

Soldiers guard captured arms, said to be the largest seizure of drug-cartel weapons in the country, Reynosa, Mexico, November 2008. © Gregory Bull/AP Photo



# Captured and Counted

## ILLICIT WEAPONS IN MEXICO AND THE PHILIPPINES

### INTRODUCTION

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The sprawling collection of weaponry seized in the border town of Reynosa, Mexico, could easily have been mistaken for the arsenal of a well-equipped infantry battalion: hundreds of assault rifles, sub-machine guns, pistols, grenades, and grenade launchers arranged in eight rows that ran the entire length of the Mexican Army's spacious press room (AP, 2008). The massive cache—discovered during the pursuit of a high-ranking drug cartel member in November 2008—is illustrative of Mexico's thriving black market in small arms and light weapons, which is dominated by the country's powerful and well-financed drug-trafficking organizations (DTOs). Fuelled by billions of dollars in drug revenue each year, the cartels are among the best-funded non-state armed groups in the world.

There is little disagreement that the arsenals built with these funds are vast, but their precise composition and the sources of their contents are subjects of much debate. Do the DTOs have the 'wealth and armies of nations', as some claim?<sup>1</sup> Does their wealth afford them access to weapons that are unavailable to armed groups of lesser means? Are there notable differences between the weapons acquired by the profit-motivated Mexican DTOs and those obtained by groups that have ideological or political ambitions and operate in other countries? This chapter attempts to answer these and other questions through data-driven analysis of illicit small arms and light weapons in countries affected by low-intensity armed conflict and high-intensity organized criminal violence.

The chapter is the second instalment of the Small Arms Survey's multi-year study on illicit small arms and light weapons. The purpose of the study, launched in 2012, is to improve public understanding of illicit small arms and light weapons through the compilation and analysis of hitherto unused or under-utilized data from official (government) sources. During the first phase of the study, reported in the *Small Arms Survey 2012*, the Survey analysed data on illicit small arms, light weapons, and rounds of light weapons ammunition in three high-intensity armed conflict zones: Afghanistan, Iraq, and Somalia.<sup>2</sup>

The focus of the current phase is on illicit weapons in countries affected by high-intensity organized criminal violence and low-intensity armed conflict. To this end, the Survey collected data on illicit weapons seized in Mexico, which is home to some of the largest and most powerful organized criminal syndicates in the world, and in the Philippines, where several ideologically, politically, and religiously motivated armed groups are active. During the third phase of the study, the Survey will examine illicit weapons in countries affected by high- and low-intensity criminal violence that is primarily unorganized in nature (individually motivated and interpersonal violence).

The main findings from this chapter include:

- Armed groups in Mexico and the Philippines have acquired few, if any, technologically sophisticated light weapons, such as portable missiles.
- Nearly 90 per cent of illicit rifles seized in the Philippines were US-designed models.<sup>3</sup>

- Despite their vast wealth, armed groups in Mexico do not possess the full array of light weapons available to governments and some state-sponsored armed groups.
- The data suggests that some firearms identified as ‘weapons of choice’ of drug traffickers in Mexico are not as widespread as commonly assumed. These include .50-calibre rifles and 5.7 mm × 28 mm pistols, which combined account for fewer than 1 per cent of all seized firearms studied.
- The data provides little clarity on the proximate sources, age, condition, and intrastate and international movements of illicit weapons. More data on these aspects would significantly improve public understanding of black market weapons in Mexico and the Philippines.

## TERMS AND DEFINITIONS

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**Some firearms identified as ‘weapons of choice’ are not as widespread as assumed.** For the purposes of this chapter, ‘illicit small arms and light weapons’ are defined as weapons that are produced, transferred, held, or used in violation of national or international law. The chapter uses the term ‘illicit’ rather than ‘illegal’ to include cases of unclear or contested legality. The term ‘small arms’ (alternatively, ‘firearms’) refers to the following items:

- revolvers and self-loading pistols;
- rifles<sup>4</sup> and carbines;
- shotguns;
- sub-machine guns;
- light and heavy machine guns; and
- accessories and ammunition for small arms.

The term ‘light weapons’ refers to:

- mortar systems of calibres of 120 mm or less;
- hand-held, under-barrel, and automatic grenade launchers;
- hand grenades;
- recoilless guns;
- portable rocket launchers, including rockets fired from single-shot, disposable launch tubes;
- portable missiles and launchers, namely anti-tank guided weapons (ATGWs) and man-portable air defence systems (MANPADS);
- landmines;
- improvised explosive devices (IEDs); and
- accessories and ammunition for light weapons.

These definitions are consistent with the Small Arms Survey’s practices and with usage of these terms during the first phase of the illicit weapons project.<sup>5</sup> Thus, unless otherwise specified, data compiled and analysed in this chapter includes illicit small arms, light weapons, and ammunition.<sup>6</sup> The term ‘Kalashnikov-pattern rifles’ is used to refer to the numerous models of automatic and semi-automatic rifles that are manufactured in different countries but that are all modelled on the original AK series rifles produced in the former Soviet Union and later in the Russian Federation.

The definition for ‘armed conflict’ is borrowed from the Armed Conflict Dataset developed by the International Peace Research Institute, Oslo, and the Uppsala Conflict Data Program. The dataset defines ‘armed conflict’ as ‘a contested incompatibility which concerns government and/or territory where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related deaths’ (UCDP, 2012, p. 1). Armed conflicts are further divided into ‘minor’ conflicts with ‘between 25 and 999 battle-related deaths in a given year’ and ‘wars’, which are defined as conflicts with ‘at least 1,000 battle-related deaths in a given year’ (p. 9).

The focus of the first report from this study was illicit weapons in ‘wars’ or high-intensity armed conflicts. This chapter assesses illicit small arms in minor (low-intensity) armed conflicts and high-intensity organized criminal violence through case studies on the Philippines (low-intensity armed conflict) and Mexico (high-intensity organized criminal violence). Data on weapons seized in Mexico and the Philippines is also compared to findings from the first phase of this study.

The definition for high-intensity organized criminal violence used in this chapter is derived from the definition of ‘organized criminal group’ in the United Nations Convention against Transnational Organized Crime. As defined in the Convention, an organized criminal group is:

*a structured group of three or more persons, existing for a period of time and acting in concert with the aim of committing one or more serious crimes or offences established in accordance with this Convention, in order to obtain, directly or indirectly, a financial or other material benefit* (UNODC, 2000, p. 5).

