



# Estimating Law Enforcement Firearms

Law enforcement small arms present a contradiction of visibility and scarcity. Of the roughly 875 million firearms in the world, in virtually all large countries law enforcement weapons are the most visible in public. They are also the smallest major category of small arms, covering some 25 million firearms, compared to approximately 200 million military and 650 million civilian guns worldwide (Small Arms Survey, 2007). The agencies covered in this analysis include law enforcement agencies responsible for domestic security, i.e. police, gendarmes, official paramilitaries, and smaller agencies such as customs, game management, and prisons.

What is easily observed individually can be opaque collectively. Few law enforcement agencies have a tradition of transparency, and official data on personnel and weapons inventories is rarely available to the public. When data is scarce, estimation is the basic approach to establishing law enforcement small arms totals.

Estimation—based on the extrapolation of weapons-per-officer ratios from known cases and total numbers of officers—reveals that law enforcement firearms are distributed unevenly (see Figure 1 and Table 1). Countries with the

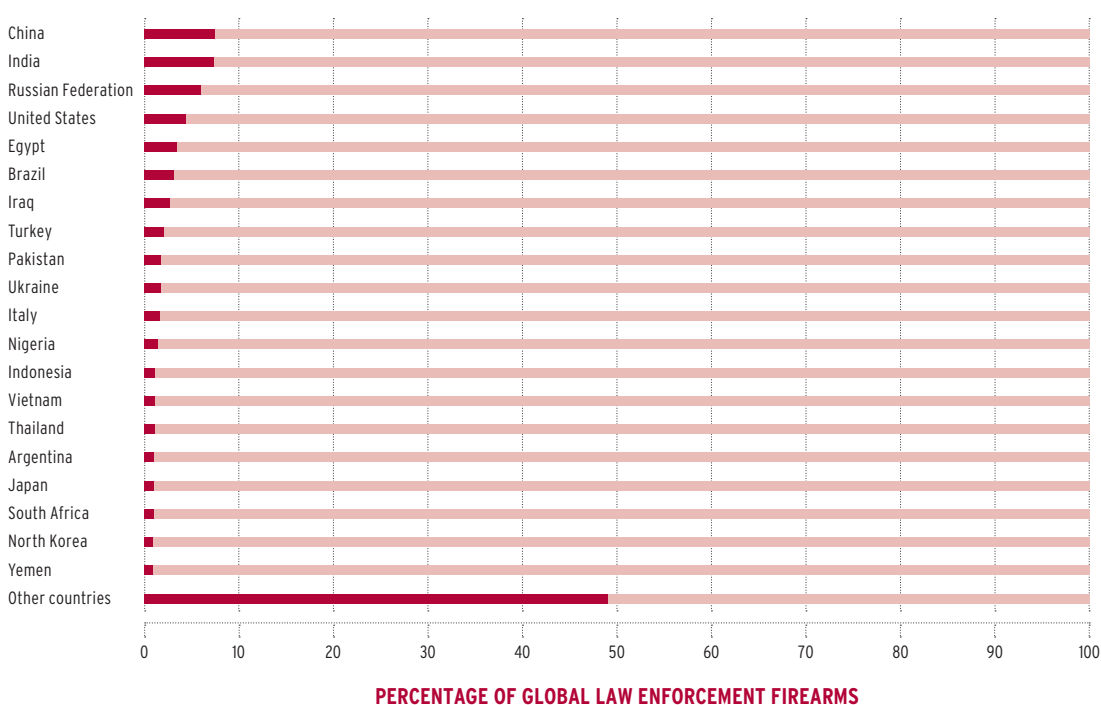
largest police forces typically appear to have one to two firearms per sworn officer. In other countries the ratio can drop to much less, e.g. 0.3 for England and Wales and 0.6 for the Central African Republic (Small Arms Survey, 2006, p. 40).

## Estimation principles

Documenting the number of law enforcement officers and their armament from original sources is always preferable. The total number of law enforcement small arms is known for at least 32 countries. Some have volunteered this data, like Colombia and the United States (Calvani, Dupuy, and Liller, 2006; US GAO, 2003), while in exceptional cases, like Nicaragua, the police reveal a more detailed breakdown of weapons types (Montes, 2011, p. 61). In others the total has been deduced from other official reports.

In most countries, only the number of law enforcement personnel can be determined and the number of law enforcement weapons must be estimated. Estimation requires standard procedures to resolve three basic questions, which are discussed below.

Figure 1 Estimated law enforcement firearms



Note: Source data is for a single year (latest available) in the period 1987-2012.

