia, in October 1993, it was used to bring down American helicopters (Bowden, 1998). In Chechnya it is primarily an offensive weapon against ground positions (Thomas and Grau, 2000).

There are many versions of these weapons, as shown in Table 2.4. The image that usually comes to mind is of a Soviet RPG-7. This was introduced for service in the Red Army in 1961, was widely used in the Vietnam War, and has been used in virtually every major armed conflict since. In service with virtually every country ever trained in Soviet tactical doctrine, versions of the RPG-7 have been manufactured in Bulgaria, China, Egypt, Iran, Iraq, Pakistan, Romania, and Thailand. The cost of the weapon varies. In Chechnya, according to one source, 'The price is supposed to be \$800 [for the launcher], but our men get it from the Russian soldiers for 20 bottles of vodka' (Safire, 2000). Other sources quote figures of USD 720–1,221 for the launcher, and some USD 14 for each rocket (Fetter, 2000). For evidence of its value on the battlefield, though, consider the Colombian FARC, willing to pay USD 12,000 for a single RPG-7 launcher (Policia Nacional, 2001).



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An Ecuadorian soldier training with an M72 LAW rocket launcher.

**TABLE 2.4** Examples of shoulder-fired anti-armour rockets

Type	Operational	Unit cost (USD)	Quantity made through 1999	Source	Manufacturer
APILAS	1982	1,227	124,784	France	SERAT
C-90	1985	3,122	238,728	Spain	Instalaza
M72 LAW	1963	242	6,926,483	United States	Talley
Panzerfaust-3	1987	7,065	254,774	Germany	Dynamit Nobel
RPG-7	1961	800	9,060,487	Russia, China, many others	Various
RPG-18/22	1976	783	3,044,062	Russia, Bulgaria	Various
RPG-75	1975	2,165	432,722	Czech Republic	Zeveta
Other models			1,983,941	Various	Various
<b>Total made*</b>			<b>22,065,981</b>		

*Notes: This table presents weapons that are not strictly comparable. For example, the M72 LAW and RPG-18/22 production figures refer to rockets, since the launcher is disposable. The RPG-7 figure refers exclusively to the launchers, which are designed for reuse.*

*\*Not all of these weapons remain in existence; unknown numbers have been expended in training and operations.*

*Source: Fetter (2000)*

The American equivalent is the M72 LAW (Light Armor Weapon). Easily recognized by its thin green canister, this was developed in the early 1960s as a completely disposable infantry weapon. Lighter and smaller than its Soviet counterpart, the M72 also is one of the few Western weapons actually cheaper as well, costing USD 242 each in the mid-1980s (Fetter, 2000). Various versions have been adopted by at least 34 countries. Many comparable weapons exist as well, including Russian copies like the RPG-18. In all, references list more than 20 models currently in production (Gander, 2000, pp. 374–426).

In addition, large numbers of much older rocket launchers are held in reserve. The American M20 Bazooka, a weapon from the 1950s, is obsolete in the United States, but is held in reserve elsewhere. Manufactured in China as the Type-51, it may be held in reserve there as well. Similarly, the old Soviet RPG-2 appears to be in storage in Russia, China, and many other countries. At a minimum, hundreds of thousands of these weapons still exist.

The global quantity of unguided anti-tank rocket launchers offers a revealing contrast with firearms, which outnumber them by almost 30 to one. The reasons for the overwhelming numbers of firearms are not surprising—firearms

For guerrillas, less concerned with tactical accuracy than political impact, the mortar is an ideal light weapon. The mortar is an easy weapon to improvise from scrap.

are reusable and have a vast civilian market. The military usually requires more firearms, since most soldiers and many members of the other services are issued rifles and side-arms, but distribution of specialized weapons like rocket launchers is more restricted. Yet as experiences as diverse as the Vietnam War, Somalia, and Chechnya have shown, they deserve much greater attention. Already, they have begun to appear not just among insurgencies but also in criminal hands (Mallet, 2001).

*Mortars* have even older origins, dating directly to the Stokes Trench Mortar invented during the First World War. The devices have changed little in subsequent years, mostly through addition of better sighting equipment. The mortar filled a niche similar to that of the rocket launcher, giving unsupported infantry 'pocket artillery', a way to lay down high-explosive suppressive fire when beyond the reach of artillery and air support. Mortars probably reached their apogee in the 1950s and 1960s, when Soviet military doctrine ensured their widespread dissemination among Soviet satellites and clients. Since then the mortar has lost popularity, especially among Western militaries, which retain it mostly for reconnaissance units and special operations forces who might find themselves in tricky situations with no one to call on for help.

In western Europe and the United States the light mortars are in decline; there is less need for their inaccurate fire on the high-tempo, casualty-adverse battlefield. The United States closed the last of its production lines in the early 1980s. Several European countries keep production lines, apparently in hope of export orders to developing countries, but the latter are usually supplied out of stock. According to Fetter (2001a), the total global stockpile of mortars is 781,894.

Insurgents long ago discovered the advantages of the mortar. For guerrillas, less concerned with tactical accuracy than political impact, the mortar is ideal. As they demonstrated long ago, it also is an easy light weapon to improvise from scrap. This was a point that Graham Greene hammered home in his classic Vietnam war novel, *The Quiet American*, in which he observed that 'Buicks make the best mortars' (Greene, 1955). Contemporary insurgencies like the Colombian FARC, the Irish Republican Army (IRA), and the Sri Lankan Liberation Tigers of Tamil Eelam (LTTE) have built mortars of their own contrivance. More recently Israel has been forced to contend with mortars being fired from Gaza, among them home-made varieties (Davies, 2001; PRODUCERS).

Adding up completely different types of small arms and light weapons, however tempting, is a deceptive and meaningless exercise. Experts regard as seriously misleading the assumption that pistols and machine guns, to take one example, are in any sense equivalent. Greater insight comes from comparing different types of small arms and light weapons, as in Table 2.5. Beyond the enormous preponderance of firearms in the global arsenal, it shows the relative quantities of the weapons discussed here.



Indian Army mortar fired against Pakistani armed forces in Kashmir on 6 September 2001.

**TABLE 2.5 Comparing global inventories of major small arms and light weapons**

	All firearms	Military firearms	Shoulder-fired rocket launchers	Mortars <90mm
Raw number	638,900,000	241,600,000	22,065,981	781,894
Comparative scale	1,000	377	34	1

*Sources: Tables 2.4, 2.8, and 2.21; Fetter (2001a)*

### The impact of destruction programmes on global stockpiles

Destruction of small arms is usually associated with weapons collections programmes, typically based on voluntary turn-in or buy-back projects, encouraging individual owners to give up unwanted weapons. The focus on weapons collection distracts attention from some of the largest and most successful destruction operations, which have been undertaken by government agencies. Typically these agencies act to serve their own needs, such as reducing storage costs, liberating space, or reducing the risk of theft. In absolute terms, though, the quantities involved in organizational destruction can be much greater than individually oriented or voluntary collection programmes (WEAPONS COLLECTION).

While none but the very largest small arms destruction programmes is likely to reduce the total numbers of weapons available in a whole society by more than a few percentage points, they can significantly reduce the stockpiles of specific actors, in some cases enough to remove much of their ability to transfer small arms in large quantities. Especially when organized within an institutional setting, the effect of destruction programmes on global stockpiles becomes readily tangible. The elimination of large numbers of military rifles, for example, has a direct effect on the ability of the armed services to rapidly expand or to quickly supply foreign clients.

Table 2.6 lists the largest known small arms destruction programmes since 1990. The list includes only programmes that culminated in physical destruction of guns, as opposed to those that took civilian guns and transferred them to the police or armed forces, or released them from the armed forces to civilians or to foreign governments. Most of the larger programmes were relatively straightforward decisions within organizations. The most important exceptions were the very largest public collection and destruction programmes. Typically public small arms collection programmes attract no more than a few thousand weapons. This should come as no surprise.

Because they involve vast numbers of individual decision-makers—almost as many as there are weapons—public-oriented undertakings have to deal with much more complicated motives. They require much more organizational effort and usually must offer some form of compensation, such as money, which makes them much more costly as well. The most productive—in Australia and Britain—also were very special. They happened through legal reform in peaceful societies. Coming at a moment of moral revulsion against particular gun crimes, they also encouraged citizens to hand in their newly illegal firearms in exchange for monetary compensation.

The major small arms destruction programmes listed in Table 2.6 eliminated a total of over four million small arms during the last decade. This is equivalent to roughly 0.5 per cent of all the firearms in the global stockpile, or roughly two-thirds of one year's new production (PRODUCERS). Some of those weapons destroyed have since been replaced: roughly eight to ten per cent in one example (Faltas, McDonald, and Waszink, 2001, p. 4). While the impact on the global stockpile is not great, the impact on specific countries and organizations has been more palpable. Through destruction programmes, Australia eliminated just under 20 per cent of all firearms in the hands of its citizens. The destruction of ageing rifles by the US Army cut its total rifle inventory almost in half.

The focus on weapons collection draws attention away from some of the largest, most successful destruction operations undertaken by government agencies.

**TABLE 2.6** Recent major small arms destruction programmes

Country	Organization	Weapons type	Year	Quantity
<i>Organizational programmes</i>				
Brazil	Rio police	Small arms	2001	100,000 *
Germany	Federal government	Firearms	1990s	500,000 *
Netherlands	Ministry of Defence	Firearms	Late 1990s	100,000 *
Russia	Ministry of Defence	Small arms	1998–2001	421,021
South Africa	SA National Defence Force	Small arms	1998–2001	262,667
South Africa	SA Police Service	Small arms	2000–2001	52,000 *
United States	Army	M-14 rifles	1993–94	479,367
United States	Army	M-16 rifles	1996	350,000 *
<i>Individually oriented programmes</i>				
Australia	General public	Semi-/Fully automatic long guns	1997–98	643,726
Nicaragua	Ex-guerrillas and general public	Small arms	1991–93	142,000 *
United Kingdom	General public	Firearms	1997–99	185,000 *
Others		Small arms	1990–2001	765,000 *
<b>Total</b>				<b>4,000,781</b>
* Estimated				
Sources: Brazil: Galeria (2001); Faltas, McDonald, and Waszink (2001); Netherlands: author's interview with Dutch MoD official, New York, 11 July 2001; Russia: Ordzhonikidze (2001); United States: author's interviews with US Army officials; others: WEAPONS COLLECTION				

Further large-scale destruction is being planned. The German government reportedly plans to destroy at least another 50,000 sub-machine guns and 400,000 rifles (DDP, 2001). In this case, most—if not all—are former East German firearms that the Berlin government simply has no use for. But even destruction of unwanted arms should not be trivialized; in the past Germany tried to solve the problem by transferring many of its unwanted East German small arms abroad.

## Major changes among owners: The military, civilians, and insurgents

Patterns in ownership did not change much in 2001, but our understanding of the distribution of firearms has become more detailed and nuanced. Of greatest significance here is the role of military doctrine and strategy on small arms stockpiles. Different countries are affected in different ways. On the one hand, orthodox multipliers used to estimate small arms per soldier seriously underestimate the stockpiles among those relying on the strategy of People's War. Their stocks appear to be much larger than previously thought. On the other hand, there appears to be another trend toward smaller military establishments with fewer small arms per soldier. How the latter will affect global stockpiles in the long term is uncertain. In the short term, though, it could exacerbate the glut of second-hand equipment.

Civilian stockpiles did not change much in 2001, growing through normal purchases. The total number of insurgent small arms did not change much, but their distribution did, growing in some regions, declining in others. The fastest recent growth appears to be in Palestinian-controlled areas. But size is not everything, as the disproportionate influence of the relatively tiny stockpile of the IRA shows.

### Military firearms: The link between strategy and numbers

When countries refuse to make public the size of their military small arms arsenals, the efficient way to estimate their dimensions is through comparison with countries for which accurate data is available. This approach, described in the *Small Arms Survey 2001*, facilitates comparisons based on multiplying the number of uniformed

military personnel—which is generally known for all countries—by the number of small arms that countries typically have for each soldier, sailor, and airman. In the *Small Arms Survey 2001*, the small arms ratios of the Canadian armed forces were used as the basis for a conservative estimate of global military small arms inventories. The approach is useful but crude; it assumes that all countries are relatively similar in their small arms procurement practices—a major oversimplification. These assumptions and others require regular adjustment as more data becomes available.

Estimates of military small arms inventories in this chapter continue to be based on the assumption of 2.25 firearms for each member of the armed forces, as developed in the *Small Arms Survey 2001*, but this approach has important limits. While this appears to lead to a reliable, conservative estimate of global military small arms, it can lead to a distorted impression of the stockpiles of individual countries. In practice, many countries have much larger stockpiles (see Box 2.3) while a few are smaller.

Among the countries where these ratios have increased is Canada itself. New information from the Canadian government shows that in recent years the number of troops there has declined, while the military small arms inventory generally was stable. This pushed its weapon-to-troop ratio up from the figure of 2.25 used in the past to 2.5 in 2002 (see Box 2.4). Despite this change, the old multiplier continues to be used since it reflects conditions in the base year of 1987 when global military forces were their largest. But the implication of the new information should not be overlooked; actual weapon-to-troop ratios and actual military small arms inventories worldwide could be higher than previously thought.