By extension, organized criminal violence is violence perpetrated by groups that fit that description and, for purposes of this chapter, countries affected by high-intensity organized criminal violence are those in which at least 1,000 people are killed by organized criminal groups annually.

The data covers more than 5,200 small arms, light weapons, and rounds of their ammunition.

## ANALYSING THE DATA

The datasets on illicit weapons used in this chapter consist of the following:

- **Data on Mexico-bound weapons seized at the US border.** The data, which was obtained under the United States Freedom of Information Act, reflects the seizure of 141 small arms and light weapons, as well as nearly 80,000 rounds of small-calibre ammunition reportedly bound for Mexico that were seized at the US ports of exit from January 2009 to July 2011.<sup>7</sup> Most of the records identify the type, model, calibre, destination country, and quantity of seized items. The data includes all types of ‘seizures’—that is, instances when the US government takes physical possession of merchandise that is prohibited, restricted, undeclared, unreported, or smuggled (USCBP, 2004, pp. 13–14). While most of the seizures took place in response to actual or suspected substantive violations, not all of the items were necessarily bound for the drug cartels.
- **Data on weapons seized in Mexico.** The data covers the seizure of more than 5,200 small arms, light weapons, and rounds of light weapons ammunition as reported by the Secretaría de la Defensa Nacional (SEDENA), the department that oversees the Mexican Army and Air Force.<sup>8</sup> The seizures occurred between January 2009 and August 2012. Most of the weapons were found in arms caches, confiscated from detainees, or recovered after armed engagements with DTOs or other criminals. While the individuals and organizations from whom the weapons were seized are not always identified, contextual information in the source documents suggests that most of the weapons were recovered from DTOs and their affiliates.<sup>9</sup>

- **Data on weapons seized in the Philippines.** This dataset was compiled from online summaries of seizures published by the Philippine Information Agency, the Armed Forces of the Philippines, and the Philippine Army, Air Force, and National Police. The summaries include data on approximately 1,000 small arms, light weapons, and rounds of light weapons ammunition, along with more than 100,000 rounds of small-calibre ammunition.

To supplement these datasets, the Survey obtained aggregate data from the Government of Mexico, along with similar data published by the US Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF). Additional sources of data and information include interviews with Mexican, Philippine, and US government officials, and reports by researchers from the United Nations, governments, and private institutions.

## ILLICIT SMALL ARMS AND LIGHT WEAPONS IN MEXICO

Drug trafficking has affected Mexico for decades, but the violence associated with this trade has metastasized into a large-scale national security crisis in recent years. Many of the organizations that control this trade have thousands of members and exercise influence over large swaths of territory. The Sinaloa ‘Federation’ is among the largest drug-trafficking entities in the world. It controls the western half of Mexico’s drug markets and routes. On the Caribbean coast resides its enemy-turned-ally, the Gulf Cartel, which competes for influence with the third major DTO, Los Zetas. Founded by former members of the military, Los Zetas is known for paramilitary tactics, bold engagements with government forces, and brutality.

The DTOs use illicit small arms and light weapons in pursuit of several organizational objectives. At the tactical level, illicit weapons are used to protect drug shipments, drug traffickers, and revenue generated through narcotics sales, which is often transported back to Mexico as large bundles of currency. At the strategic level, drug traffickers use small arms and light weapons to seize and maintain control over drug supply routes and to defend themselves, while also intimidating and weakening rival cartels and Mexican security forces. At the grand strategic level, cartels use illicit weapons to create a climate of fear and intimidation that is conducive to drug trafficking and greater accumulation of power (Bouchard, 2011, p. 3).

Data on the seizures studied reveals that the vast majority of the weapons seized in Mexico were firearms, which account for approximately 80 per cent of the weapons

**Table 12.1 Illicit weapons recovered by the Mexican military, 2009-12**

Weapon category	Quantity	Percentage of total
Firearms*	4,200	80%
Grenades and grenade launchers**	985	19%
Rockets	16	<1%
Mortar systems and rounds	10	<1%
RPG launchers and rounds	7	<1%
Improvised explosive devices	2	<1%
Landmines	0	0%
Recoilless rifles and rounds	0	0%
Portable missiles (MANPADS and ATGWs)	0	0%
<b>Total</b>	<b>5,220</b>	<b>100%</b>

Notes:

\* Includes all firearms and major accessories for firearms.

\*\* This category includes hand grenades, projected grenades and launchers, rifle grenades, and other (unspecified) grenades, but not rocket-propelled grenades or launchers.

Source: Small Arms Survey (2012c)

studied. Grenades and grenade launchers were the second most frequently seized items, accounting for approximately 19 per cent of recovered weapons. Rockets, mortars, and rocket-propelled grenades (RPGs) were also seized, but in much smaller quantities. Table 12.1 summarizes the items seized by category.

### Small arms

Illicit small arms in Mexico range from bolt-action hunting rifles to heavy machine guns. The most visually striking are the ornate assault rifles and pistols seized from cartel leaders, which are often gold- or silver-plated and feature elaborate engravings of cartel insignias. Valued at up to USD 30,000 each (García, 2010), these weapons are symbols of the excess—in violence, cash, and power—associated with the illicit drug trade in the Americas.

The surreptitious and opaque nature of arms trafficking to and within Mexico precludes a definitive accounting of illicit firearms. However, data on seized and trafficked weapons provides a sense of the size and composition of Mexico's black market, including the weapons acquired and used by drug-trafficking organizations.

Data provided by the Government of Mexico indicates that authorities recovered more than 306,000 illicit firearms and 26 million rounds of ammunition in Mexico from late 1994 to mid-2012. These figures include seizures by the military and police forces, and weapons voluntarily surrendered as part of an amnesty programme sponsored by SEDENA. Seizures account for most of the recovered weapons (see Table 12.2).