Sources: Karp (2012), Small Arms Survey (2010, pp. 102-03)

**Table 1 Estimated law enforcement firearms in 20 selected countries (in descending order by number of estimated firearms)**

Country	Sworn personnel	Estimated firearms	Firearms/officer
China	2,790,000	1,950,000	0.7
India	1,281,317	1,900,000	1.5
Russian Federation	1,200,000	1,550,000	1.3
United States	785,000	1,150,000	1.5
Egypt	1,300,000	900,000	0.7
Brazil	687,684	803,200	1.2
Iraq	531,000	690,000	1.3
Turkey	406,000	530,000	1.3
Pakistan	354,200	460,000	1.3
Ukraine	357,500	460,000	1.3
Italy	322,800	420,000	1.3
Nigeria	360,000	360,000	1.0
Indonesia	320,000	290,000	0.9
Vietnam	213,000	290,000	1.4
Thailand	213,500	280,000	1.3
Argentina	198,459	270,000	1.4
Japan	246,800	250,000	1.0
South Africa	150,513	250,000	1.7
North Korea	189,000	245,000	1.3
Yemen	163,000	210,000	1.3

**Note:** Source data is for a single year (latest available) in the period 1987-2012.

**Source:** Karp (2012)

## Which agencies should be included?

The major law enforcement category includes local, provincial, and national police; specialized agencies such as treasury or investigative police; domestic intelligence services; protective services; prisons; fisheries protection and game. In many countries firemen are armed. Gendarmes, or militarized police, are another major category, typically used for policing outside cities (Gobinet, 2008). Taken together, police and gendarmeries hold more than three-quarters of total law enforcement firearms.

Other law enforcement agencies include border security, customs, coast guard, and paramilitary security agencies. In some countries their numbers surpass traditional police: India has roughly 1.6 million paramilitaries, and Pakistan some 304,000. North Korea

maintains a staggering 5.7 million Red Guards, although they are thought to be lightly armed (IISS, 2012, p. 258).

## How many sworn officers are there?

Any estimation of firearms numbers based on personnel must be careful to discount law enforcement employees who do not carry weapons. Only sworn officers are empowered to make arrests and use violence to enforce the law, and they are usually armed. In the United States, for example, there were 1,013,608 state and local police employees in 2010, but only some 705,000 were sworn officers (FBI, 2011). In many cases not all sworn officers are armed routinely, although weapons appear to be widely available (such as in China and India). In a few countries

only select officers can be armed at all (e.g. England and Wales).

The proportion of sworn officers to the population varies dramatically. The highest recorded is Christmas Island, with one officer for every 30 residents (Gordon, 2011; ABS, 2011). Egypt is not much different, with 1.3 million police employees for 82 million people, or 1 for every 63 residents (Bradley, 2011; IISS, 2012, p. 319). The lowest rate recorded is that of Niger, with some 2,900 police and gendarmes for 16.5 million residents, i.e. one officer for every 5,690 people (IISS, 2012, pp. 446-47).

## How are they armed?

Law enforcement armament varies enormously (see Table 2). As a general rule police are assumed to be armed at a rate of 1.3 firearms per officer, which is sufficient to provide for spares and a limited number of special weapons (Small Arms Survey, 2006, p. 42). The logic behind this rule is compelling and has been reaffirmed by examples like Brazil (Dreyfus et al., 2010, pp. 125-30).

Different levels of armament can be given, but must be convincingly established. Some documented police forces surpass the armament levels of many armies. Higher levels of armament are also associated with heavily armed regular police or gendarmes, who are typically responsible for law enforcement in the countryside. Gendarmes are often armed like light infantry, with machine guns and light armoured vehicles. A gendarmerie rate of 1.8 small arms per sworn officer is reasonable unless otherwise documented.

A great many police forces have considerably fewer firearms. Lower levels of police arming often reflect limited financial resources, but can also be a matter of choice. The best-known example is the United Kingdom, where less than 5 per cent of all constables (6,979 out of some 134,101 in England and Wales) are armed (Herbert, 2011; Travis, 2012). This is a special case: unarmed policing appears to be getting rarer, apparently in response to global weapons proliferation and the need to counter terrorism. Much higher levels are known as well, such as two firearms per police officer in Serbia.

Table 2 **Examples of police firearms per officer in selected countries**

Country	Agency	Sworn personnel	Firearms	Firearms/officer
Argentina	Provincial and Federal Police	198,459	270,000	1.4
Brazil	Federal and state police	687,684	803,200	1.2
Bulgaria	National Police	33,800	59,400	1.8
Chile	Carabineros	44,712	60,000	1.3
Colombia	Policía Nacional	159,582	258,500	1.6
Ecuador	Policía Nacional	38,629	42,000	1.1
England & Wales	Police	134,101	35,000	0.3
Jamaica	Constabulary Force	8,500	9,000	1.1
Nicaragua	Policía Nacional	8,666	8,590	1.0
Papua New Guinea	Royal Constabulary	5,000	4,800	1.0
Peru	Policía Nacional	88,793	170,000	1.9
Philippines	National Police	140,000	139,043	1.0
Serbia	Police	26,527	53,100	2.0
South Africa	South African Police Service	150,513	250,481	1.7
Sudan	National Police Service	100,000	110,000	1.1
United States	Federal, state, and local police	785,000	1,150,000	1.5

Note: Source data is for a single year (latest available) in the period 1987-2012.