Among the countries that have allowed the size of their military small arms inventories to atrophy is the United States. For the United States Army—described at length below—the ratio of small arms per soldier has fallen from 2.3 as recently as the early 1990s to 1.3 today. The ratio for the entire American military, including all the armed services, is even lower at roughly 1.05 small arms for each uniformed airman, marine, sailor, and soldier. This decrease is the direct result of changes in national strategy.

Instead of re-evaluating basic assumptions comprehensively, this chapter starts by estimating the global stockpile total based on the multiplier of 2.25, and then adds the approximately 700,000 military weapons produced in 2001 (PRODUCERS). Other additions for specific countries are noted in the following text. Finally, the 2.1 million military weapons destroyed, as noted above, must be deducted (see Table 2.6). The net result is a total estimate of over 241 million firearms in the hands of global armed forces as of January 2002 (see Table 2.7).

Even at the height of the Cold War, when most of the military firearms in existence today were made, some countries were not satisfied with the 2.25 ratio, which they would have found too low for their national security needs. That ratio used in past and present editions of the *Small Arms Survey* is a conservative choice for estimating the scale of typical inventories during the Cold War era; some countries, on the other hand, were more aggressive in their defence planning, accumulating much larger quantities, virtually all of which are still around.

In the US Army, the ratio of small arms per soldier has fallen from 2.3 in the early 1990s to 1.3 today. The ratio for the entire American military, including all the armed services, is even lower.



A Canadian soldier with a C7 rifle.

**TABLE 2.7 Revisions to the estimated global military firearms stockpile**

Category	1987 base figure	Change since 2000
1987 base estimate	202,000,000	-
Global new military production	25,000,000	+ 1,000,000
Addition for People's Armies (except China)	3,200,000	+ 3,200,000
Addition for Chinese People's Liberation Army	13,500,000	+ 13,500,000
Subtraction for military weapons destroyed	- 2,100,000	- 2,100,000
<b>Total global military firearms stocks</b>	<b>241,600,000</b>	<b>+ 15,600,000</b>

*Note: the People's Army countries estimate figure here excludes 20.8 million firearms already in the base figure.*

Conservative assumptions are safe and useful rules of thumb, especially in place of additional information. But enough data is accumulating about one particular group of countries that built up much larger military small arms arsenals than conservative assumptions would lead one to believe. These mostly are former—and some current—communist-ruled states that relied on military strategies based on People's War. The latter is the well-known Maoist strategic doctrine of repelling a technically more advanced foe through a combination of guerrilla raids and massed infantry attacks, relying on sheer numbers to compensate for lack of sophisticated equipment and tactical finesse. It was a brutal approach to warfare, generally preferred by ideologically driven political leaders rather than by general officers. By the early 1970s it had fallen into widespread disfavour, a victim of its own extremely costly successes in Korea and Vietnam.

Albania was one of the last pure practitioners of People's War, and its monastic exceptionalism offers a unique insight into the small arms structure of these countries. After its military arsenals were ransacked in the nationwide looting that began in early 1997, the country became the centre of an international effort to recover its lost small arms. One result was complete reporting of Albania's lost arsenal, outlined in Table 2.8. According to United Nations reports, the country lost control of more than 643,220 small arms, although a more recent Albanian police report says the total was 549,775 (Republic of Albania, 2001). In either case, this is a very large amount of equipment for a country of 3.6 million people and a military establishment that never grew beyond 180,000 men for all armed services, active and reserve. Instead of an orthodox 2.5 small arms per soldier, Albania had something closer to 3.6.

**TABLE 2.8 Arms looted from Albanian military depots, January–March 1997**

Type	Number	Ratio of items/soldier
Pistols	38,000	0.21
AK-47s	226,000	1.25
Bolt rifles	351,000	1.95
Machine guns	25,000	0.14
Grenade launchers	2,450	0.01
Mortars	770	0.004
<b>Total</b>	<b>643,220</b>	<b>3.57</b>

*Note: these figures do not include weapons from the small arms factory at Gramsh. Most of its production and stocks were intended for export*  
*Source: United Nations (n.d.)*

Albania's extra weapons were intended to arm civilians drafted into the fray of an attack on the country. Although there was little about communist Albania that was normal, the small arms force it created to fight a People's War was not exceptional. With a version of the same strategy in mind since his guerrilla successes of the Second World War, Yugoslavia's late-President Tito created an arsenal with 4.5 small arms per military member, active and reservists (Small Arms Survey, 2001, p. 75).

What of the other countries that relied on versions of People's War during the Cold War era? Cuba and Vietnam already have shown the scale of these plans. Cuba relied primarily for its defence on its 330,000-member armed forces, which it planned to support with the 1.3 million members of its Territorial Militia—this in a country of some ten million. Vietnam, with a population of roughly 70 million, supported an army of over one million, backed up with a Strategic Rear Force of three to four million. And North Korea, with a population one-third that of Vietnam (21 million), maintained an army of 1.1 million and a reserve of no fewer than six million (IISS, 1987). Since their total reserve forces are well known, standard multipliers can be used in these cases to estimate military stockpiles.

The Albanian military firearms multipliers are of greatest value with countries preparing for some version of People's War, though little is known about such countries. An example is Libya, with an arsenal of major weapon systems far in excess of the capabilities of its armed forces, which never totalled more than 125,000 personnel. Just as it keeps more armoured vehicles than it can hope to use, Libya almost certainly has filled its firearms arsenals very generously. Iran and Iraq also have followed the same strategy, which would lead to Albanian-style military firearms arsenals of at least some 444,000 military guns for Libya, 3.8 million for Iran, and 3.7 million for Iraq. These estimates—again, almost certainly on the low side—create a net increase of 2.4 million military guns over the otherwise anticipated minimum stockpiles of these countries.

The biggest question in the field of People's War is none other than China, where the concept originated. The People's Liberation Army remained at a regular strength of some six million personnel throughout the Cold War. How large an irregular force did Beijing plan for? Given China's population and industrial resources, the total could be virtually limitless. Applying the Albanian military firearms multipliers points to a conservative estimate of enough Chinese small arms to equip at least 27 million troops (see Table 2.7).

As in almost all other aspects of human affairs, poor information can lead to queer results in military small arms planning as well. Despite its enormous importance for security, mistakes happen. A recent example occurred in Macedonia, where several countries have helped the country build its armed forces since 1996, when the UN arms embargo was lifted. Inadvertently they helped create an army with one of the highest ratios of weapons to soldiers ever.

Macedonia started out with 5,000 Kalashnikov-type rifles inherited from the former Yugoslavia and some 40,000 bolt-action rifles. Assistance quickly began to pour in, most generously from Germany, which supplied 15,000 former East German AK-47s. This was to equip an army initially planned to reach 60,000 troops in all. But an army of such dimensions was never a serious possibility. When the goal became manifestly infeasible and politically divisive, it was reduced to 16,000. In reality, a force of just 2,500 soldiers could be created by the time civil war with ethnic Albanian rebels began (Gordon, 2001b). The weapons remain, giving the country a remarkable ratio of 24 firearms per soldier.

In Bosnia-Herzegovina, after years of NATO and bilateral military assistance, the armed forces have 450,000 small arms, ostensibly to equip an army of some 40,000 (Zivalj, 2001). This would be exceptional over-arming, except that Bosnian security planning relies on 150,000 reservists (IISS, 2001). With reservists the total weapons-to-soldier ratio is high, but not exceptionally so. For a country convinced its security was irreparably damaged by international embargoes, such hoarding is not difficult to understand.

Countries in which military strategy has relied on People's War tend to have especially large military small arms stockpiles.



**BOX 2.3 Swiss military small arms**

Swiss gun owners can point to a long and distinctive tradition of gun ownership, with roots in an armed neutrality. But unlike many countries with widespread firearms ownership, the Swiss are comparatively private about their firearms. The Swiss federal government does not keep comprehensive statistics on private gun ownership. Although all Swiss private gun owners must be licensed and many cantons require firearms registration, most records are maintained at the canton (provincial) level.

The major exceptions to this rule are the small arms of the Swiss Armed Forces. According to figures provided by the General Staff of the Swiss Armed Forces, the nation's military currently has a total of 695,000 rifles and pistols in its inventories. These include:

- 450,000 Stgw 90 (5.6mm) rifles\*
- 175,000 Stgw 57 (7.5mm) rifles (designated for liquidation)\*
- 50,000 Pist 75 (9mm) pistols\*
- 20,000 Pist 49 (9mm) pistols\*

This list is not complete, missing sub-machine guns, machine guns, grenade launchers, and other typical military firearms, whose numbers remain classified. Using orthodox multipliers to estimate these—but not other kinds of small arms like grenades, mortars, and shoulder-fired anti-tank rockets—the country would be expected to have a total of approximately 1,040,000 military firearms in its armed forces inventory.

This might seem high for a country with just 4,000\* full-time military personnel and 29,000\* conscripts in basic training every year. In reality most of these weapons are for the country's militia armed forces, which is based on 420,000\* citizens (including 70,000\* reservists) serving regularly as soldiers every other year parallel to their professional life who form the foundation of Swiss national security. The small arms for this total force of 453,000\* personnel are stored in depots, unit arsenals, and under a special system of regulations in the homes of the country's militiamen.

With approximately 2.3 military-owned firearms for every man and woman who can be called into uniform, the Swiss Armed Forces have an arsenal proportionally larger than most NATO countries—which typically have 1.3–2.5 firearms per soldier—but lower than most other countries relying heavily on reservist forces or nation-in-arms strategies (in which category the Swiss Armed Forces belong)—who typically have 3.5 or many more firearms per soldier.

Another distinctive aspect of the Swiss military system is the widespread distribution of Army firearms among its militiamen, who keep weapons and ammunition in locked storage at home. This is a procedure used by few other countries, of which Israel is best known. Even more distinctively, Swiss militiamen are allowed to receive former military weapons upon retirement and by proving that they execute a sport shooting activity. These are specially marked and converted for semi-automatic fire. Former military small arms in the hands of ex-conscripts are not included in the inventories of the Swiss Armed Forces, although records of such transfers are kept for ten years and shared with canton police.

The Swiss example shows how vital it is to include militiamen and reservists when evaluating the small arms of a national military establishment. The information released here offers insights into a distinctive military structure. As revealing as they are, though, these figures do not include police weapons or privately purchased firearms. Until data on those categories is collected, the total number of small arms in the country cannot be established.



© Swiss Armed Forces Film Services

*Swiss militiamen assembling.*

*Note: \* Indicates actual figures supplied by the General Staff of the Swiss Armed Forces. All other calculations are those of the Small Arms Survey. Sources: Correspondence with the General Staff of the Swiss Armed Forces, 5 December 2001, 21 December 2001, and 1 February 2002.*

**BOX 2.4 Canadian military firearms multiplier**

As a conservative baseline for estimating global firearms stockpiles, the *Small Arms Survey 2001* used the example of Canada. This was not only one of the few nations for which comprehensive information on small arms inventories was available, it also led to a lower multiplier than most other examples: 2.25 firearms per every uniformed airman, sailor, and soldier. Some countries have fewer firearms per soldier than Canada—Norway currently has only 1.6, Togo has 1.34, and the United States is an extreme example at 1.05 small arms for each man and woman in uniform—but most countries appear to have at least as many as Canada, if not more. Use of the Canadian-inspired multiplier probably underestimates global military stockpiles, it almost certainly does not overestimate them.

Thus it is significant that the Small Arms Survey has been informed by the Canadian government that the number of its uniformed military personnel no longer is 107,500, as it was only a few years ago. As of 2001 its authorized strength was 93,500 for all services, active and reserve. This is the maximum allowed under law; actual strength is lower. This troop level leads to a current multiplier of 2.5 firearms for every man and woman in uniform for Canada.

*Source: Canadian Department of Foreign Affairs and International Trade, Ottawa, private correspondence, 24 January 2001.*

**Civilian ownership: Continuing to dominate the market**

The most dynamic area of small arms ownership continues to be the civilian market. Civilian owners have at least 378 million firearms. This represents an increase of 25 per cent over the estimate in the *Small Arms Survey 2001*. Most of this increase is the result of better data and counting techniques.

Actual growth of civilian stockpiles in the year 2001 was approximately 6.9 million newly manufactured firearms. Civilian buyers, in other words, acquired roughly 85 per cent of the nearly eight million guns manufactured in 2001 (PRODUCERS). In all, civilian guns constitute over 59 per cent of the total global firearms stockpile.

While civilian sales are depressed from their historic peak a decade ago, the civilian sector of the market remains the most dynamic. Police inventories changed marginally in 2001 through normal attrition replacements and modernization. The major exception was Nepal, where police facing Maoist insurgents are in the process of converting to automatic rifles, as described below. Military forces too have generally been less affected by major new purchases, although fulfilment of old contracts and smaller purchases continue to shape their inventories. Insurgent arsenals appear to have grown slightly in 2001, but remain slight compared with civilian holdings.

The most prominent civilian market continues to be the United States, where civilians purchased more than 95 per cent of the four million firearms manufactured in the country in 1999, the last year for which official statistics are available (PRODUCERS). Combined with imports—mostly from Brazil and China—of some one million, this means the American civilian firearms stockpile grew by roughly five million that year. Production for civilian purchase in other countries added another two million. Thus new production increased the global civilian stockpile by almost seven million in the most recent year known, a level that appears to have been sustained in the years since (PRODUCERS).