While the percentage of illicit firearms and ammunition in Mexico reflected in this data is unclear, other metrics, including estimated trafficking from the United States, suggests that only a small fraction of illicit weapons are recovered



Gold-plated, diamond-encrusted weapons, confiscated by the army during counter-drug operations, Zapopan, Mexico, May 2010. © AP Photo

**Table 12.2 Illicit firearms and ammunition recovered by the Mexican government, 1994–2012**

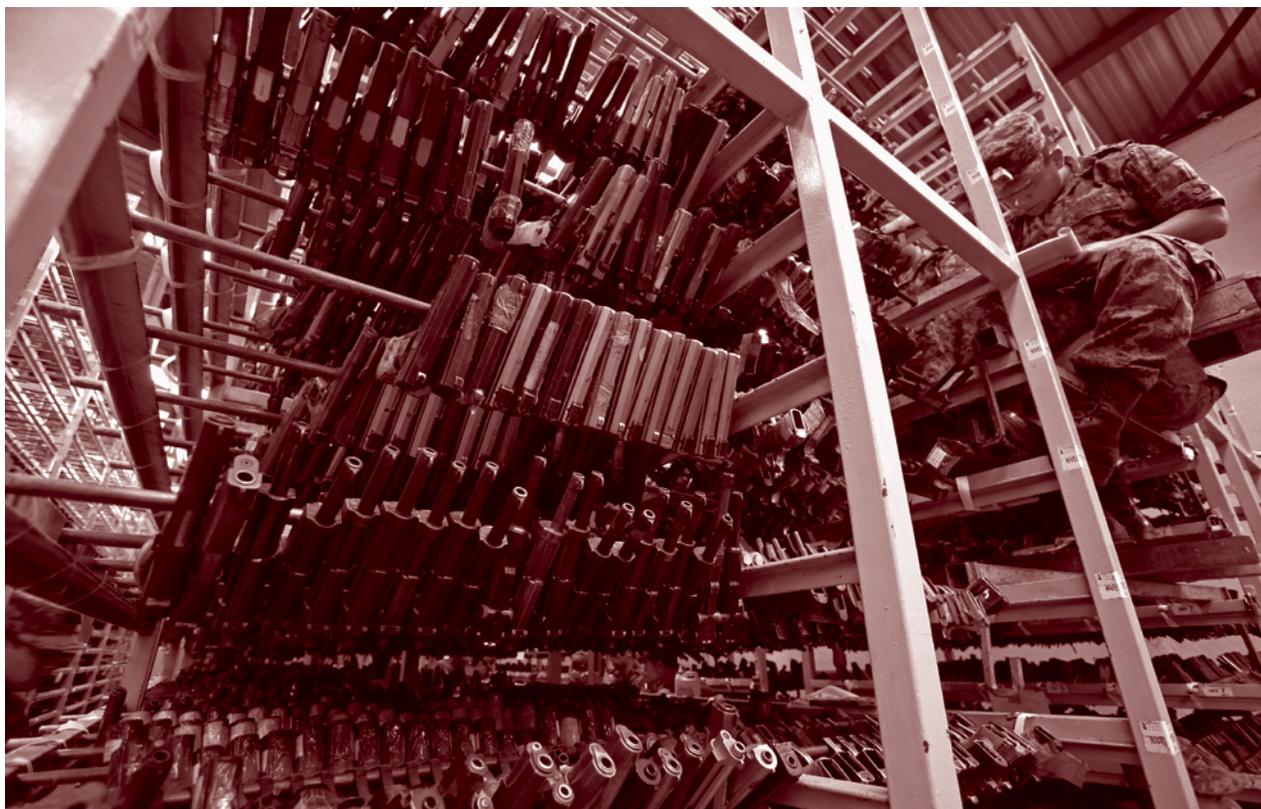
Category			Quantity
Firearms	Seized by military and police	Long guns*	133,579
		Handguns	119,660
		Total	253,239
	Voluntarily forfeited		53,115
	<b>Total</b>		<b>306,354</b>
Ammunition	Seized by military and police		25,601,297
	Voluntarily forfeited		485,246
	<b>Total</b>		<b>26,086,543</b>

Note: \* Long guns include sub-machine guns, shotguns, rifles, carbines, and machine guns.

Source: written response from the Government of Mexico to questions submitted by the Small Arms Survey, September 2012

seized annually in recent years represent only a fraction of illicit weapons in Mexico, and that firearms trafficked into Mexico from abroad equal or exceed the number of weapons seized by Mexican authorities each year.

each year. In 2009, William Hoover, then assistant director for field operations at ATF, estimated that the number of firearms illicitly transported into Mexico across the US border on a daily basis was ‘probably in the hundreds’ (USDOJ, 2009). Based on this claim, which is significantly more conservative than other estimates,<sup>10</sup> the illicit trade in firearms is likely to be at least 100–200 units per day, or 35,000–70,000 units each year. Given that the United States is not the only source of illicit weapons in Mexico, the total number of trafficked firearms is likely to be higher, although ambiguities in available data preclude a precise estimate. Regardless, the data suggests that the 20,000 to 30,000 weapons



An army soldier catalogues seized weapons in a warehouse at the Secretary of the Defence headquarters in Mexico City, Mexico, April 2009.  
© Eduardo Verdugo/AP Photo

**Types and models of illicit small arms**

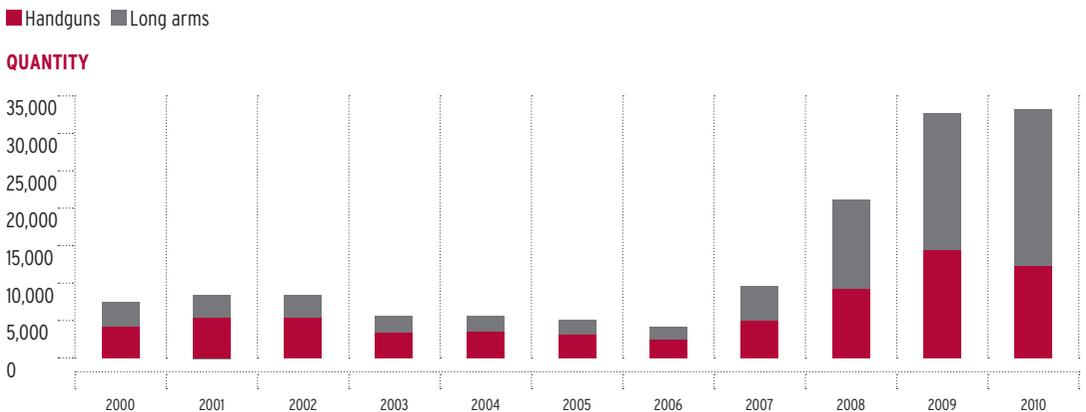
According to US and Mexican officials, Mexican DTOs have sought various types of firearms over the past ten years. Whereas .38-calibre handguns were the ‘weapon of choice’ for the cartels in the late 1990s, ‘they now have developed a preference for higher quality, more powerful weapons, such as .223 and 7.62 × 39 mm caliber rifles, 5.7 × 28 caliber rifles and pistols, and .50 caliber rifles’ (USDOJ, 2009, p. 11). The increased demand for rifles is evident in aggregate data on seized weapons provided by the Mexican government. Prior to 2007, Mexican authorities seized roughly 50 per cent more handguns than long guns annually. Since then, seizures of long guns—and the ratio of seized long guns to handguns—have increased dramatically. By 2010, long guns accounted for more than 63 per cent of seized firearms (see Figure 12.1).

