

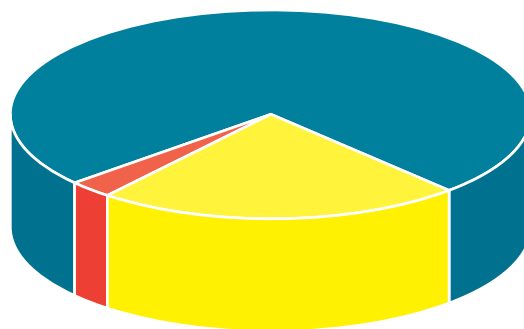
Estimating Civilian Owned Firearms

Most of the world's firearms are privately owned.¹ They include improvised craft guns as well as handguns, rifles, shotguns, and machine guns. The legal definition of a civilian firearm varies; some states allow civilian ownership of certain firearms that are restricted to military use in other states. The word *civilian* is used here to refer to actual possession, not legality.

In 2007, the Small Arms Survey estimated the number of civilian firearm ownership worldwide at approximately 650 million weapons out of some 875 then in existence (see Figures 1 and 2). National ownership rates range from a high of 90 firearms per every 100 people in the United States, to one firearm or less for every 100 residents in countries like South Korea and Ghana (see Table 1). With the world's factories delivering millions of newly manufactured firearms annually, and with far fewer being destroyed, civilian ownership is growing (Small Arms Survey, 2007, p. 39).

Poor record-keeping and the near absence of reporting requirements for detailed information complicate assessments of global stockpiles of small arms and light weapons. When it comes to estimating civilian firearm ownership, differences in national gun culture—each country's unique combination of historic and current sources of supply, laws and attitudes toward firearms ownership—often have distinct effects on the classification, ownership and perception of firearms. In addition, categories of firearm holders may overlap, as some individuals may use their private firearms at work as security guards, in armed groups, or in gangs.

Figure 1 Who owns the world's firearms?*



- Law enforcement (26 million)
- Armed forces (200 million)
- Civilians (650 million, including gangs (2-10 million), private security companies (1.7-3.7 million) and non-state armed groups (1.1-1.8 million))

Note: *Whereas the Small Arms Survey (2010, pp. 101-03) estimates that armed groups hold about 1.4 million firearms, this pie chart presents the holdings as a range of 1.1-1.8 million, ± 25 per cent, rounded.

Sources: Small Arms Survey (2010, pp. 101-03; 2011, p. 116).

Comparative sources on civilian firearm ownership

While it often is easy to be certain of the existence of *some* guns, it is inherently impossible to be sure of the total number of *all* guns. Uncertainty makes approximation unavoidable. The ideal country assessment relies on the full range of sources and tools, using as many different methods as possible. Five deserve special emphasis.

Gun registration

Especially where it is mandatory and widely accepted, registration can be the most reliable indicator of overall private gun ownership.

Figure 2 Estimated civilian firearms: top ten countries by total

- 1. United States of America (270,000,000)
- 2. India (46,000,000)
- 3. China (40,000,000)
- 4. Germany (25,000,000)
- 5. Pakistan (18,000,000)
- 6. Mexico (15,500,000)
- 7. Brazil (14,840,000)
- 8. Russia (12,750,000)
- 9. Yemen (11,500,000)
- 10. Thailand (10,000,000)
- 11. Others (186,410,000)

Sources: Small Arms Survey (2007, ch. 2, online annexes 3, 4) and author's notes.

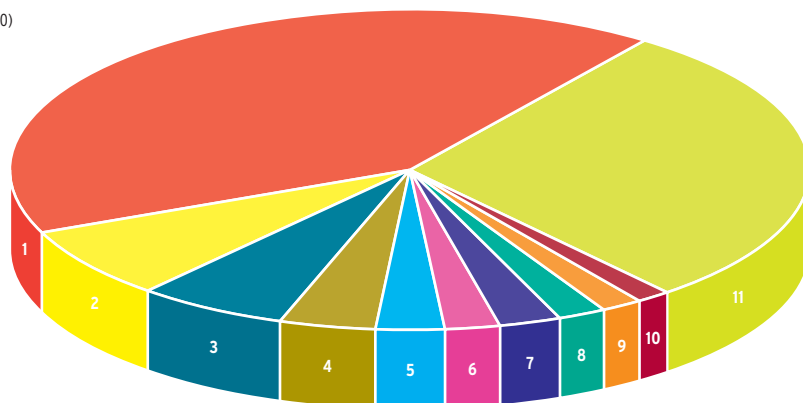


Table 1 **Civilian gun ownership for 40 countries, in descending order of averaged civilian firearms²**

Country	Rank	Civilian firearms per 100 residents	Estimated civilian firearms (rounded)
United States of America	1	89	270,000,000
Yemen	2	55	11,500,000
Switzerland	3	46	3,400,000
Finland	4	45	2,400,000
Cyprus	6	36	275,000
Saudi Arabia	7	35	6,000,000
Iraq	8	34	9,750,000
Uruguay	9	32	1,100,000
Canada	13	31	9,950,000
Austria	14	30	2,500,000
Iceland	15	30	90,000
Germany	15	30	25,000,000
Kuwait	18	25	630,000
New Zealand	22	23	925,000
Greece	23	23	2,500,000
UAE	24	22	1,000,000
Croatia	26	22	950,000
Lebanon	28	21	750,000
Qatar	31	19	520,000
Peru	33	19	750,000
Thailand	39	16	10,000,000
Mexico	42	15	15,500,000
Jordan	58	12	630,000
Pakistan	57	12	18,000,000
Estonia	65	9	123,000
Russia	68	9	12,750,000
Jamaica	74	8	215,000
Brazil	75	8	14,840,000
England & Wales	88	6	3,400,000
Colombia	91	6	2,700,000
El Salvador	92	6	400,000
Morocco	101	5	1,500,000
China	102	5	40,000,000
India	110	4	46,000,000
Senegal	125	2	230,000
Tanzania	137	1	550,000
Papua New Guinea	145	1	71,000
Korea, South	149	1	510,000
Haiti	164	1	190,000
Ghana	174	0.4	80,000

Note: *ATF (n.d.) and other sources suggest that the total private ownership in the United States in 2010 was closer to 270-314 million firearms, for an average of 290 million firearms or 96 per 100 residents that year.