Better reporting from governments also has made possible re-calculation of total civilian stockpiles in several countries, most notably in the Czech Republic and in the Philippines, where it was possible to estimate even illegal civilian firearms inventories for the first time. These are discussed in the regional sections below.

Several countries are gradually developing estimates for their civilian weapons inventories. In Switzerland, for example, a picture is emerging through a combination of official disclosures and public polling. Swiss federalism makes total national firearms ownership difficult to ascertain. As noted above, the Swiss military controls 695,000 automatic rifles and service pistols. Many of these are stored in the homes of the nation's seven million people (see

Civilians own at least 59 per cent of the total global firearms stockpile.

Of nearly eight million firearms manufactured in 2001, some 6.9 million went to civilians.

With fewer conflicts, insurgent demand for small arms has decreased.

Box 2.3; Clasmann, 2001). The scale of total private gun ownership in the country was suggested by a recent survey. This reported that 35 per cent of all Swiss households have at least one gun (Swiss Crime Surveys, 2001). While this is not sufficient to establish the total number of civilian firearms in the country, it ranks Swiss public gun ownership higher than other well-armed countries like Australia and Canada, in which one out of four households has a gun, but below the United States, where over 40 per cent of households have at least one gun.

**TABLE 2.9 Additions to estimated civilian stockpiles**

Country	Category	Total	Change
Czech Republic	Legal civilian	534,000	+ 251,000
India	All civilian	40,000,000	+ 40,000,000
Nepal and Sri Lanka	All civilian	3,000,000	+ 3,000,000
Pakistan	Legal civilian	2,000,000	+ 2,000,000
Pakistan	Illegal civilian	18,000,000	+ 18,000,000
Philippines	All civilian	5,300,000	+ 4,900,000
New production	All civilian, 2001	7,000,000	+ 7,000,000
Subtractions for disposals, 1990–2001		-1,836,000	- 1,836,000
Net change for estimated civilian stockpiles			+ 73,300,000
<b>Approximate total civilian firearms</b>			<b>378,300,000</b>

These and other changes, especially the addition of estimated civilian gun ownership in the countries of South Asia (below), make it possible to recognize an increase of more than 73 million previously unidentified firearms in the global total of civilian-owned weapons, which stands at a total of approximately 378 million firearms.

Despite the additions, the overall picture of the global civilian small arms stockpile remains far from complete. Very little is known about the total number of civilian small arms in many major countries including Brazil, France, Indonesia, Iran, Mexico, Thailand, Turkey, and Vietnam. Other major countries have been able to provide only partial or unreliable reports, including Germany, Poland, and Russia. With only a handful of exceptions, there currently is no way to estimate the dimensions of civilian small arms ownership for almost the entire continent of Africa and the countries of the Arabian peninsula.

### Insurgent stockpiles: Deeds more than numbers

While states arm themselves in good times and bad, in peace and in war, rebel movements are a response to grievance, provocation, and opportunity. Their arsenals generally rise and decline as they are needed. The decline of ethnic and internal conflict is of more than academic interest for the spread of small arms. With fewer conflicts, insurgent demand for small arms has decreased. Although some conflicts clearly got worse in 2001, even more subsided. The overall impression is that there are fewer rebel soldiers in the world, and that they are not procuring as much lethal equipment. The total global insurgent stockpile thus appears to be declining very slightly. But, of greater importance, the focus of ethnic and internal warfare is shifting regionally, taking insurgent arms buying along with it and shifting the relative ranking of various regions.



A Maoist rebel leader addresses Nepalese villagers.

As a prominent report notes, 'The number and magnitude of armed conflicts within and among states have lessened since the early 1990s by nearly half' (Gurr *et al.*, 2000). No state-to-state wars have been fought since March–June 1999, when NATO attacked Serbia over the status of Kosovo, and June 2000, when the war between Eritrea and Ethiopia was settled. With the important exception of the American-led attacks on Afghanistan, the only wars in progress at the time of writing are internal conflicts, mostly over religious or ethnic secessionism. Despite the horrors of 11 September 2001 and the patterns of insurgent and terrorist violence in places like Israel and Sri Lanka, the total number of international terrorist incidents also appears to be down sharply from the 1980s as well (Johnson, 2001). Most of the increase in individual incidents since 2000 occurred in Colombia, where guerrillas specialize in attacking the international oil industry (US, Department of State, 2000).

There are fewer rebel soldiers in the world, and they are procuring less lethal equipment.

Internal conflict is heavily concentrated in Central Africa and the broad arc of Asia, from the Iraq–Iran border, through Afghanistan and Central Asia, through South Asia and Southeast Asia, ending in the Philippines and some of the Pacific Islands. These are the regions where the illicit small arms trade is most active, sustaining insurgent arsenals in their battles with governments and each other (TRANSFERS).

In much of Africa the scale of the fighting and chaos often exaggerates the scale of the forces involved. Except for countries like Angola and Sudan, the size of rebel movements can be deceptively small. The importance of insurgent stockpiles on the order of 2,000–15,000 weapons—the size of even relatively large insurgencies in most of Central and West Africa—becomes clearer when one considers how small the government armed forces in much of the region are.

This was demonstrated by a disclosure of great importance by the Republic of Togo in July 2001, when it submitted to the United Nations Register of Conventional Arms (UNRCA) the complete small arms inventory of its armed forces. According to Togolese diplomatic officials, the submission was intended to dispel regional anxieties aroused by allegations in the Fowler report (Fowler, 2000) of Togo's complicity in arming Angolan rebels, concerns which alarmed some West African governments and aid donors.<sup>2</sup> The endemic guerrilla warfare afflicting much of West Africa and concerns with its own internal stability led to the growth of its armed forces, from roughly 6,500 in the mid-1990s to some 9,500 troops today (IISS, 2001). Even so, according to its report, Togo's military small arms arsenal includes just 12,850 items. With a weapon-to-troop ratio of 1.34, this is significantly lower than the usual conservative estimate of 2.25 for most countries (see Table 2.10). Since government armed forces usually need overwhelming numerical superiority to prevail over a rebel insurgency, Togo's armed forces would appear to be poorly equipped to match even a relatively small rebel movement.



Bodies of separatist militants from Jaish-e-Mohammed in Indian-controlled Kashmir.

TABLE 2.10 Small arms and light weapons of the armed forces of Togo

Category*	Subcategory	Number	Type
Light weapons	rocket launchers	140	40mm, 89mm
	Heavy machine guns	70	50 cal., 12.7mm
	Light machine guns	360	Various
	Mortars	76	60mm, 82mm, 100mm
Small arms	Sub-machine guns	1,700	Various
	Pistols	1,184	Various
	Rifles	9,320	FAL, G3, MAS 36, etc.
<b>Total</b>		<b>12,850</b>	

\*Categories used by the Report of the Republic of Togo to the UNRCA.

Source: Republic of Togo report to the UN Arms Register. Submitted 3 July 2001. Information based on the year 2000.

In Africa the decline of fighting in 2001 appears to have reduced the immediate demand for small arms. Skirmishing between rival military factions and raiding by bandit gangs continues to be a massive problem along a broad line from Sierra Leone to Kenya and Somalia, but there have been fewer reports of large military factions undertaking major operations (Achieng', 2001). In the Democratic Republic of Congo, Rwanda and Uganda appear to have withdrawn most of their own troops and reduced support for rebel clients (Fisher, 2001a). West African leaders in particular increasingly see the region's small arms problem in terms not of worsening warfare but of the large quantities of remaining firearms. The director of the Institute of Economic Affairs in Ghana estimated that there are eight million small arms left over from West African wars, now in illegal hands (Acheampong, 2001). This is the first overall estimate of the West African small arms problem.

Fresh insight into the arsenals of African insurgencies came through a report carried out by the Small Arms Survey for the International Organization for Migration (IOM) and the United Nations Development Programme (UNDP) (Demetriou, Muggah, and Biddle 2002). Based on field research in the Republic of Congo (Brazzaville), where fighting occurred from 1993 to 1999, this report concludes that the major rebel factions, with a total membership of roughly 31,000, currently have some 41,000 small arms under their control. Thousands of other weapons were acquired during the fighting and destroyed, mostly through normal wear and tear. The current Congo ratio of roughly 1.3 weapons per insurgent is close to the 1.4 ratio used in the *Small Arms Survey 2001*. While this is only one study, it reaffirms the need to treat all small arms estimates with caution.

Outside of Central Africa and Asia, active internal conflicts are important exceptions on an increasingly peaceful world map. The most visible is the war in Afghanistan, renewed after the disasters of 11 September 2001 and discussed in the South Asia section below. In Latin America the biggest exception remains Colombia, where the only current Latin American war continues. Similarly, Europe is preoccupied trying to contain fighting in Macedonia, while two other long-running conflicts refuse to end: a large one in Chechnya and a small one in Spain. In the Middle East, public and official attention is dominated by the Palestinian-Israeli conflict, while the conflict between Iran and anti-revolutionary guerrillas based in Iraq continues less noticed. These conflicts are the major drivers of illicit small arms transfers in their regions. Other, smaller, and less continuous conflicts have an effect on small arms accumulations, such as fighting in Algeria, but without comparable intensity or quantity.

Another worsening conflict is Colombia's war with rebels of the FARC and the Ejército de Liberación Nacional (ELN). It is a measure of the intensity of the fighting that, even after receiving 10,000 rifles from Peru in 1999, the rebels appear to rely on support from the government of President Hugo Chavez in Venezuela (Webb-Vidal, 2001).

Money from drugs and kidnappings does not automatically translate into battlefield successes since the rebels still have difficulty accessing global firearms markets, a fact illustrated by the high prices they must pay (see Table 2.2). Much of the pressure on them comes from the union of paramilitary groups known as the United Self-Defence Forces of Colombia (AUC). Having nearly doubled in size to 11,000 soldiers in the year 2000, it appears to rely on connections with the Army for most of its weapons (Forero, 2000).

The rise of secessionist and sectarian violence, wherever it occurs, is a crucial challenge to global peace and stability. Many devastating sub-state and internal wars continue around the world. But in terms of the sheer numbers of insurgent combatants, only the new Afghan war that began after the terrorist attacks of 11 September 2001 begins to equal the scale of the major Kurdish, Palestinian, and Afghan rebel movements of the early to mid-1990s. Reports from Afghanistan in the autumn and winter of 2001, discussed below, indicate that additional small arms were flowing into the country, but not on a scale comparable with the years of fighting against the Soviet Union (Gordon and Schmitt, 2001).

Consequently, the combined scale of global insurgent small arms arsenals appears to be in a state of gradual decline. The numbers of weapons insurgents need to wreak havoc, though, is not great. Measured by their results, even small rebel arsenals are of disproportionate importance.

## Regional stockpiles: Learning more

As journalists and researchers devote more attention to small arms, information on the scale of regional stockpiles is accumulating, pushing particular national and regional totals upward. Before examining regional dynamics in detail, two caveats are in order though. First, much of the apparent growth is due exclusively to better information and analysis; the actual quantity of weapons is not changing, only our awareness of them. Second, the logic of this building-block approach dictates that most of this new information can be used only for a more complete global picture. Portraits of regional small arms distribution often remain impossible because of lingering uncertainty about particular countries. There are important exceptions, however, of which the most important to emerge was South Asia, as assessed below.

### North America: Armed forces decline, civilians register

Because it has by far the largest civilian weapons market in the world, it is only natural to assume that the United States also has a massive military market as well. Its armed forces are the world's best financed with a budget of USD 328 billion for fiscal year 2002 (Sherman and Svitak, 2001). This is equal to the total defence spending of the next nine largest military powers together (IISS, 2001). With a total of more than 2.5 million men and women in uniform—active duty and reserve—it also has the fourth largest forces in terms of personnel, after China, Russia, and Vietnam. American military small arms procurement has considerable influence on global patterns, moreover, helping set strategic and tactical precedents that affect decision-makers elsewhere. The significant decline in America's military small arms inventories since the end of the Cold War has broad implications.

American military small arms procurement has considerable influence on global patterns.

During the Cold War, the United States military maintained large reserves of small arms for its armed forces as well as for allies. Assuming that it might have to fight two major wars simultaneously—in Europe and Korea—as well as be called upon to support allies in the Middle East and possibly elsewhere too, its military establishment had a policy of procuring additional weaponry when feasible and preserving older equipment when possible. This stockpile, or floating reserve, was a key element of a national strategy that stressed the ability to mobilize to fight lengthy conflicts.

In the past, the Pentagon deliberately preserved enough equipment to maintain a small arms inventory equivalent to roughly 2.3 small arms for each man and women in uniform. This was the practice from the Second World War to the 1980s, a natural part of a military strategy based on mass mobilization—through conscription—to fight two major wars. Since then, long-term mobilization, involving the training of hundreds of thousands of additional troops, ceased to be relevant. With it disappeared long-term requirements for a large floating reserve of small arms.