Source: Karp (2012)

## Five considerations

In addition to the three basic questions of estimation, five other considerations should be kept in mind.

### Individual armament

The rule of 1.3 firearms per officer is based on averaging known cases and the operational logic of officers permanently assigned either a side arm, sub-machine gun, or automatic rifle, and reserves for sudden force growth, breakage, and repairs, as well as specialized weapons. It is common in many

countries to equip patrol cars with shotguns and/or automatic rifles. In addition, officers routinely carry a back-up gun, although this tends to be their personal property and is not counted here.

### Variation among agencies

Even within a country, not all law enforcement agencies are armed alike. Specialized agencies can be very heavily equipped. Examples for the United States illustrate the range of variation (see Table 3).

Table 3 **Varying armament of selected United States law enforcement agencies, various years**

Agency	Sworn personnel	Firearms	Firearms/officer
State and local police	705,000	916,500 (estimated)	1.3
Federal Bureau of Investigation	11,523	49,600	4.3
Drug Enforcement Administration	4,161	14,921	3.6
Federal Fish & Wildlife	888	5,234	5.9

Note: Source data is for a single year (latest available) in the period 2000-10.

Sources: State and local police's sworn personnel from FBI (2011); state and local police firearms calculated from Small Arms Survey (2001, pp. 70-71); other agencies from US GAO (2003, pp. 3, 31)

## Armament vicissitudes

Law enforcement agencies tend to re-equip more rapidly than militaries. Because their weapons are carried continuously, they are exposed to greater stress and typically do not last as long as military or privately owned firearms. An automatic rifle in military use can last for several generations, but police often replace handguns every ten to 15 years. In 2003, for example, France bought 250,000 new Sig-Sauer pistols to re-equip its police, gendarmes, and other law enforcement agencies (Gobinet, 2010, p. 94).

Expansion can come quickly and requires careful monitoring. The effect is especially clear when new forces are created. A few years after it was created, in 2009 the South Sudan Police Service (SSPS) averaged 0.3 small arms per constable, i.e. 8,400 firearms shared among a force of 28,000 constables (Sudan HSBA, 2009, p. 8). This rose in 2011 to 50,000 firearms for 50,000 personnel, a 1 to 1 ratio, although 19,000 of these were not officially registered with the SSPS (Sudan HSBA, 2012, p. 4).

### The kind of armament

This issue warrants careful consideration. Specific types of armament matter at least as much as—and often more than—simple quantities. A major shift in policing came in the 1980s, when law enforcement agencies that had not done so before began to switch from revolvers to pistols. In the 1990s police increasingly invested in high-calibre weapons (Gobinet, 2011, p. 74; Small Arms Survey, 2004, p. 57). In the United States, for example, where such weapons previously were reserved for special units, state and local police began acquiring semi- and fully automatic rifles in larger numbers in the 1990s (Wagner, 2008). In the United Kingdom rising concern with counterterrorism has accelerated—and helped fund—a similar shift (*Economist*, 2011).

### Whose weapons?

In many places police buy their own weapons. Ecuador is an example where the state provides some weapons—apparently heavier equipment like sub-

machine guns and automatic rifles— while individual officers are responsible for their personal armament (Karp, 2009). As private property, which their owners are free to keep and sell, these firearms are actually civilian guns.

## Conclusion: the updating imperative

The size and armament of law enforcement agencies change continuously, typically increasing as population and wealth grow. While older data often must be relied on out of necessity, vigilance and updating are essential. This is especially true for countries where little or nothing is known about force or armament levels and estimation is the only tool available. Little is known about the domestic security agencies of much of Africa, Central Asia, and the Middle East, and armament levels must often be estimated for much of the world. While it is tempting for research to concentrate on easy cases, the elusive ones deserve no less attention, and maybe more. ■

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**For more information on small arms stockpiles held by states, please visit [www.smallarmssurvey.org/armed-actors/state-security-forces.html](http://www.smallarmssurvey.org/armed-actors/state-security-forces.html)**

## About the Small Arms Survey

The Small Arms Survey serves as the principal international source of public information on all aspects of small arms and armed violence, and as a resource centre for governments, policy-makers, researchers, and activists. In addition to Research Notes, the Survey distributes its findings through Occasional Papers, Special Reports, Working Papers, Issue Briefs, a Book series, and its annual flagship publication, the *Small Arms Survey*.

The project has an international staff with expertise in security studies, political science, international public policy, law, economics, development studies, conflict resolution, sociology, and criminology, and works closely with a worldwide network of researchers and partners.

The Small Arms Survey is a project of the Graduate Institute of International and Development Studies, Geneva. For more information, please visit:

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**Publication date: December 2012**

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Special thanks to the Small Arms Survey's Olivia Denonville and Nicolas Florquin for their guidance and input.

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