These figures are consistent with data on individual seizures compiled for this study. Of the firearms studied that were seized in Mexico from 2009 to 2012, approximately 72 per cent were long guns—rifles, shotguns, sub-machine guns, machine guns, and unspecified ‘long guns’—the vast majority of which were rifles. Pistols were the next most commonly recovered items, accounting for more than 19 per cent of seized firearms. Shotguns and revolvers made up 6 per cent and 4 per cent of seized weapons, respectively. Machine guns and sub-machine guns were also recovered in Mexico, but in much smaller quantities.

Interestingly, the ratio of long guns to handguns seized at the US border is roughly similar to that of long guns to handguns seized in Mexico. Of the 139 firearms reportedly bound for Mexico and seized at the US border from January 2009 to July 2011, approximately 75 per cent were rifles, shotguns, and machine guns. The ratio of handguns to other firearms seized at the border is also similar to the ratio of handguns seized in Mexico, accounting for 24 per cent of seized firearms (vs. 28 per cent for firearms seized in Mexico). Table 12.3 summarizes this data.

The data also provides some insight into the models of illicit firearms in Mexico, corroborating some commonly held assumptions and calling others into question. Several of the firearms frequently referred to by government officials and journalists as ‘weapons of choice’ for DTOs and other unauthorized end users in Mexico were indeed recovered in comparatively large quantities in the seizures studied. These include Kalashnikov-pattern and AR-15 variant assault rifles, .38 Super pistols,<sup>11</sup> and 9 mm pistols. Kalashnikov-pattern rifles alone accounted for at least 19 per cent of all seized firearms identified by model or calibre, and more than 30 per cent of seized rifles. Models identified in the

**Figure 12.1 Illicit firearms seized in Mexico, 2000–10**



Source: author correspondence with the Government of Mexico, 11 September 2012<sup>12</sup>

**Table 12.3 Illicit firearms destined for and seized in Mexico, by type**

Seized weapons*	Seizures in Mexico (January 2009–July 2012)		Seizures at US ports (January 2009–July 2011)	
	Quantity	Percentage	Quantity	Percentage
Pistols	817	19%	31	22%
Revolvers	183	4%	3	2%
'Short arms'	194	5%	n/a	n/a
Rifles	1,967	47%	97	70%
Shotguns	269	6%	7	5%
Sub-machine guns	60	1%	0	0
Machine guns	9	<1%	1	<1%
'Long arms'	700	17%	n/a	n/a
Unspecified	1	<1%	0	0
<b>Total</b>	<b>4,200</b>	<b>100%</b>	<b>139</b>	<b>100%</b>

Note: \* As identified in the source document.

Sources: Small Arms Survey (2012c); USCBP (2011)

data include Norinco's MAK-90 and the WASR series (WASR 10) of semi-automatic rifles, the latter of which are frequently included in lists of 'weapons of choice' of the DTOs (Dudley, Schmitt, and Young, n.d.; Freedman, 2011). AR-15 variants accounted for most of the remaining rifles identified by model. Of the 251 seized AR-15s, at least 14 were identified as models produced by the US company Bushmaster; these weapons are also included in lists of firearms seized in Mexico (Dodge, 2009; Freedman, 2011; HCFA, 2008, p. 91).

The prevalence of .38 Super and 9 mm pistols is also consistent with previous reports on illicit weapons in Mexico. In fact, 9 mm and .38-caliber pistols—including at least 121 .38 Super pistols—were the most commonly seized handguns. Together, pistols identified as '9 mm', '.38 caliber', and '.38 Super' account for approximately 45 per cent of seized handguns studied that were identified by model or calibre. Nine-millimetre firearms were also the most frequently seized handguns along the US border and were seized at almost the same rate as in Mexico. Together, pistols that were identified as 9 mm or .38 calibre account for 35 per cent of the pistols and revolvers seized at the border.

Far fewer sub-machine guns and machine guns were seized. Most sub-machine guns identified by model were Uzi or Uzi-pattern guns. Other models and brands identified in the data include MP-5 and Intratec. No sub-machine guns are listed in the data on weapons seized at the US border. Data on the few machine guns seized in Mexico is vague. Only two are identified by model, one of which is a Minimi-pattern light machine gun recovered in San Luis Potosí. The one 'machine gun' seized at the US border during this time period was a Browning .30 calibre, a World War-II era gun that is produced in several countries and in various configurations, including a semi-automatic version made for the civilian market. Whether the Mexico-bound gun seized at the border was a civilian variant is not clear. Table 12.4 contains a list of firearms recovered during the seizures studied.