**TABLE 2.11 Small arms inventory of the United States Army, 11 April 2001**

Type	Deployed	Non-deployed	Total
<i>Machine guns</i>			
M2 flexible	19,999	3,785	23,784
M2 fixed	3,107	634	3,741
M60	21,552	2,560	24,112
M85	66	249	315
M249	68,640	1,737	70,377
M240	9,746	2,450	12,196
M240B	5,358	806	6,164
M240C	4,359	1,059	5,418
<i>Grenade launchers</i>			
M79	350	283	633
M203/M203A1	57,829	782	58,611
MK19	20,369	1,567	21,936
<i>Current rifles and carbines</i>			
M16A1	144,275	74,418	218,693
M16A2	640,520	1,443	641,963
M16A4	4,787	11,290	16,077
M4 carbine	77,671	787	78,458
M4A1	16,494	3	16,497
M231	6,745	9,636	16,381
<i>Obsolescent rifles and carbines</i>			
M1	458	3,716	4,174
M14	12,597	104,657	117,254
.22 cal. rifle	5,862	8,012	13,874
.30 cal. rifle	77	952	1,029
<i>Sniper rifles</i>			
M21	447	0	447
M24	2,153	110	2,263
<i>Pistols</i>			
M9	158,711	21,621	180,332
M11	2,789	38	2,827
.22 cal. pistol	1,830	14,196	16,026
.38 cal. pistol	541	69	610
45 cal.	4,591	28,179	32,770
<i>Other categories</i>			
Shotguns	5,581	1,610	7,191
M3 sub-machine gun	135	12,502	12,637
Pyrotechnic pistol	501	481	982
<b>Total</b>	<b>1,298,140</b>	<b>309,632</b>	<b>1,607,772</b>

Source: US Army Executive Agent for Small Arms (private correspondence, April–July 2001)

With the end of the Cold War, American strategy changed to emphasize rapid responses to smaller contingencies. Pentagon planning emphasized smaller regional crises. It was the high-tech Bosnian interventions in 1995 and Kosovo in 1999 that established the precedents for the future, not the relatively old-fashioned 1991 war against Iraq. Instead of lengthy warning followed by protracted mobilization, in the early twenty-first century wars will be fought

In the United States, strategic transformation led to a massive cut-back in military small arms.

by forces in being, ‘come as you are’. Sheer numbers of troops matter less as well, especially in an environment where extensive training is essential and casualties must be rigorously minimized. Reserves are important as an affordable way of maintaining personnel that are not normally needed—like artillery units, field hospitals, and civil affairs—and preserving specific specialties, not as a basis for force expansion.

The implications of this strategic transformation for small arms inventories are clearest in the US Army. With a total of over 1.6 million firearms of all types as of April 2001, it has the largest small arms arsenal of the American armed services.<sup>3</sup> These range from virtual-museum artefacts like .45 calibre pistols to state-of-the-art Objective Individual Combat Weapons. This stockpile is enough to equip a combined active and reserve force of 1.2 million personnel. It gives the Army the equivalent of only 1.3 firearms per soldier (see Table 2.11). This is just enough to fully equip its combat forces with a small central reserve to cover breakage and other losses. Most of the reserve holdings listed in Table 2.11 consist of newly arrived equipment that has not been passed on to its designated units—such as M9 pistols and M16A4 rifles—or obsolescent equipment the Army has not disposed of yet—such as M14 and M16A1 rifles or .45 calibre pistols. The only floating reserve of any consequence today is literally floating, kept on pre-positioned ships for emergency re-supply.

The low ratio of troops to small arms is the result of strategic choice. Since they will not be fighting extended wars, the chance of soldiers losing weapons in combat is low. Most of the small arms reserve is more important today to replace weapons being overhauled rather than weapons that might be lost in the field. The evolution of force structure also is an important consideration shaping the small arms arsenal. With an ever-greater proportion of personnel allocated behind the lines to logistic and support duties, fewer troops need firearms. Although the number is not readily calculated, a surprisingly large proportion of America’s soldiers never carry a gun after basic training. For the other services, the tooth-to-tail ratios—the number of combatants per support personnel—are even lower and the proportion carrying firearms lower still (see Table 2.12).

**TABLE 2.12 Total US military firearms, by service, 2001**

Air Force	260,000 *
Army	1,608,000
Coast Guard	20,268
Navy (includes Marines)	800,000 *
<b>Total</b>	<b>2,688,000</b>
<b>Total firearms per uniformed member</b>	<b>1.05</b>

\* Estimated  
 Sources: US Army Executive Agent for Small Arms, US Coast Guard Cutter Training Division (private correspondence)

With these changes in mind, the US Army dramatically reduced its small arms inventories in the 1990s. Initially it ‘demilled’ large quantities of small arms through contracts for their physical destruction. Among the largest were contracts that led to the destruction of 479,367 M14 rifles in 1993–94 and roughly 350,000 M16A1 rifles in 1996. This brought a reaction from gun advocates in the Congress, who wanted excess weapons made available to the public. Since the sale of new automatic rifles to the American public is prohibited under a presidential order from 1994, they could not be dumped on the market. Instead, the Congress passed legislation amending the annual Defense Authorization Act in 1996 to prohibit the Army from destroying further ‘collectable’ guns. The amendment has been passed every year since. Supporters hope these firearms will be made available for sale someday.



With destruction increasingly controversial, the Army changed course. In 1995 it began to transfer many of its surplus small arms to foreign governments. Between 1995 and early 1998, the export of 321,905 older Army firearms was arranged through aid packages to foreign militaries under the Excess Defense Articles programme. The leading recipients were the Baltic states—Estonia, Latvia, and Lithuania—and Israel, all of which received the equipment free of charge, and the Philippines and Taiwan, which paid varying amounts (Lumpe, 1997; 1999). By the end of 1999, most of this equipment had been shipped. This approach had the advantage of strengthening vulnerable friends and allies while getting the guns out of the Army's own inventories and making someone else responsible for them. The security of the weapons should not be a problem since foreign governments cannot re-transfer American-supplied defence equipment without permission from Washington.

Today the US Army has its firearms inventory very close to what it believes is ideal. It still buys additional small arms for modernization, but the total inventory is changing more slowly. In 2000–01 it acquired a total of 37,224 small arms (see Table 2.13), equal to some two per cent of its holdings. It still sells some weapons to the general public. M1 semi-automatic rifles of Second World War vintage are released for sale to the public through the Civilian Marksmanship Program, a programme very popular with collectors. Currently 17,827 M1 rifles recently returned from Denmark are being disposed of this way. Other obsolescent firearms will be kept when the law requires, transferred abroad, or destroyed.

**TABLE 2.13 US Army small arms acquisitions in fiscal year 2000**

M2 heavy machines guns	952
M4 carbines	9,428
M11 pistols	311
M16A4 rifles	14,895
MK19 grenade launchers	1,517
M240B medium machine guns	4,623
M249 light machine guns	5,498
<b>Total</b>	<b>37,224</b>

*Source: US Army Executive Agent for Small Arms, Rock Island Arsenal, Illinois (correspondence, May–June 2001)*

Among civilian owners, the major change in North America occurred in Canada, where comprehensive firearm licensing and registration is beginning. The initial filing period for public gun owners' licenses ended on 31 December 2000. By this date, almost two million of the nation's estimated 2.3 million firearms owners had received their licences (Canadian Firearms Centre, 2001). Owner licensing was the first part of the process mandated under the 1995 Firearms Act, widely known in Canada as Bill C-68. The second stage—registration of individual firearms—is to be completed in 2003. While there has been widespread satisfaction with the implementation of the law, there also has been resistance among some gun owners, especially in the Western provinces (Brooke, 2000; Cassels, 2000).

One of the goals of the 1995 Canadian Firearms Act was to find out how many private guns and gun owners there are in the country. This remains ambiguous, though. Early estimates of three million gun owners were scaled down to 2.3 million, a revision that critics charged was intended to make licensing appear more complete than it really was. Similarly, previously accepted estimates of 7.1 million guns in public hands have come under political pressure. Gun control supporters have suggested that the actual total of individual guns is closer to five million, with the implication that registration is going well so far, as 1.8 million firearms have been registered. Opponents charge otherwise, maintaining that only a small proportion of a much larger Canadian arsenal has been affected (MacQueen, 2001).

There has been wide-spread satisfaction with implementation of Canada's new gun laws.

**Europe: Civilian trends and guerilla warfare**

The number of firearms in public hands in Europe is not easily estimated. Several large European countries, including France and Germany, do not release data on civilian ownership. Among those that do report on licensed civilian ownership, statistics often are suspect.

A prime example is Russia, where over 3.6 million civilian weapons—mostly hunting rifles and shotguns—were registered as of 1996 (United Nations, 1998). Because of high licensing fees and infamously poor controls over trade, it is likely that actual ownership is considerably greater. Ownership of handguns generally is illegal in Russia, but, as careful observers in Moscow testify, they are not an uncommon sight. While the total number of civilian firearms has been speculated to be 30 million or more, Russia remains a firearms enigma.

Even seemingly accurate statistics do not eliminate such ambiguities. This was demonstrated in a recent report from the Czech government (Czech Republic, 2001), which revealed that since major changes in the licensing law in 1991 and 1995 the number of registered firearms held by licensed weapons permit holders has risen from 90,295 in 1990 to 534,144 in 2000 (see Figure 2.1). The total number of registered firearms has increased by as much as 20 to 33 per cent from year to year. A large but unknown number of firearms still remain unlicensed.

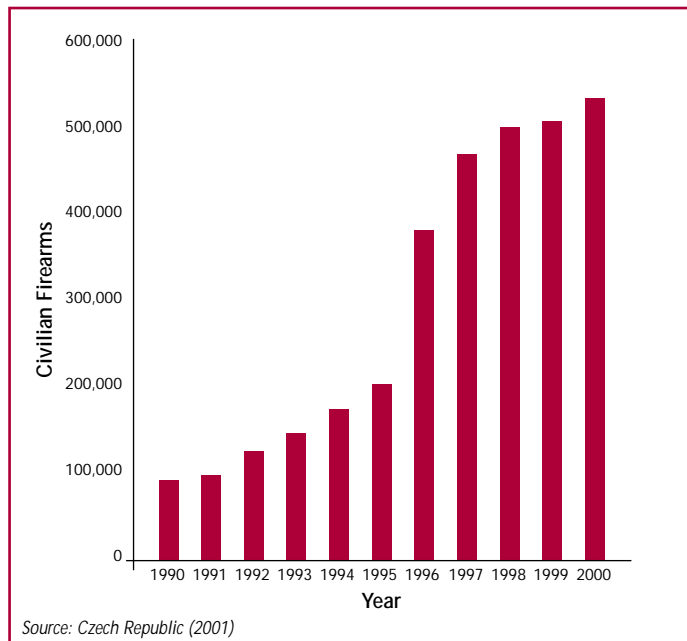
Not only are there many more guns in the Czech Republic than there were a decade ago, there also are many more gun owners. One of the most striking aspects of the trends in gun numbers is how it is matched by an increase in the number of citizens with weapons permits, which rose from 74,604 to 303,904 during the same time period (Czech Republic, 2001). Some of this change may be a natural reaction to the collapse of communism and the celebration of personal liberty. It also appears to be accelerating due to a reform of the nation's Firearms Act in 1995, which made registration both easier and more readily enforced. As a result, a greater proportion of guns probably are being registered than before. Of equal importance are the implications for the rest of Europe; if one country in the region is experiencing unprecedented civilian ownership, others may be in the same situation. This appears to be most likely among other post-communist societies. Already Romania has reported an upsurge of private citizens buying AKM automatic rifles (Ziau, 2001).

Some governments have tried to release additional details on national firearms stockpiles, but problems with reporting systems, jurisdiction, and confidentiality often make their reports difficult to use. These problems were illustrated in information released by Denmark in 2001.

Some governments have tried to release additional details on national firearms stockpiles, but problems with reporting systems, jurisdiction, and confidentiality often make their reports difficult to use. These problems were illustrated in information released by Denmark in 2001.

Today, the Czech Republic has many more gun owners and guns than it did a decade ago.

**FIGURE 2.1** Number of registered civilian firearms in the Czech Republic, 1990–2000



This confirmed existing estimates of civilian ownership of rifles and shotguns—200,000 and 650,000 respectively—but added nothing about other categories like handgun ownership or unlicensed firearms. As a result, it remains impossible to assess the general level of public small arms ownership in the country. More revealing was information about the Danish police. With 10,400 sworn—and armed—officers, Danish police forces have a total of 12,700 small arms: 11,000 pistols and 1,700 sub-machine guns. Although nothing was revealed about police special weapons—automatic rifles, grenade launchers, and suchlike—this confirms that the Danish forces are very typical of most police in the world, with little more than one firearm per officer (Denmark, 2001).

The other major stockpile issue for Europe continues to be secessionist rebel movements, especially in Chechnya, Macedonia, Northern Ireland, and Spain. Typical of insurgencies, their political and military importance is highly disproportionate to their actual size.

The announcement by the Irish Republican Army on 23 October 2001 that it would begin to 'put its weapons completely and verifiably beyond use' gave hope that this stockpile issue might begin to ease (Brown, 2001). The small arms stockpile of the IRA has been at the centre of a fundamental dispute. The refusal of the IRA to yield its weapons to the independent commission chaired by the Canadian General John de Chastelain led to the



Mural honoring dead IRA members in Belfast, Northern Ireland.

collapse of home rule in July 2001, plunging Northern Irish politics into turmoil. The scale of the stockpile in question probably is not great, as estimated in Table 2.14. But it reportedly has grown in recent years, notably through receipt of Russian-designed RPG-22 light anti-tank rockets, believed to have been shipped from the Balkans (*Financial Times*, 2001). The first 'decommissioning'—as disarmament is called there—probably will trim this very little, but the political impact could be enormous.