Source: Small Arms Survey (2007, pp. 38-71)

However, registration systems can be quirky, without automatic renewal, for example, leading certain weapons to disappear from public records. In some countries registration totals include other weapons, such as air guns in England and Wales, or swords in France (Cornevin, 2010). In many countries registration is not systematically respected (Gould and Lamb, 2004). Even in countries with sophisticated registration systems, older guns and privately traded weapons often escape registration. Craft guns, illegally manufactured, usually are unrecorded, although they appear to be common in several countries (Berman, 2011). Registration data is available for at least 85 countries.

Expert estimates

The most common figures on gun ownership often are personal estimates by knowledgeable observers. Their impressions are useful, but they also can differ dramatically. With respect to both Switzerland and Yemen, for instance, estimates diverge by a factor of ten (Small Arms Survey, 2007, pp. 38-71). Expert estimates are available for at least 110 countries.

Household surveys

Household ownership surveys often are the most useful index available. The greatest appeal of polling is comprehensiveness. But the sensitivity of gun ownership can weaken the reliability of responses. Many surveys measure not the number of guns but the proportion of households where at least one gun is owned. The largest survey project, undertaken by the UN Office on Drugs and Crime, covers 31 countries (van Dijk, van Kesteren, and Smit, 2007, p. 279).

Proxy indicators

Available data suggests positive correlation, albeit not necessarily causation, between wealth and gun ownership. This implies that gross domestic product (GDP) per capita can be useful in determining broad ranges of gun ownership. Another proxy for gun ownership is the proportion of suicides committed with

firearms (Killias, 1993). Statistical techniques are limited by the underlying similarity of the countries being compared. The firearm suicide proxy, for instance, has been proven reliable in Western societies, but its utility elsewhere is uncertain.

Analogous comparison

Another way to estimate civilian ownership is through comparison to similar but better-understood countries. Survey-based estimates of unregistered weapons in one country, for instance, can serve as a useful basis for estimating illegal firearm ownership in another country that has no survey data but comparable firearm legislation, 'gun culture', and GDP per capita.

Analytical considerations

Inflation and attrition

Gun ownership tends to increase, propelled by production, rising incomes, and demand factors (Atwood, Glatz, and Muggah, 2006). Yet guns may also break, corrode beyond repair, be destroyed, or be illegally exported. The form of attrition easiest to document is formal destruction. This can be extremely significant and must be taken into account when estimating ownership (Small Arms Survey, 2009, pp. 158–91).

Determining trends

Usually observers want to know not just how many civilian guns are present in a country, but also whether

and how much the total is growing. In some cases registration, or production and trade data, may permit such longitudinal assessment, albeit exclusively for legal weapons. Polling, focus groups, or expert estimates may elicit comments on inventory dynamics, but their reliability varies and they should be treated carefully.

Conclusion

Comprehensive estimates of civilian gun ownership tend to be the most elusive where they are needed most. And there often are no easy rules to rely on. Social science, with its emphasis on verifiable indexes, naturally leads to undercounting total civilian arsenals.



People wait with their firearms to be registered during the last day of arms registration at the Registro Balístico in Tegucigalpa, Honduras, August 2005. Some 140,000 weapons have been registered in Honduras, according to the Criminal Investigation Division (DGIC).
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But low numbers are just as deceptive as high ones. Low estimates may encourage exaggerated hopes, undermine effective policy responses, and cripple interventions. High estimates may discourage needed action. The most useful estimates trade precision for honesty about data and methods, reflect a willingness to consider alternatives, and acknowledge the truths that lie between the highs and lows (Kent, 1964). All gun numbers—even those that seem most accurate—approximate reality or reveal only part of it. They should be used with caution. ■

Notes

- 1 In most countries, civilian ownership of small arms and light weapons is limited to small arms, or firearms, usually meaning 'any portable barreled weapon that expels, is designed to expel or may be readily converted to expel a shot, bullet or projectile by the action of an explosive' (UNGA, 2001, art. 3). Civilian ownership of machine guns is legal in most parts of the United States, under Class 3 licenses. The phenomenon is seen in a few other countries, typically with weak legal systems, such as Somalia and Yemen.
- 2 Data on 178 countries available at Small Arms Survey (2007, ch. 2, online annexes 3, 4).

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This *Research Note* forms part of a series, available on the Small Arms Survey website at www.smallarmssurvey.org/publications/by-type/research-notes.html. The online version of this document will be updated as more information becomes available. For additional background on civilian small arms and light weapons possession, please visit: www.smallarmssurvey.org/weapons-and-markets/stockpiles/civilian-inventories.html, www.smallarmssurvey.org/armed-actors/civilians.html, and www.smallarmssurvey.org/regulations-and-controls/control-measures/civilian-possession.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. The Survey distributes its findings through Occasional Papers, Issue Briefs, Working Papers, Special Reports, Books, 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.

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