Table 12.4 Illicit firearms recovered in Mexico, by model, January 2009–August 2012

Seized weapon category	Type, model, and calibre*	Quantity	Percentage
Handgun	Pistol, 9 mm	217	18%
	Pistol, .45 calibre	127	11%
	Pistol, .38 Super	121	10%
	Pistol, .22 calibre	116	10%
	Pistol, .38 calibre	114	10%
	Revolver, .38 Special	64	5%
	Revolver, .22 calibre	52	4%
	Pistol, .25 calibre	44	4%
	Revolver, .357	24	2%
	Pistol, .32 calibre	23	2%
	Pistol, 5.7 × 28 mm	17	1%
	Revolver, .32 calibre	13	1%
	Revolver, .44 calibre	12	1%
	Revolver, .38	11	<1%
	Other/unspecified	239	20%
	<b>Total/percentage of all seized firearms</b>	<b>1,194</b>	<b>28%</b>
Machine gun	7.62 mm, unspecified	3	33%
	Minimi-pattern	1	11%
	7.62 × 39 mm, unspecified	1	11%
	7.62 × 51 mm, unspecified	1	11%
	.50 calibre	1	11%
	Other	2	22%
	<b>Total/percentage of all seized firearms</b>	<b>9</b>	<b>&lt;1%</b>
Other	'Long guns'***	701	100%
	<b>Total/percentage of all seized firearms</b>	<b>701</b>	<b>17%</b>
Rifle	.22 calibre, various	729	37%
	Kalashnikov-pattern rifle	614	31%
	AR-15-pattern rifle	251	13%
	.30-.30, .30-.06	78	4%
	7.62 × 39 mm, unspecified	48	2%

Seized weapon category	Type, model, and calibre*	Quantity	Percentage
	M1 Carbine	18	<1%
	G3-pattern rifle	13	<1%
	.50-calibre rifle**	10	<1%
	M16 and M4	7	<1%
	FAL-pattern rifle	4	<1%
	Other/unspecified	195	10%
	<b>Total/percentage of all seized firearms</b>	<b>1,967</b>	<b>47%</b>
Shotgun	12-gauge, unspecified	172	64%
	16-gauge, unspecified	28	10%
	20-gauge, unspecified	26	10%
	.410, unspecified	24	9%
	Other/unspecified	19	7%
	<b>Total/percentage of all seized firearms</b>	<b>269</b>	<b>6%</b>
Sub-machine gun	9 mm, unspecified	28	47%
	Uzi and Uzi-pattern	17	28%
	Intratec, 9 mm	4	7%
	MP-5	3	5%
	Other	8	13%
	<b>Total/percentage of all seized firearms</b>	<b>60</b>	<b>1%</b>
<b>Total seized firearms</b>		<b>4,200</b>	<b>100%</b>

**Notes:**

\* As identified in the source document.

\*\* Includes one firearm of unidentified calibre labelled 'Barett'.

\*\*\* Includes one unspecified 'firearm'.

Source: Small Arms Survey (2012c)

The data raises questions about other common claims, including references to .50-calibre sniper rifles as 'weapons of choice' of the cartels, a term that is also used to refer to the ubiquitous Kalashnikov- and AR-15-pattern rifles.<sup>13</sup> This categorization implies that .50-calibre rifles are frequently encountered and widely deployed,<sup>14</sup> an impression that is reinforced by the prominent display of large-calibre firearms during Mexican government press conferences on seized caches. However, .50-calibre rifles comprise a very small percentage of the seized weapons studied. Of the more than 3,200 firearms seized by SEDENA that are identified by model or calibre, only ten .50-calibre rifles are listed (fewer than 0.5 per cent of all seized firearms).

It should be noted that the data does not contradict claims that the DTOs are actively seeking and acquiring .50-calibre rifles, or that these weapons pose a significant threat. The DTOs used these rifles during several engagements

with Mexican military and police units, including a firefight in which two soldiers were killed and another incident in which DTO members fired at a military helicopter with the rifles (Cabrera Martínez, 2012; *El Universal*, 2010). The data does suggest, however, that .50-calibre rifles are not encountered as frequently as implied in many media reports.

Similarly, the number of seized 5.7 mm × 28 mm pistols identified in the data is lower than expected given frequent references to them as ‘weapons of choice’ for the DTOs.<sup>15</sup> This type of pistol is often referred to as *mata policía* (cop killer) because of its reported ability to penetrate the body armour worn by police (Tucker, 2011). Of the 996 handguns seized by the Mexican military that were identified by model or calibre, only 17 (fewer than 2 per cent) had a calibre of 5.7 mm × 28 mm.

Finally, the data reveals striking differences between the types and models of illicit firearms seized in Mexico and those seized in countries studied during the first phase of this project.<sup>16</sup> Whereas the vast majority of illicit firearms recovered from arms caches in Iraq were Kalashnikov-pattern rifles (Small Arms Survey, 2012a, p. 321), these weapons comprised less than a third of illicit firearms identified by model or calibre that were recovered in Mexico. Other notable differences include the prevalence of handguns in Mexican caches, and of machine guns in Iraqi caches. Pistols and revolvers were recovered from arms caches in Mexico at more than five times the rate of handguns found in caches in Iraq.<sup>17</sup>

The data provides less insight into other key issues, such as whether the seized firearms are fully automatic or semi-automatic—a key point of contention in the ongoing debate over the role of the US domestic firearms market in Mexico’s illicit firearms trade. Many military rifles are designed as selective-fire weapons, which allow the user to switch between fully automatic and self-loading (single-shot) modes of operation. Civilian variants of these weapons are widely available in the United States, but generally only in self-loading configurations. US and Mexican officials claim that the latter type of rifle is popular with DTOs, and US authorities have documented the smuggling—or attempted smuggling—of hundreds of semi-automatic Kalashnikov- and AR-15-pattern rifles from the US to Mexico in recent years.<sup>18</sup>

Others contend that most firearms used by DTOs, such as selective-fire rifles, are sourced from the Mexican government, Central America, and international arms networks (La Jeunesse and Lott, 2009; Kuhn and Bunker, 2011). While many of the studied seized rifles that are identified by model are semi-automatic weapons commonly sold in the United States, it is not clear whether these models constitute the majority of seized rifles given the infrequency with which seized rifles in the sample were identified by mode of fire. Their share of the broader population of illicit weapons is also unclear.

The seizure data also identifies a handful of craft-produced firearms. These references are consistent with other accounts of illicit weapons in Mexico, including reports of counterfeit Colt M16 rifles, at least 41 of which were reportedly recovered from December 2006 to July 2009. According to a 2010 US government report obtained by the Survey, the markings on the counterfeit rifles were ‘very crude’. The rifles had no serial numbers, the markings contained misspellings, and the placement of the ‘crudely forged’ Colt symbol was inconsistent (USDOJ, 2010, pp. 2–3). ATF identified two possible reasons for producing the counterfeit rifles: first, because cartels are willing to pay a premium for a ‘true military grade Colt firearm’ and, second, because, as weapons issued to Mexican law enforcement, they facilitate the impersonation of police officers and military personnel (p. 8).