**TABLE 2.14** Estimates of the IRA stockpile

	Estimate 1	Estimate 2
Handguns	–	600
Automatic rifles	600	1,000
Machine guns	50–70	–
Grenades	100+	–
Explosives	2.5 tons	2 tons
Anti-tank rockets	24+	45

*Note: left unresolved here is the question of IRA possession of man-portable surface-to-air missiles like the SA-7 and SA-16, which is widely suspected.*  
*Sources: Estimate 1 from Brown (1999; 2000); Estimate 2 from Ananova (2001)*

Although the IRA has enjoyed greater success raising funds in recent years, largely through smuggling and drug dealing, little of this appears to go for additional arms (Brown and Burns, 2001). Tighter British border controls undoubtedly explain part of this. One also gets the impression that the IRA may have concluded that its small arsenal

is sufficient to wreak havoc, especially in a fragile society. The virtual evaporation of support for terrorist methods after 11 September 2001 apparently led it to formally abandon control over its small but politically potent arsenal.

The limited requirements of urban terror also explain the significance of a series of thefts in France by the Basque separatist movement Euskadi Ta Askatasuna (ETA). In September 1999 it stole eight tons of explosives from a firm in Brittany. Most was recovered, but enough remained to facilitate the ETA's return to violence in December 1999. It kept the small movement—with fewer than 100 combatants—active until recently. With its stockpiles depleted, the ETA raided another office of the same firm in March 2001, taking another 1.6 tons of explosives, enough to continue bombing for several years (Graham, 2001).

The rise of a new insurgency in Macedonia, the ethnic-Albanian National Liberation Army (NLA), created renewed demands for small arms in the Balkans. This began as an outgrowth of fighting by Kosovo Albanian nationalists in the neighbouring Presevo Valley, part of Serbia, in November 2000. At that time there were roughly 200 fighters (Gall, 2000). When this was resolved by permitting Serbian police to re-enter the delicate border region, the ethnic Albanians re-formed and shifted their attacks to Macedonia. When fighting began there in early 2001, rebel strength was estimated to number some 800 armed combatants (Erlanger, 2001). Flush with early successes, this grew to roughly 1,200 to 1,500 in a few weeks (Gordon, 2001a; R. Smith, 2001). By late summer, estimates of 2,000 to 2,500 full-time combatants were widely accepted (Kusovac, 2001).

Under agreements brokered by NATO in August 2001, the NLA pledged to end its military operations, disband, and turn over 3,300 weapons to NATO in exchange for constitutional changes by the Macedonian government. This deal created a major controversy over the size of the NLA arsenal. Estimates of its total size ranged from 6,000 small arms, according to sources sympathetic to the NLA, to 50,000 to 80,000, according to the Macedonian Ministry of the Interior (Fisher, 2001b).

The differences arose mostly, of course, from political expediency. But serious definitional issues are involved as well, issues aggravated when the NLA turned over some 3,800 weapons (WEAPONS COLLECTION). Does one count all firearms owned by Macedonian-Albanians, for example, or just those belonging to NLA activists? The scale of this problem is shown in a prominently published estimate, reprinted here as Table 2.15. What is beyond dispute is the essentially symbolic nature of the disarmament scheme.

**TABLE 2.15 An estimate of weapons available to the Albanian nationalist National Liberation Army, summer 2001**

Type	Quantity
Rifles	5,000–8,000
Obsolete rifles held by individuals	15,000–30,000
Handguns (mostly held by individuals)	40,000–55,000
Heavy machine guns	150–200
Sniping rifles	100–300
Man-portable surface-to-air missiles	20–50
Shoulder-launched anti-tank rockets	200–350
Mortars	100–200
Landmines	5,000+
Hand grenades	Thousands

*Source: Kusovac (2001)*

The impact of the fighting in Macedonia for regional stockpiles is obscure. The NLA is not a completely new force; many or most of its members are veterans of the KLA's struggle for Kosovo. The Macedonian Army has received large transfers of small arms, but these are not newly manufactured (TRANSFERS). This leads to the conclusion that the fighting in Macedonia is not increasing global stockpiles. Instead, previously existing weapons are being redistributed and re-circulated.

The same appears to be true in Chechnya, where fighting continues despite Russian President Vladimir Putin's declaration in October 2000 that the war was over. Official Kremlin sources maintain there are 1,500 Chechen fighters. According to the director of the Russian FSB, though, there are 5,000 active insurgents. This is far fewer than the 25,000 rebels at the beginning of the Second Chechen War in October 1999. But it helps confirm the impression that the Chechens remain capable of major operations and will continue to fight for some time to come (Galeotti, 2001).

The Russian Ministry of Defence has routinely displayed captured rebel weapons, but the number taken remains far lower than the suspected total number of Chechen combatants. The most important sources of rebel supply remain deals and extortion of Russian troops, as well as weapons imported from Russia and through Georgia (Jack, 2001).

### The Middle East: Accommodating a new actor

With two vital exceptions, territorial conflict and secessionist violence in the Middle East have not grown appreciably in 2001, creating few new pressures for small arms. This is a blessing for a region only recently scourged by Kurdish secessionism, Islamic rebellion, and border tensions between states.

Of the exceptions, the least well-known is the anti-clerical Mojahideen al-Khalq, an Iranian counter-revolutionary movement based in Iraq and sponsored by Saddam Hussein. With somewhere from 15,000 to 50,000 armed followers, it is among the very largest and best-armed insurgencies active today. As it became more aggressive in 2001, mostly through cross-border raiding, it antagonized the Islamic Revolutionary Government in Tehran. This led to Iran's massive missile strikes against Khalq bases in April 2001, with 44–66 ballistic missiles—reports vary—hitting Iraqi soil, the largest single ballistic missile attack ever (*al-Jazirah*, 2001; Mojahideen al-Khalq, 2001). While there is only limited information on its weapons, Mojahideen al-Khalq almost certainly is being heavily re-armed by Iraq.

The other exception was the continuous and barely restrained violence in the West Bank and Gaza. There are two crucial differences between the first Palestinian Intifada of 1987–91 and the uprising that began on 28 September 2000: territory and guns (Kifner, 2000). With a secure base of operations and formal legal status, Palestinian organizers can stockpile weapons legitimately and acquire them more easily. Even before fighting started between Israelis and Palestinians, the proliferation of firearms on the West Bank and Gaza had become a serious social problem, as feuding between Palestinians became increasingly deadly (Sontag, 1999).

Under the 1994 Cairo Agreement, the Palestinian Authority was able to create a 9,000-man police force, which was to be expanded to 30,000 under the 1995 Oslo II Agreement (Sayigh, 2001). The police were recruited almost exclusively out of Yassir Arafat's Fatah organization, and brought their own weapons. The new Palestine Security Services soon grew beyond the size specified in the accords to 40,000 officers or more, but arming was not a problem (Fishman and Leshem, 2001). Long before the violence began, Israeli analysts noted that weapons were trickling in, allowing the Palestinians to accumulate a total of between 30,000 and 40,000 small arms in the late 1990s. So long as tensions remained low, prices for guns on the West Bank actually went down, suggesting a bit of a glut. The price of a stolen Israeli M16—USD 3,000 in the mid-1990s—fell to USD 2,000 in 1999, while an AK-47 that had cost USD 2,400 could

The Mojahideen al-Khalq, an Iranian counter-revolutionary movement based in Iraq, with between 15,000 and 50,000 armed followers, is one of the largest, best armed insurgencies active today.

be found for USD 500 (Sontag, 1999). But since the fighting started, demand and prices have gone up rapidly. The most recent estimate of the total Palestinian inventory of automatic rifles is some 70,000 (Goldenberg, 2000).

The Palestinian Authority is suspected to be transforming its police into an infantry force that soon will number 60,000 (Opall-Rome, 2001). Weapons have been stolen from Israel, like the 60 rifles stolen from a kibbutz armoury on 15 March 2001 (Rudge, 2001). Smuggling became more important in 2001. Sea shipments appear to come mostly from Lebanon

and Egypt to Gaza. A prominent case involved the fishing boat *Santorini*, intercepted on 7 May 2001, on its fourth trip ferrying small arms for the Palestinian Authority (Katzenell, 2001). Although the weapons were captured—including four SA-7 surface-to-air missiles, Sagger anti-tank missiles, Katyusha rockets, 30 AK-47s, and 13,000 rounds of ammunition—similar shipments apparently have got through. The *Santorini* affair gave a foretaste of the much greater controversy surrounding the arms freighter *Karine A*—loaded with light arms and major weapon systems, apparently from Iran—captured on 3 January 2002 (see Box 2.6).



Israeli Defense Forces offload a variety of weapons and ammunition from the fishing boat, Santorini.

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**BOX 2.5 Yemen: The most heavily armed place on earth?**

Yemen has a reputation as the most heavily armed society on earth. After the 1994 civil war, when the country was reunited, unsubstantiated estimates began to circulate that Yemen had 50 million or more small arms in circulation. With a population of roughly 17.5 million, this would make Yemen the world's most heavily armed country per capita. The 50 million figure has been widely repeated, even—with evident pride—by Yemenis themselves.

Field research in Yemen conducted by the Small Arms Survey, however, suggests that this commonly cited figure is a gross exaggeration. Realistic estimates point to a national total of roughly five million to eight million firearms.

**TABLE 2.16 Estimated individual gun ownership in Yemen**

Governate	Approximate population (2001)	Estimated males aged 15 and over	Regional firearms multiplier	Approximate individual firearms
Mareb	220,000	55,000	3	165,000
Al Jowf	203,000	51,000	3	153,000
Sad'ah	580,000	145,000	2	290,000
Sana'a	1,121,000	280,000	2	560,000
Al Dhalee	600,000	150,000	2	300,000
Amran	500,000	125,000	2	250,000
Damar	1,259,000	315,000	1.6	504,000
Ebb	2,357,000	589,000	1.5	884,000
Abyan	500,000	125,000	1.5	187,000
Taiz	2,639,000	660,000	1.2	792,000
Hadja	1,519,000	380,000	1.5	570,000
Mahweet	484,000	121,000	0.5	60,000
Hodahda	2,105,000	526,000	0.5	263,000
Shabwa	451,000	112,000	1.4	158,000
Al Baydah	607,000	152,000	0.2	30,000
Maharah	135,000	34,000	0.2	7,000
Lahj	759,000	190,000	1	190,000
Hadramou	1,045,000	261,000	0.5	131,000
Aden	677,000	169,000	0.5	85,000
<b>Total Yemen</b>	<b>17,761,000</b>	<b>4,440,000</b>	<b>1.37</b>	<b>5,579,000</b>

Note: figures may not agree due to rounding

The assertion that Yemen has 50 million or more firearms in public hands is a myth.

**BOX 2.5 Yemen: The most heavily armed place on earth? (continued)**

A more reasonable estimate is that Yemen has between five and eight million guns.

The new estimate was reached through demographic analysis and field research in 2001. Meetings with Yemeni tribesmen, professional and Western specialists permitted preparation of ordered lists of governates (provinces) showing typical gun ownership per man aged 15 and above. To avoid under-counting, deliberately high estimates were used. It was agreed that individual ownership varies from 0.2 guns per man—or one for every five men—in the capital of Sana'a, to three guns per man in Al Jowf, and Mareb (see Table 2.16).

Tribal stockpiles, under the personal control of sheikhs, also had to be included. These vary with the size of the tribe and the status of the sheikh. Interviewees agreed that Yemen has 100 major sheikhs controlling an average of 1,000 firearms each, 1,000 minor sheikhs with about 40 guns each, and some 5,500 marginal sheikhs with a stock of some eight firearms each.

Another sub-set is the country's markets and stores. The major regional markets in Abyan, Al Baydah, Jehannah, Al Jowf, and Sad'ah mostly serve the wholesale trade. There are roughly 300 shops selling firearms in Yemen, averaging roughly 100 guns each, although their actual inventories vary greatly in size.

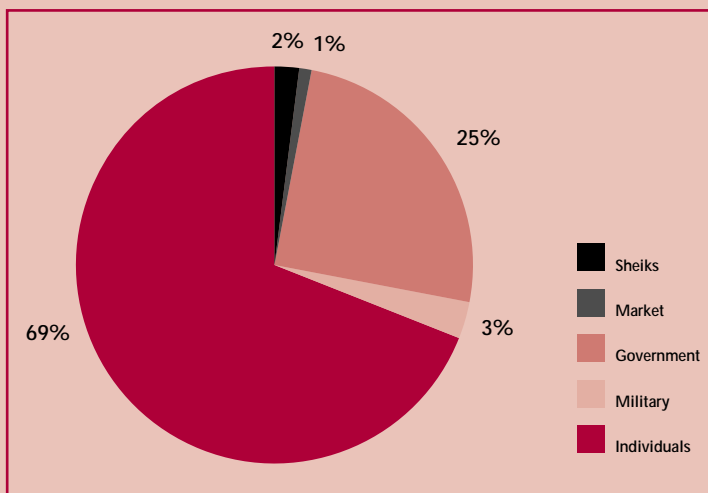
The most elusive part of Yemeni stockpiles are the small arms of the Ministry of Defence. Although the government of Yemen does not make its firearms inventories public, it is known that there are some 100,000 personnel in its armed forces. On this basis, orthodox Small Arms Survey firearms multipliers can be used, suggesting 220,000 military firearms. Since 1994, moreover, the government has been a major buyer of small arms (Rybarova, 2001). Shopkeepers claim that the Ministry of Defence forces merchants to turn over one-third of the weapons they import. Although the exact size of the total government stockpile is unknown, it probably is not more than one-third the total in public hands, or 1.9 million.

**TABLE 2.17 Estimated total firearms in Yemen**

Location	Number
Individual firearms	5,579,000
Sheikhs' stockpiles	184,000
Commercial stockpiles	30,000
Military arsenals	220,000
Government inventories	1,930,000
<b>Total</b>	<b>7,943,000</b>

**FIGURE 2.2 Estimated distribution of firearms in Yemen**

This analysis shows that the 50 million figure is a myth. More reasonably, Yemen is home to a maximum of 7.9 million firearms. Given the lack of precision in this deduction, though, it is more reasonable to estimate the total at between five million and eight million (see Table 2.17). With one gun for every three people, Yemeni ownership is somewhat higher than in other well-armed countries like Canada, but far less than in the United States, where there is almost one gun per person. The most distinctive factor in Yemen is the very high proportion of fully automatic weapons. Rather than being locked away, moreover, these guns are on the street for all to see.



Source: unpublished research by Derek Miller for the Small Arms Survey, June 2001

## BOX 2.6 Significance beyond numbers: The *Karine A* affair

The political and military impact of small arms can far surpass their numerical significance. On 3 January 2002 Israeli commandos captured the freighter *Karine A* in the Red Sea. The ship's captain later testified that the ship was bound for the Palestinian enclave of Gaza, where its cargo of 50 tons of military equipment would be dropped in watertight containers to be picked up by the Palestinian Authority. The numbers of weapons involved would barely be enough to be noticed in most parts of the world (see Table 2.18), but they could have had a significant impact on the nature of the al-Aqsa Intifada.

The Israeli operation reportedly began with intelligence revelations in August or September 2001, when the Spanish-built ship was allegedly purchased by Palestinian agents and registered under the flag of the Pacific Island state of Tonga. Establishing the ownership and route of the ship has been difficult—with connections to Bulgaria, Dubai, Iraq, Lebanon, Sudan, and Yemen—leading some critics to question Israeli truthfulness about the affair (Whitaker, 2002a, 2002b).

Israeli officials maintain that the Iranian government sold the weapons to the Palestinians for about USD 10 million in an effort to build influence with the Palestinian Authority. Most of the equipment is, however, virtually untraceable: generic Soviet-style items, mostly of 1950s and 1960s design, manufactured in dozens of countries and stockpiled in scores of others. According to the Israeli Defense Forces, the landmines are clearly of Iranian manufacturer, although this does not exclude the possibility of unauthorized sales.

### Initial reactions

Palestinian officials denied any involvement, criticizing the Israeli publicity as a 'propaganda campaign'. President Yassir Arafat denied that the Palestinian National Authority was acquiring arms from Iran. He arrested the official in charge of finances for the Palestinian security forces, Fuad al-Shubaki, and said he would form a committee to investigate Israeli claims (Palestinian News Agency, 2002a; 2002b; 2002c). Subsequently, Arafat has implied that the affair was an Israeli ruse (*Tehran Times*, 20 January 2002). Iranian foreign minister Dr. Kamal Kharrazi dismissed Israeli claims against Iran as 'unfounded', stating that 'the issue of the ship carrying weapons has nothing to do with Iran' (Kharrazi, 2002).

In addition to the potential political significance of an Iranian arms sale and the military impact of the weapons, the affair posed a major challenge to the authority of Yassir Arafat. To many observers, it suggested either that he lacked control over the Palestinian Authority or that he was lying. Such concerns led US President Bush to pressure Arafat to clarify his role in the controversy (Bush, 2002).

### Military impact

Only part of the 50 tons of military equipment found on the ship were small arms or light weapons. Because of the sensitivity of the situation, though, these could have had major effects on the current conflict. The 212 AK-47 rifles would have represented a tiny addition to a Palestinian firearms inventory previously estimated to hold 70,000 automatic rifles. Potentially more disruptive was the small quantity of sniper rifles (30) and machine guns (18). Although few in number, these would have created much greater risks for Israeli civilian residents and forces operating in Gaza and the West Bank. The 29 light mortars would have facilitated attacks on surrounding communities.

If in fact destined for Palestinian forces, the heavier military equipment on the *Karine A* would have permitted far greater escalation, with weapons with enough range to reach more distant Israeli cities and destroy Israeli armoured vehicles. In the words of a veteran Israeli defence analyst:

The Katyusha rockets would have extended the scope of Palestinian attacks, placing the outskirts of Ashkelon and other large Israeli population centres within range. Had some of these Katyushas and mortars been smuggled into the West Bank, Palestinian missile attacks would have been able to reach Ben-Gurion International Airport and major Israeli cities. Sources connected to the IDF General Staff say such a situation would have necessitated the re-occupation of a wide swath of territory in the West Bank and Gaza Strip—in other words, wide-scale war. (Schiff, 2002)

Serious as these implications are, future shipments could bring even greater capabilities. Unlike the arms ship *Santorini*, intercepted eight months earlier, the *Karine A* did not carry SA-7 anti-aircraft missiles. Whoever supplied the equipment apparently demonstrated some restraint.



**BOX 2.6 Significance beyond numbers: The Karine A affair (continued)****TABLE 2.18 Weapons seized from the ship Karine A, 3 January 2002**

Type	Quantity	Capability
<i>Unguided rockets</i>		
122mm Katyusha launchers	4	
122mm Katyusha rockets	62	Range 20km
107mm rocket launchers	6	
107mm rockets	283	Range 8.5km
RPG-7 launchers	51	
RPG-7 rockets	328	
RPG-18 rocket launchers	346	
<i>Mortars</i>		
120mm mortar tubes	10	
120mm mortar bombs	700	Range 6km
81mm mortar tubes	19	
81mm mortar bombs	686	Range 5.2km
60mm mortar tubes	10	
60mm mortar bombs	159	Range 1.7km
<i>guided missiles</i>		
AT-3 Sagger anti-tank launchers	6	
Sagger missiles	10	Range 3.5km
<i>Mines and explosives</i>		
Anti-tank mines	522	
C-4 explosives	2,200 kg	
Fragmentation grenades	735	
<i>Firearms</i>		
Dragunov sniper rifles	30	
PK machine guns	18	
AK-47 automatic rifles	212	
Firearms ammunition	699,200 rounds	

Source: adapted from Israeli Defense Forces, 10 January 2002



Fifty tons of weapons were offloaded from the Karine A ship in the Israeli harbour of Elait.

### Waking giant: Small arms in the People's Republic of China

The world's most populous nation has an exceptionally opaque weapons culture. While many governments refuse to make national firearms statistics available to the public, few succeed as completely as Beijing. This review does not reveal the number of small arms in the People's Republic of China. Instead, it conveys a general sense of the number in the country. It concludes that the actual total probably is much greater than commonly assumed, especially among the People's Liberation Army (PLA) and civilian owners.

It comes as no surprise that the most populous nation has the world's largest police force. The best armed are the Chinese People Armed Police. Formerly part of the Ministry of Defence, they have a total strength of 1.1 million armed officers (Federation of American Scientists, 2001). China's civil police force is much larger, but its members normally go unarmed in most of the country. Whether or not firearms are available for all civil police is unclear. According to the 1982 national census—the latest available at the time of this writing—China's civil police numbered 3.4 million. On the assumption that only half of the police are armed, the total number of armed police is roughly 2.8 million. If it is like most countries—such as Denmark (above)—and maintains only a small reserve stockpile of police small arms, the total number of firearms for both Chinese police forces is approximately three million.



© Reuters/China Photo

Chinese police prepare to destroy some of the 5,000 guns confiscated in Huaian county, Jiangsu province, on 2 January 2002.

The small arms inventories of the PLA are more difficult to estimate. At its peak during the Cold War, the PLA had a total strength of four million active-duty personnel and some two million reservists. In the 1980s active troop strength fell by one million. Another half-million were released in 1997–2000, mostly as military-owned factories and businesses became independent. This leaves a total strength of 2.5 million active troops (Reuters, 2001a).

Although the strength of the PLA has been cut significantly, few of the cuts involved front-line combat units, which supports the conclusion that weapons inventories have changed much less than the number of personnel. Even if one deducts reductions in PLA stockpiles by firms like PolyTech—which specialize in selling second-hand Chinese military hardware (PRODUCERS)—and allows for the possibility of small arms destruction, it appears that most of the small arms present at the peak of the Chinese armed forces in the early 1980s remain in the country today. Rather than shrinking, the military stockpile may have grown due to continued procurement.

On the basis of the armed forces multiplier of 2.25 firearms for every person in uniform, the PLA was previously thought to control approximately 13.5 million small arms. This assumed that China followed the practices typical of Western nations, based exclusively on mobilizing fully trained military personnel for war. There is compelling reason to conclude, however, that this assumption minimized actual PLA planning. Above all, it fails to account for the implications of Chinese strategic planning, based for the first 25 years after the revolution on the Maoist doctrine of People's War. In case of invasion, China expected to arm broad swaths of its population, starting with military veterans, Communist Party members, factory workers, university students, and other politically trustworthy groups. Insights from other countries relying on people's armies, especially Albania and the former Yugoslavia, point to a suitable small arms multiplier of 4.5 firearms for each active and reserve troop, to permit massive mobilization. To arm millions of likely combatants, at its peak the Chinese military inventory probably totaled at least 27 million firearms, probably the biggest in the world.

Chinese civilian gun ownership is especially difficult to evaluate. Many Chinese people, such as those from major cities and coastal regions, are under the impression that guns are scarce in their society, strictly licensed, and confined to the criminal underworld and the remote regions. Certainly this appears to have been the case until recently. A growing body of evidence from Chinese police suggests that, to the contrary, firearms are rapidly becoming more plentiful. Despite the apparent contradiction, both perspectives may be right; the vastness of Chinese society makes it possible for a relatively low proportion of people to be gun owners while their absolute numbers are relatively high.

At its peak, the Chinese military inventory probably totaled at least 27 million firearms, probably the biggest in the world.

Recent revelations of police seizures of illegal firearms point to the actual scale of firearms ownership (see Table 2.19). Reports of police seizures and destructions of civilian guns are increasingly commonplace. According to a Chinese diplomat, for example, in 1998 China confiscated and destroyed 300,000 illicit guns. While this figure seems large, he cautioned that 'every year, a big amount of illicit guns is confiscated and destroyed' (Xiang, (2000/01)). This statement received credence from many similar reports, such as the announcement that police seized another 600,000 guns from March to June 2001 (Reuters, 2001b; *The Economist*, 2001c; WEAPONS COLLECTION).

Such figures on criminal confiscations emerge mostly through periodic 'Strike Hard' campaigns. Launched by the government since 1983 to eliminate a changing list of crimes, these tend to focus on previously overlooked problems. The year 2000–01 was exceptional for mass arrests along this pattern (Craig Smith, 2001). It is possible that these reports from Strike Hard campaigns are exaggerated to curry favour and for propaganda reasons. The problem is similar to recently discovered exaggerations by Chinese fisherman, who systematically magnify their hauls, just as communist officials in the former Soviet Bloc lied about overfulfilled quotas for decades (*The Economist*, 2001d). But the consistency of firearms reports and collaborating evidence—such as photographs of Chinese firearms being destroyed—leave little doubt that gun proliferation is seen as a growing social problem.

But where do these illegal civilian firearms come from? In China, officially permitted production of small arms is dominated by one company, Norinco (PRODUCERS). With more than 130 separate companies employing more than 450,000 people, Norinco has the resources to produce weapons at such a rate. In the 1960s, for example, it routinely produced hundreds of thousands of small arms annually for foreign clients. Among the largest recipients were North Korea (670,000 small arms in the 1960s), Albania (752,000), and especially Vietnam (2.2 million in the 1960s and early 1970s) (Kong, 1994). While the state-owned Norinco has the *facilities*, though, it is hard to believe it has the *incentives* to supply the illegal domestic gun trade. A second possible source is trading firms like PolyTech, which have a reputation for being less scrupulous.

A third major source is unlicensed production. Firearms production also is reported to be a growing problem in the western provinces of Gansu, Qinghai and Sichuan, and Guangxi in the south, and to a lesser extent in Tibet (see Map 2.1). Specific cities have even acquired reputations for gun production, much like Darra in Pakistan. In Hualong County, part of the province of Qinghai, manufacturers are proud enough to stamp the firearms they build with 'Made in Hualong'. In the winter of 2000–01, police in the province of Guangxi raided 60 illegal firearms factories. In all, 240,000 illicit 'guns, moulds and tools' were reported seized in this one province. (*South China Morning Post*, 2001).

The scale of Chinese confiscations of illegally trafficked firearms can be compared to the same phenomenon in the United States. The American government confiscates an average of 34,000 illicitly traded firearms each year (US, BATF 2000).<sup>4</sup> The *entire* United States, in other words, with some 240 million publicly owned firearms, confiscates from illegal trafficking only 15 per cent as many guns as a *single* Chinese province. In all, China has 34 provinces, independent municipalities, and autonomous regions. It is hard to resist the conclusion that China's gun market is growing at a rate virtually without precedent elsewhere.

Even if Strike Hard reports are greatly exaggerated, the total numbers of small arms in public hands for all of China must reach into the tens of millions. At the same time, there are limits to what can be concluded from reported confiscations alone. At this point, the data is not sufficient to determine the proportion of China's total civilian stockpile that is being confiscated. But it seems that the reported confiscations account for no more than a small percentage of the total public stock of small arms.