There are also numerous media references to conversion of illicit semi-automatic rifles into automatic rifles by the DTOs, but little hard data supports these assertions.<sup>19</sup> When queried about these references, the Mexican government indicated that authorities do not keep statistics on the percentage of seized firearms that have been converted to

**Cartels are willing to pay a premium for a ‘true military-grade Colt firearm’.**

automatic weapons. A US government official interviewed for this report confirmed the seizure of converted firearms, but did not indicate how frequently they are seized.<sup>20</sup>

Data on the age of the illicit small arms in Mexico is also sparse. Few records of the seized weapons list the date of manufacture. However, there is some data on the 'time-to-crime' of US weapons diverted to Mexico, which provides a sense of how long seized weapons were on the black market. 'Time to crime' refers to the time between 'the first retail sale of a firearm and a law enforcement recovery of that firearm during a use, or suspected use, in a crime' (USDOJ, 2011, p. 6). Data provided by the Mexican government of weapons traced from 2006 to 2012 indicates that 'the time from the legal sale until their seizure can be anywhere from two weeks to a decade'.<sup>21</sup>

In recent years, the US Justice Department has published data on the time-to-crime of weapons purchased by traffickers who are specifically affiliated with the DTOs. The time-to-crime of long guns purchased by one trafficking ring ranged from 26 days to more than three years, with a median time of a little less than 1.5 years (OIG, 2010, p. 39). Guns bought by straw purchasers<sup>22</sup> monitored during the ill-fated Operation Fast and Furious had times-to-crime of as little as one day, according to the US Justice Department (US House of Representatives, 2012a, p. 1280).<sup>23</sup>

### Sources of illicit small arms

Identifying the sources of illicit firearms using open-source information is an extremely difficult task. Many models of firearms are produced under licence in several countries and are widely exported. A US-designed M16 rifle could have come from the United States or from one of dozens of countries in Central America or elsewhere that have imported



A bullet-riddled police car parked with vehicles seized at crime scenes; '39' being a police code for 'death', in Ciudad Juárez, Mexico, September 2010. © Reuters

the rifles. The markings on seized weapons often identify the importing country or at least the country of manufacture, as well as the serial number, but these markings are rarely included in publicly available data. Even when this information is available, using it to trace a particular weapon to its proximate source requires access to documentation that is rarely made available to the public.

This lack of data and documentation precludes a definitive assessment of the sources of illicit weapons in Mexico and elsewhere. It also helps to explain the intractability of the ongoing debate over the sources of illicit firearms in Mexico. On one end of the spectrum are estimates that 90 per cent or more of these weapons are acquired in the United States, primarily from retail gun stores and gun shows (CBS News, 2009; Levi, 2009). These estimates appear to be based on data on firearms trace requests submitted by the Mexican government to the US government, which are not necessarily representative of all seized firearms, let alone all illicit firearms in Mexico. Some analysts explicitly note these data gaps. In a 2009 report, the US Government Accountability Office (GAO) concludes that '[o]ver 90 percent of the firearms seized in Mexico and traced over the last 3 years have come from the United States' (USGAO, 2009, p. 15).<sup>24</sup> Yet GAO also concedes that the data is incomplete; only firearms submitted for tracing to the United States by the Mexican government are reflected in the estimate, not all firearms seized in Mexico. Other references to the 90 per cent figure are less nuanced.<sup>25</sup>

Other analysts contend that firearms diverted from the US civilian market constitute only a small fraction of weapons used in crimes in Mexico—'probably around 17 percent', according to Fox News (La Jeunesse and Lott, 2009).<sup>26</sup>



An assault rifle and bundles of pesos and dollars seized from an alleged financial operator for the Zetas drug cartel, Mexico City, Mexico, June 2012.  
© Alexandre Meneghini/AP Photo

Proponents of this position often claim that most firearms acquired by the DTOs are machine guns and automatic rifles that are illegal for civilians to purchase and sell in the United States. These weapons, they claim, include fully automatic M16, AK series, G3, and FAL assault rifles, as well as M249 and M60 machine guns (Kuhn and Bunker, 2011). These weapons are reportedly acquired from the Mexican military and police, poorly controlled government stockpiles in Central and South America, and the international arms market (La Jeunesse and Lott, 2009; Kuhn and Bunker, 2011).

A careful analysis of the ATF's 2012 report on traces of firearms recovered in Mexico sheds some light on this debate, including ambiguities and gaps in the data that call into question both the high- and low-end estimates. The ATF report includes data on 99,691 firearms seized from 2007 to 2011 that Mexico sought to trace with assistance from the US government, or approximately 65 per cent of the 154,943 firearms reportedly seized by Mexican authorities in this time period (USDOJ, 2012).<sup>27</sup> Little is known about the remaining firearms, including why the Mexican government did not submit data on them for tracing. Several reasons may explain why data on a particular firearm is not sent to ATF. In some cases, the weapon is clearly not of US origin. In other cases, bureaucratic obstacles and staffing limitations hinder submission of trace requests (USGAO, 2009, p. 16). It is not clear which of these reasons, or combination of reasons, are applicable to the roughly 55,000 firearms not submitted for tracing.

Of the 99,691 firearms that were submitted for tracing, ATF was able to confirm that 51,267 were manufactured in the United States, and that an additional 16,894 were imported into the US by federal firearms licensees. In other words, at least 68,161 (68 per cent) of the traced firearms were either of US origin or entered the United States at some point. This data is presented in Table 12.5.

Of the 68,161 US-sourced firearms recovered, ATF was able to trace 27,825 to retail purchases in the United States. An additional 1,461 were traced to foreign entities, such as governments, law enforcement organizations, or dealers. This data is summarized in Table 12.6.

Thus, ATF was able to account for at least 29,286 of the 99,691 firearms submitted for tracing, of which at least 27,825 were diverted from the US domestic market at some point. Little can be said definitively about the remaining 70,405 firearms. It is likely that many of the 38,875 untraceable firearms identified by ATF as 'US-sourced' were trafficked to Mexico from the United States, but without additional information it is impossible to determine how many. Similarly, while many of the 12,260 weapons identified as 'non-US-manufacture[d]' and not traced to a US entity may

**Table 12.5 Firearms recovered in Mexico and submitted to ATF for tracing, 2007-11**

Source country		Number of firearms	Percentage of traced firearms
United States	Manufactured in the United States	51,267	51%
	Imported into the United States	16,894	17%
	Total	68,161	68%
Undetermined	Non-US manufacturer	12,260	12%
	Undetermined country of origin	19,270	19%
	Total	31,530	32%
<b>Total</b>		<b>99,691</b>	<b>100%</b>

Source: USDOJ (2012)

**Table 12.6 US-sourced firearms recovered in Mexico and submitted to ATF for tracing, 2007-11**

Trace results*	Total	Percentage of US Sourced Traces
Traced to a retail purchaser in the United States	27,825	41%
Traced to a foreign country	1,461	2%
Unable to determine a purchaser	38,875	57%
<b>Total</b>	<b>68,161</b>	<b>100%</b>

Note: \* As identified in the source document.

Source: USDOJ (2012)

never have entered the United States, ATF notes that even these weapons may have been 'legally imported into the US' before making 'their way to Mexico by legal or illegal means' (USDOJ, 2012, p. 6).

Despite its limitations, the data is useful in assessing the high- and low-end claims about the flow of illicit firearms from the United States to Mexico. Many of the high-end estimates (90 per cent) appear to be misinterpretations or misrepresentations of data on successful traces conducted by ATF, which, as noted above, reflects only a small percentage of all seized weapons.<sup>28</sup> For this estimate to be accurate, at least 90 per cent of the 31,530 firearms identified by ATF as being from 'undetermined countr[ies] of origin' and 90 per cent of the 38,875 US-sourced weapons for which ATF was 'unable to determine a purchaser'—along with 85 per cent of the roughly 55,000 firearms not submitted for tracing to ATF—would have to be sourced from the United States. While not inconceivable, there is insufficient publicly available, empirical evidence to support these claims.

An example of a low-end estimate is Fox News' claim that 17 per cent of crime guns in Mexico come from the United States (La Jeunesse and Lott, 2009). The claim is based on ATF trace data for 29,000 firearms recovered at crime scenes in Mexico in 2007 and 2008.<sup>29</sup> According to Fox News, 11,000 of those firearms were submitted for tracing. ATF successfully traced 6,000 of them, 90 per cent of which (5,114 firearms) came from the United States. The other 23,886 weapons, according to Fox News, '*could not* be traced to the US' (La Jeunesse and Lott, 2009, emphasis added).

This claim is problematic for two reasons. First, all that is known about the firearms not submitted for tracing is that they *were not* traced back to the United States, not that they *could not* have been traced to a US source if they had been submitted to ATF. Second, the authors fail to note that simply because a trace request is unsuccessful does not necessarily mean that the weapon in question was not trafficked from the United States. As explained by ATF in its 2012 report, traces fail for a variety of reasons, including incomplete trace request forms, obliterated serial numbers, incomplete record-keeping by retail sellers, and the age of the seized firearm (USDOJ, 2012, p. 7). Thus, the fact that the trace request was unsuccessful reveals very little about the seized weapon. Without more detailed information about the untraced and untraceable weapons, little can be said definitively about these weapons, including their origins. Given these ambiguities, the low-end estimates do not appear to be supported by existing data either.

A related claim is that the DTOs—having the 'wealth and armies of nations'—are able to obtain 'large lots of weaponry on the transnational black market' and therefore do not need to 'trifle with paperwork at US gun stores' (La Pierre, 2009). There is little doubt that the DTOs have acquired firearms, including light machine guns and automatic rifles, that are not readily available in the United States (Stewart, 2011a). Photographs of seized weapons confirm their acquisition, but open-source evidence, including US government trace data described in this chapter, suggests that the DTOs and their suppliers also frequently obtain guns from US sources.

As noted above, the US government traced 27,825 firearms seized in Mexico from 2007 to 2011 to retail purchasers in the United States. An additional 38,875 'US-sourced' firearms were also seized but were untraceable due to one or more of the reasons identified above. If the data on successful traces is any indicator, thousands of these untraceable weapons were probably also acquired in the United States.

The underlying notion that DTOs prefer the international black market because of the paperwork associated with obtaining small arms in the United States is also problematic. It is the vast, semi-autonomous network of traffickers that supplies the cartels with weapons that deals with the necessary paperwork, not the cartel leadership. Dozens of brokers and straw purchasers acquire and funnel firearms to the cartels, usually in small batches. As evidenced by the many individuals arrested for trafficking firearms to Mexico in recent years,<sup>30</sup> the profit<sup>31</sup> earned on each firearm purchased exceeds the perceived risk of legal prosecution, not to mention the modest effort required to fill out the necessary paperwork and deliver the firearm to the broker.

Furthermore, there is often considerable paperwork associated with the diversion of military-grade weapons from state stockpiles. UN reports on intercontinental diversions of small arms reveal the complexity of these transactions once the deals are finalized. To conceal their cargo and deceive export control and customs officials, traffickers set up complex, multinational networks of shell companies, obtain and submit false documentation, and arrange circuitous routing for the transfers. Such transfers often involve multiple parties located in different regions of the world and take months to arrange.<sup>32</sup> In aggregate, the administrative burden of acquiring firearms piecemeal through straw purchases may exceed that of fewer, larger international shipments, but this burden is not borne by the DTO alone; it is diffused throughout the trafficking chain.

**Mexican authorities have seized hundreds of illicit light weapons.** In conclusion, while data gaps preclude a complete accounting of the sources of illicit firearms in Mexico, available data suggests that the US civilian market is a significant source of weapons. Whether firearms trafficked from the United States constitute the majority of illicit weapons in Mexico is unclear and will remain so until the vast majority of seized weapons are traced and more and better data on the models, countries of manufacture, and proximate sources of seized weapons is made available.