In light of the enormous numbers of firearms confiscated by the police, China must have more publicly owned firearms than almost any other country in the world. In terms of general magnitude, it probably is surpassed only by the United States with some 240 million civilian firearms, and possibly India, home to some 40 million. While the total number of privately owned guns in China still cannot be given a single numerical value, it appears to approach and possibly surpass the latter figure.

MAP 2.1 China's firearms centres



TABLE 2.19 Strike Hard gun seizures in China

Region	Date	Total seized	Report
National	1993	90,000	Police
National	1994	120,000	Police
National	1998	300,000	Diplomatic
Guangxi	Winter 2000	240,000	Police
National	Spring 2001	600,000	Police
National	Spring 2001	330,000	Police

Sources: Asiaweek (1995); The Economist (2001c); Reuters (2001a, 2001b); Xiang (2000/01)

In light of the enormous numbers of firearms confiscated by the police, China appears to have more publicly owned firearms than almost any other country in the world.

**Southeast Asia: The rising prominence of insurgent forces**

In other parts of Asia, such as Southeast Asia, small arms trends are more stable. The major exception is the rise of secessionism in Indonesia and the Philippines. Growing demand has fuelled increased clandestine trafficking, enabling insurgents and ethnic combatants in these countries to accumulate bigger reserves. What is less clear is whether these growing arsenals represent new weapons, increasing the total global arms supply, or whether they are redistributing weapons already in the region.

The evidence on this point is mixed. Some accounts point to quantities of new small arms being imported, often through highly circuitous routes and mostly originating in China. Other accounts suggests that most of these transfers involve local ant-trade and diversion from national armed forces, as weapons from more peaceful parts of East Asia circulate to regions caught in active warfare (TRANSFERS).

Indonesia saw the region's worst communal violence in 2001, with several parts of the country threatening to leave the union. Not all breakaway factions are well-armed. In West Papua (formerly Irian Jaya) the largest militia, the Satgas Papua, has between 7,000 and 20,000 followers. So far it has been held in check, in part because of its inability to acquire firearms. Geographically isolated and lacking a sizeable community of expatriates abroad or the support of a sympathetic government, it has no reliable way to acquire small arms. The most likely source at the moment probably is capturing armaments from the growing Indonesian military and police presence, up from around 3,000 personnel one year ago to 12,000 today (Bostock, 2001).

Fighting is even more serious at the opposite end of the archipelago in Aceh, where the Free Aceh Movement, with some 5,000 combatants, faces a government security force estimated at 32,000. Less isolated geographically, Aceh rebels have found it much easier to acquire weaponry. Their arsenal is estimated at 2,000–3,000 firearms, including M16 rifles captured or bought from government forces and AK-47s smuggled from abroad (Gunaratna, 2000/01; Harris, 2001). Many of the latter appear to originate in Thailand. Some apparently come from Thai Army arsenals, but most probably originate with new production from China channelled through Thai brokers (*Jane's Intelligence Review*, 2001).

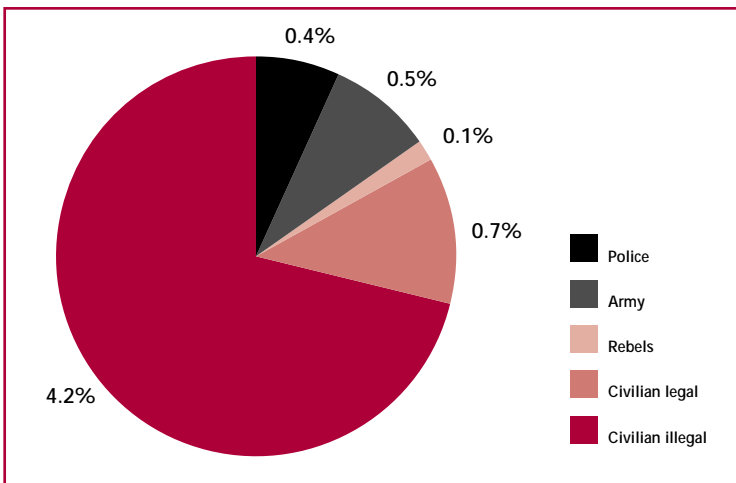
The other major scene of separatist violence in Southeast Asia is the Philippines. In 2000–01 headlines were dominated by the Abu Sayyaf Group based in the island chain of Basilan, Sulu, and Tawitawi. This Islamic separatist faction won global press coverage by holding foreigners for ransom. Having resisted several campaigns by the Philippine army, Abu Sayyaf has enormous local prestige. Its wealth and success led to expansion from perhaps 200 armed followers in 2000-01 to roughly 1,100 combatants and several thousand followers (*New York Times*, 2001). Perceived as a money-making operation as much as a secessionist group, it can afford to turn away would-be recruits (*The Economist*, 2000). Unlike most rebel factions, Abu Sayyaf also appears to be extremely well armed. The Muslim nationalist armies on the island of Mindinao are much larger, dominated by the 15,000 strong Moro Islamic Liberation Front (Landingin, 2001). But the situation there, although fragile, has been more stable, suggesting no significant changes in small arms holdings.

Insights into the total number of civilian firearms in the Philippines came through a new Philippine government report on firearms licensing and gun ownership (Philippine National Police, 2001). This establishes that at the end of 1999 there were 706,148 privately owned firearms registered in the country, a figure growing at a rate of 10–15 per cent annually. In

addition there were 329,985 'loose' or unregistered guns. The remarkable precision of the latter figure reflects a narrow definition of unregistered weapons, covering only weapons purchased from licensed dealers but not subsequently registered with the police. The combined total of 1,026,133 known firearms in public hands does not include all the unregistered guns in the country, especially in view of the large quantities reportedly sold by unlicensed dealers or manufactured in illegal factories.

In reality the total of unlicensed firearms in the Philippines appears to be substantially greater than the confirmed figure. The real picture is suggested by the apparent fact that unlicensed firearms, although

FIGURE 2.3 Approximate small arms distribution in the Philippines



**BOX 2.7 Cambodia's leftover arsenal**

Over a decade ago, Cambodia ended a hellish era of some 20 years of warfare and mass murder. The remnants of the killing live on. The dangers of hidden landmines are well known. Of growing importance is the legacy of small arms proliferation, contributing to conflicts in other parts of Southeast Asia, including Aceh, the Philippines, Sri Lanka, north-east India, and even distant Kashmir (Chalk, 2001; Fawthrop, 2001).

Estimates of the total number of small arms in the country vary. Since mid-1988, according to the Cambodian government, a total of 112,562 small arms have been collected, and some 63,000 destroyed (WEAPONS COLLECTION).<sup>5</sup> The total number of small arms remaining in the country is much greater, although efforts to establish the total have been inconclusive. A prominent estimate maintains that there are around 500,000 small arms in Cambodia, half controlled by the government—both the military and the police—and half by militiamen, demobilized soldiers, and other individuals. Another estimate maintains that there are 900,000 unregistered small arms in the country (Fawthrop, 2001).

The lower, 500,000, figure corresponds to the total number of small arms to be expected based on the maximum number of combatants active in the country at the height of fighting in the mid-1980s, when there were roughly 220,000 government troops, village militiamen, Khmer Rouge, and other factions (IISS, 1988). Using conventional multipliers, one would expect that there would have been some 550,000 small arms in the country at the close of hostilities. But one should not dismiss the higher estimate of 900,000, since the lower figure is the result of a deliberately conservative approach.

Unneeded by Cambodian authorities, these weapons are haemorrhaging out of the country. Just as the leftover South Vietnamese arsenal of American-supplied weaponry became a pantry for Soviet-supported Third World clients and insurgencies in the late 1970s and early 1980s, the unneeded Cambodian arsenal is a source of supply today. In this case economic opportunity is encouraging their dissemination, not global political agendas.

**MAP 2.2 The flow of weapons out of Cambodia**

supposedly less common than legally owned guns, are involved in over 92 per cent of resolved criminal firearms cases (Philippine National Police, 2001). This disparity leads to the conclusion that the total number of unlicensed firearms must be much greater than registration statistics suggest.

If any gun has an equal chance of being used in a crime, the total number of unlicensed firearms would have to be over 20 times greater than currently known by the police to account for the disparity. But in reality not all firearms are equally likely to be used in crime. Assuming that unlicensed firearms are twice as likely to be used in crime, their total probably is closer to 4.2 million. When added to the total of licensed weapons, this indicates the existence of approximately 5.3 million privately owned guns in the Philippines (see Figure 2.3).

**South Asia: New data and new interpretations**

Just as in most other regions of the world, in South Asia only the military firearms inventories were reasonably well understood in the past. The weapons trade appears to be accelerating in the region due to a combination of inter-state conflict—the American-led campaign against Afghanistan and border strife between India and Pakistan—and internal tension—worst in Sri Lanka, but serious in Kashmir, Nepal, and elsewhere. Previous information was good enough to permit standard estimations of the scale of armed forces and insurgent weapons inventories, but not police or privately owned

weapons. From 2000–01 this problem began to ease, due largely to events in Pakistan.

In response to rising social violence and the easy availability of automatic weapons, Pakistan's Minister of the Interior, Lieutenant General Moinuddin Haider, initiated a national Arms Control Campaign in the autumn of 2000. With sectarian battles and feuding increasingly common on the streets of Pakistan's major cities and much of the countryside, small arms proliferation has become one of the country's leading social problems. The main goal of the campaign was to facilitate 'de-weaponization' through confiscation and prosecution of illegally held arms (Rizvi, 2000; WEAPONS COLLECTION). Initially, owners were encouraged to register legal firearms. During the second stage owners could surrender illegal firearms over a two-week amnesty in June 2001. Although

the number of weapons received was not expected to be great, the hope was that these measures would break the culture of freely carrying Kalashnikov rifles in public and facilitate future police intervention (AP Worldstream, 2001).

According to the 1998 census, Pakistanis owned around two million licensed firearms (*Business Recorder*, 2001). In addition, officials of the Ministry of the Interior believe there are roughly 18 million more illegally held (Bokhari, 2001). While there is no reason to doubt the scale of these numbers, they may give a misleading impression of the *distribution* of small arms in Pakistani society. Much like their counterparts in the United States and other gun-proud cultures, Pakistani firearms owners typically have more than one gun, often as many as a half-dozen. Consequently, firearms ownership is concentrated in a section of the population. Geographically, gun ownership is more common in regions like the Northwest Frontier and Baluchistan than in Sindh and Punjab, although this is changing slowly as small arms become more common everywhere (Cohn, 2001). Out of a total population of some 140 million, firearms ownership appears to extend to some four million to six million individuals.

Compared with the 20 million firearms believed to be in public hands, the inventories of the armed forces appear to be much smaller. The Pakistan Armed Forces, with a total active and reserve strength of 1.3 million—including the National Guard, as well as Frontier Corps and Pakistan Rangers under the Ministry of the Interior—probably have at least three million small arms of all types. This figure does not include the often repeated but unverified tale that the Pakistani government has three million AK-47s left over from the Afghan war of the 1980s, 'packed in grease' (Kartha, 2000).

The Pakistan figures also help clarify the distribution of firearms in India. As in Pakistan, the general size of military

MAP 2.3 South Asia



In a single deal, India can purchase more firearms than most South Asian countries have in their entire armed forces stockpile.

inventories in India was understood previously. The armed forces and especially the Indian Ministry of the Interior have been major arms buyers in recent years. Since 1998, the Army has been acquiring an average of roughly 80,000 domestically manufactured INSAS rifles annually to re-equip its combat units (Press Trust of India, 2000; *The Pioneer*, 2000). Ministry of Interior forces, like the Rajestan Rifles and other units deployed in Kashmir and other regions of violent conflict, also have been major buyers, receiving several hundred thousand AK-47s imported from eastern Europe (Raghuvanshi, 2000).

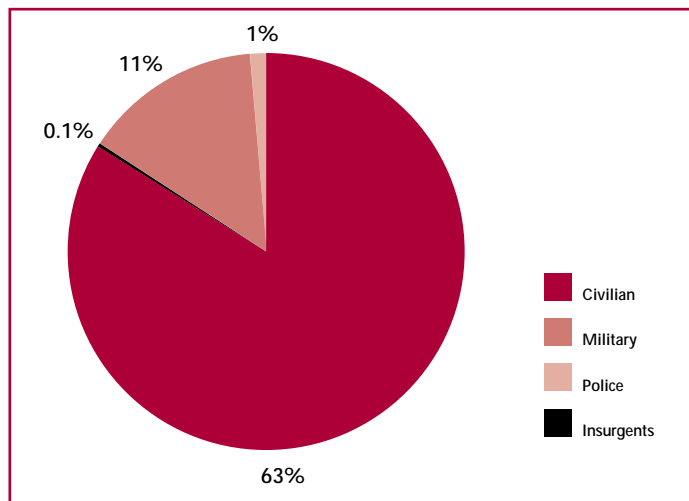
Insurgent arsenals in India appear to be relatively stable, as the size of major secessionist groups has not grown significantly. Active fighting in Kashmir, Nagaland, and Assam ensures a continuing demand for additional rebel small arms. In Kashmir weapons probably continue to flow in at the rate of several thousand annually, while other conflicts attract several hundred new small arms per year (*Jane's Islamic Affairs Analyst*, 2000; *Jane's Terrorism and Security Monitor*, 2000).

The best estimate of the scale of civilian ownership in South Asia was the widely cited figure of at least 73 million firearms.<sup>6</sup> Previously, though, this number was not very useful. Not only was it an estimate, it combined all seven countries of South Asia. With a sense of the number of civilian firearms in Pakistan, however, the larger figure can be disaggregated somewhat, although in view of currently available information it still appears high. If Pakistani guns are subtracted, this leaves roughly 50 million firearms in public hands in the rest of South Asia. India, with a population 50 times bigger than either of the next two largest South Asian countries—Nepal and Sri Lanka—is home to the great majority of these weapons, approximately 48 million, public and private. Indian small arms appear to be divided approximately seven million military, 0.6 million for the police, and some 40 million civilian.

In all, South Asia appears to be home to roughly 75 million firearms, of which some 63 million are owned by civilians (see Figure 2.4 and Table 2.20). The dominance of India and Pakistan in these figures is almost overwhelming. In a single deal, India can purchase more firearms than most South Asian countries have in their entire armed forces stockpile. An Army requirement for new rifles originally was set at 528,000 in 1993 (*Times of India*, 2001). Since then several additional orders have been placed, including a purchase from Bulgaria for 200,000 AK-47 versions (Raghuvanshi, 2000). The smaller countries of South Asia also have seen an increase in small arms inventories, largely as a consequence of continuing civil war. The 18-year war in Sri Lanka continues unabated. Although the size of the LTTE and government armies did not change significantly in 2001, both sides continue to replace wastage (Gunaratra, 2000/01).

The situation in Nepal is more dynamic, due to the rising strength of the revolutionary Nepal Communist Party, a Maoist insurgency. Since the fighting began in February 1996, the Maoists have gradually been gaining strength, and reportedly field some 1,500 armed combatants. More than 2,000 people have died in the fighting—two-thirds insurgents, one-third police and civilians—and there is a growing sense that the Maoists are gaining momentum (Bhattarai, 2001a). On 26 November 2001, escalation in the fighting led King Gyanendra to declare a state of emergency

FIGURE 2.4 Approximate distribution of small arms in South Asia





(Dugger, 2001). Nepal's civilian police, armed exclusively with handguns and Second World War-vintage Enfield rifles, are increasingly outclassed. The government in Kathmandu has requested bids to purchase 50,000 automatic rifles and machine guns to make them more competitive (Agence France Presse, 2001; Bhattarai 2001b).

**TABLE 2.20 Approximate distribution of firearms in South Asia, by country (millions of firearms)**

Country	Civilian	Military	Police	Insurgent
Bangladesh	0.2	0.4	0.1	0.01
India	40.0	7.0	0.6	0.1
Nepal	1.0	0.1	0.05	0.01
Pakistan	20.0	3.0	0.4	?
Sri Lanka	2.0	0.3	0.05	0.01

In Bangladesh sensitivity to the small arms issue became markedly more pronounced in recent years. As organized crime and student political factions became more violent, political leaders in Dhakka began to take the issue seriously. Greater awareness of the subversive effects of Bangladesh's role in the region as a transit country also is mobilizing concern (TRANSFERS). A consortium of analytic and non-government organizations, the National Small Arms Forum, estimates that there are some 200,000 civilian small arms in the country, with a total population of some 120 million. A total of 50,000 or so of these arms are believed to be in criminal hands (*Bangladesh Independent*, 2001; *Nation*, 2001). Other observers maintain that there are 250,000 illegal weapons alone in the country (Ahmed, 2001). The numbers involved may seem small for a country with a population of 120 million, and they are small compared with the problems of its neighbours, but Bangladesh has reacted sharply to rising gun violence. The problem has become highly charged, provoking a sharp national debate on how to respond.

### Central Asia

On the borders of South Asia, the very nature of international security was altered by the attacks of 11 September 2001 and the subsequent war in Afghanistan. While small arms have been the dominant weapon in the ground fighting, second only to American bombing, the effect on stockpiles is less clear. One surprising discovery of the war was the poor quality of the armaments of the opposition Northern Alliance. Despite the region's reputation for mammoth small arms stockpiles, the Northern Alliance had to be almost completely rearmed by Russia and the United States—even with several thousand additional AK-47s—before it could begin strategic operations (Filkins and Schmitt, 2001). Pakistan continued to permit arms shipments to the Taliban until November 2001 (Frantz, 2001b). Disarming Afghanistan is increasingly recognized as essential to the nation's reconstruction (Bhutto, 2001).

In Central Asia the Islamic Movement of Uzbekistan has begun mounting deadly raids into the politically sensitive Fergana Valley of Kyrgyzstan and Uzbekistan. The movement came to international notice in August 1999 when it captured Japanese geologists for ransom (Frantz, 2001a). Since then it has extorted enough wealth and acquired enough small arms to threaten the stability of the region.

As tensions mount in both South and Central Asia, small arms procurement almost certainly will accelerate. Events since 11 September 2001 have proven fertile for craft armourers in towns like Darra in Pakistan, where prices appear to be increasing (*The Hindu*, 2001). Prices for imported weapons are accelerating as well (McGirk, 2001).

## Conclusion

The overwhelming characteristic of the global small arms stockpile is continuity. Most of the weapons identified in the *Small Arms Survey 2001* remain as before. Police inventories changed very little in most countries, while the

The re-transfer of second-hand weapons has the greatest effect on the distribution of the global small arms stockpile.

total global military stockpile grew by approximately 700,000 as a result of new production (PRODUCERS). Insurgent stockpiles also appear to have grown marginally, by less than 100,000. Although insurgents undoubtedly received considerably more arms in absolute terms, most of these weapons went to replace lost equipment, leaving overall figures almost the same as before. The greatest exception for the total stockpile was civilian purchases of new firearms, estimated to have grown by some 6.9 million in 2001 as a result of new production (PRODUCERS).

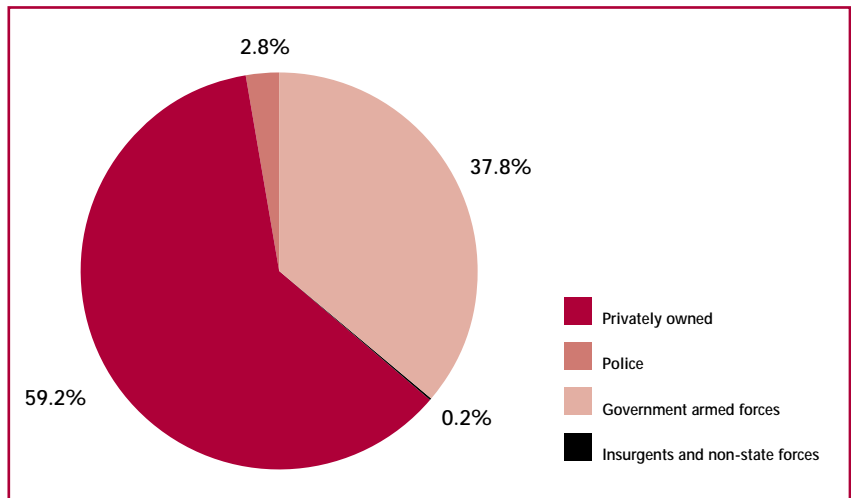
The biggest changes revealed in this chapter come not from new production but from the slow chipping away at unknown categories of small arms, adding previously missing information to create a more complete picture. The largest change came through improvement in the statistics for civilian ownership, especially in South and East Asia. As more information becomes available, the world's 'unknown' categories are gradually declining. The *Small Arms Survey 2002* estimate of all known firearms, at least 638 million, is significantly more complete than former estimates. Like the former figure, this is a conservative estimate; the actual global stockpile undoubtedly is greater, by several tens of millions at least, if not more.

When reassessing the number of firearms, it is important to keep in mind that higher totals for many countries, such as China, India, and Pakistan, cannot simply be added to the estimates presented in the *Small Arms Survey 2001*. Most or all of their police and military inventories were already included in the estimates for 2001. The net total global figure is given in Table 2.21. The numbers that have been added do not represent newly produced firearms. With the exception of some eight million newly manufactured firearms—both military-style and civilian firearms—the rest of the 87 million firearms being counted in the global stockpile for the first time here have existed for some time, but their existence could not be reliably demonstrated. They are included here with confidence in their reliability as estimates, as accurate as possible, and conservative where accuracy is in some doubt.

Only a small proportion of the global small arms stockpile comes from new production, less than one per cent a year. It is rather the re-transfer of second-hand weapons that has the greatest effect on the global distribution of guns.

Re-circulation of old weapons, rather than purchases of new ones, accounts for the greatest proportion of global firearm movement. This has important implications for policy options like weapons marking and tracing, which must deal with existing guns to be effective. There are other options for second-hand small arms too. Weapons collection and destruction programmes have significantly reduced the inventories of several states and organizations, eliminating over four million small arms in the last few years.

FIGURE 2.5 Distribution of known global firearms, 31 December 2001



This chapter also draws attention to two other types of small arms and light weapons. Although far less numerous than firearms, shoulder-fired rocket launchers and mortars are extremely important in global conflict, adding to the destructiveness of terrorism, guerrilla warfare, and state-to-state conflict. Easily overlooked in the deliberations of both governments and global civil society, they warrant much more careful consideration in future discussions of small arms issues.

TABLE 2.21 Distribution of known global firearms, 31 December 2001

Group	Estimated firearms	Percentage
Police	18,000,000	2.8
Government armed forces	241,600,000	37.8
Privately owned	378,300,000	59.2
Insurgents and non-state forces	1,000,000	0.2
<b>Total</b>	<b>638,900,000</b>	<b>100.00</b>

While military small arms may be beginning to decline, civilian ownership appears to be increasing.

Not all national small arms arsenals are growing uniformly. The United States allowed its military small arms stockpile to contract significantly in the last decade. Other governments, possibly Germany and Russia, appear to be following the same path through organizational firearms destruction. Are we witnessing the start of a trend? Will other governments pursue unilateral reductions? Some governments, such as Canada, have seen their weapons-to-troops ratio rise as troop numbers were cut while arsenals remained untouched. All in all, however, even aggressive military cuts are unlikely to affect overall global stockpiles. Trends in civilian ownership are likely to offset any declines in military arsenals. In this chapter, the examples of the United States and the Czech Republic both illustrate the tendency for private gun ownership to climb quickly, irrespective of military cuts.

Other regions appear to be rapidly acquiring more firearms too. China and South Asia, long left out of the global firearms picture, are among the world's major centres for small arms ownership, each providing a home to tens of millions of civilian, police, military, and insurgent firearms.

Despite the additions, the overall picture of global small arms remains far from complete. Very little is known about the total number of civilian small arms in several major countries including Brazil, France, Indonesia, Iran, Mexico, Thailand, Turkey, and Vietnam. Others have been able to provide only partial or unreliable reports, including Germany, Poland, and Russia. With only a handful of exceptions, there currently is no way to estimate the dimensions of civilian small arms ownership for most of the entire continent of Africa and the Arabian peninsula. Illegal ownership remains almost impossible to quantify in most parts of the world.

Some of these problems can be resolved through more systematic national polling and public surveys on gun ownership. However, a comprehensive picture of the global firearms stockpile ultimately can be obtained only through greater official transparency and information-gathering efforts.

## 2. List of Abbreviations

AUC	United Self-Defence Forces of Colombia
ELN	Ejército de Liberación Nacional
ETA	Euskadi Ta Askatasuna (Basque Homeland and Liberty)
FARC	Fuerzas Armadas Revolucionarias de Colombia
INSAS	Indian Small Arms System (7.62mm automatic rifle)
IOM	International Organization for Migration
IRA	Irish Republican Army
KLA	Kosovo Liberation Army
LAW	Light Armour Weapon
LTTE	Liberation Tigers of Tamil Eelam
NLA	National Liberation Army
PIAT	Projector, Infantry, Anti-Tank
PLA	People's Liberation Army
UNDP	United Nations Development Programme

UNHCR United Nations High Commissioner for Refugees  
 UNRCA United Nations Register of Conventional Arms  
 UNTAC United Nations Transitional Authority in Cambodia

## 2. Endnotes

- 1 Originally Fetter concluded the total number of firearms was 612 million. This was quickly amended to 594 million (Fetter, 2001b; 2001c).
- 2 Correspondence and discussions, November–December 2001, with official of the Togo Embassy, Washington, DC.
- 3 The information in the following section was furnished by US Army officials interviewed at Rock Island Arsenal, Illinois, 9 May 2001, and in subsequent communications. The author would like to express appreciation to the US Army for its co-operation.
- 4 In addition both countries confiscate ‘crime guns’ as part of normal criminal investigations. In the United States this amounts to approximately another 200,000 guns annually (US, Department of Justice, 2000). The figures for Chinese crime guns are not available.
- 5 Reports that the United Nations Transitional Authority in Cambodia (UNTAC) collected a total of 320,443 small arms and light weapons (Chalk, 2001) appear to be based on misunderstanding, confusing an estimate of the total number of small arms and light weapons controlled by all four Cambodian armies (Fawthrop, 2001).
- 6 The estimate of 73 million civilian firearms in South Asia was publicized in a conference on small arms proliferation hosted by Network for Child Welfare, inaugurated by then-Defence Minister George Fernandes (*The Hindustan*, 2000).

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## Acknowledgements

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