### Light weapons

In recent years, Mexican authorities have seized hundreds of illicit light weapons, including hand grenades;<sup>33</sup> under-barrel, hand-held, and automatic grenade launchers; RPGs; directional, command-detonated anti-personnel mines (Claymore type); and anti-tank rockets in single-shot, disposable launch tubes. Data on weapon seizures from 2009 to 2012 published by SEDENA and compiled by the Small Arms Survey includes more than 1,000 light weapons and rounds of light weapons ammunition, the majority of which were hand grenades and 40 mm grenades for grenade launchers (Small Arms Survey, 2012c). Types of grenades seized include fragmentation, smoke, flash-bang, gas, and practice grenades. Notably, approximately half of all identified hand grenades were described as 'inert' or 'practice' grenades. In recent years, US authorities have seized dozens of these grenades, which are smuggled into Mexico and converted into craft-produced (live) grenades for use by DTOs (ADPS, 2009; Myers, 2011).<sup>34</sup> According to the Mexican government, the craft-produced grenades are made from grenade bodies similar to those used in M26A2, M67, and MKII grenades, which are reportedly purchased in souvenir shops in the United States.<sup>35</sup>

Seventy-three grenade launchers were also seized, along with roughly two dozen rockets, rocket launchers, and RPGs. All but four of the grenade launchers identified by calibre were 40 mm; the four remaining launchers were 37 mm. Most of the launchers were described as *aditamento lanzagranadas*, an apparent reference to under-barrel

Table 12.7 Illicit weapons seized by the Mexican military, 2009–12

Weapon category	Weapon type/calibre*	Quantity	Percentage
Grenades	Grenade, hand	374	37%
	Grenade, projected, 40 mm	267	26%
	Grenade, projected, other/unspecified	26	3%
	Grenade, unspecified	245	24%
Grenade Launcher	Grenade launcher, 40 mm	50	5%
	Grenade launcher, 37 mm	4	<1%
	Grenade launcher, other/unspecified	19	2%
Improvised explosive devices		2	<1%
Mortars and mortar rounds	Mortar rounds, 60 mm	10	<1%
Recoilless rifles and rounds		0	0%
Portable missiles	Man-portable air defence systems	0	0%
	Anti-tank guided weapons	0	0%
Rockets	Rockets and rocket launchers, 66 mm	3	<1%
	Rockets, other/unspecified	5	<1%
	Rocket launcher, other/unspecified	8	<1%
	Rocket-propelled grenade launchers	5	<1%
	Rocket-propelled grenades	2	<1%
<b>Total</b>		<b>1,020</b>	<b>100%</b>

Note: \* As identified in the source document.

Source: Small Arms Survey (2012c)

grenade launchers such as the US M203. The 37 mm launchers could be flare launchers, which are reportedly converted to fire 40 mm grenades by criminals in Mexico (USDOJ, 2010, p. 6). At least one multiple grenade launcher and at least three craft-produced grenade launchers were also seized. Little is known about the 23 seized rockets and rocket launchers; only nine of them were identified by model or calibre, and none was identified by country of manufacture. Four of the 15 rocket launchers were identified as RPG-7s. Three of the rockets identified by calibre were 66 mm, which is the same calibre as the US-designed M72 light anti-tank weapon—a rocket known to be in the arsenals of the DTOs. The two IEDs identified among the weapons studied were seized in Sinaloa. Table 12.7 summarizes this data.

The data is largely consistent with other accounts of illicit light weapons in Mexico.<sup>36</sup> In a written response to a query from the Small Arms Survey, the Mexican government provided the following list of examples of light weapons acquired by criminal groups:

- Russian-made RPG-7s;
- US-made light anti-tank weapon rockets;
- 60 mm mortars;
- ‘Claymore’ mines;
- C-4 plastic explosives;
- K200, M406, and M433 projected grenades manufactured in South Korea and the United States; and
- other fragmentation, smoke, tear gas, and craft-produced grenades.<sup>37</sup>

According to the Mexican government, an analysis of the physical characteristics and condition of recovered weapons, along with information received from law enforcement agencies in other countries, indicates that a ‘significant number’ of weapons and military explosives seized in Mexico come from regional surplus stockpiles of weapons acquired in the 1980s and 1990s. Equally important, the Mexican government does not report having seized any MANPADS, ATGWs, machine guns of calibres greater than 12.7 mm, artillery rockets, or anti-tank mines.<sup>38</sup>

**The bomb reportedly contained 20 pounds of explosives laced with three-inch drywall screws.**

Additional types and models of light weapons identified in photographs and other accounts of weapons seized from DTOs include PG-7V and PG-7M RPG rounds; M79 and M203 grenade launchers; various projected, rifle, and hand grenades; and at least one AT-4 infantry rocket. In recent years, the DTOs have constructed various IEDs. In a car bomb attack in Juárez in 2010, one of the cartels used a wounded man dressed as a police officer as bait to attract first responders. When a doctor and a police officer approached the man, the cartel detonated the IED with a cell phone, killing the wounded man, the doctor, the police officer, and a bystander. The bomb reportedly contained 20 pounds of explosives laced with three-inch drywall screws (Esposito, 2010).

The data suggests that at least some DTOs have access to relatively large quantities of certain types of light weapons and ammunition, but not the full array of light weapons available to the ‘armies of nations’, as is sometimes claimed. There are no references to seized MANPADS, anti-tank guided missiles, anti-tank mines, or artillery rockets in the data studied. Indirect fire weapons are limited to a handful of 60 mm mortars, and there is no evidence of widespread acquisition of latest-generation infantry rockets. Thus, while formidable, the arsenals of light weapons acquired by criminal groups in Mexico are not the equivalent of those of state actors.

In some respects, illicit light weapons acquired by the DTOs are also more limited than the weapons acquired by non-state groups in other regions. Armed groups in Iraq, Lebanon, the Russian Federation (Chechnya), Somalia, Sri Lanka, and Syria have inventories of light weapons that are more varied and technologically sophisticated than those acquired by DTOs in Mexico.<sup>39</sup> Light weapons seized from illicit arms caches in Iraq, for example, include anti-tank mines, 120 mm mortars, artillery rockets, advanced IEDs, and limited numbers of anti-tank guided weapons, first- and second-generation MANPADS, and advanced anti-armour rockets (Small Arms Survey, 2012, pp. 322–29).

There are several possible explanations for the DTOs’ comparatively limited arsenal. One is that, tactically, they simply do not need some of these weapons, including anti-tank missiles or rockets with tandem high explosive anti-tank (HEAT) warheads. Rival DTOs generally do not drive heavily armoured vehicles, and publicly available data suggests that the Mexican army does not have any armoured vehicles with modern reactive armour. High-powered rifles, RPGs, and grenade launchers are adequate for the vehicles most frequently targeted by the DTOs. Thus, the absence of these types of weapons in the cartels’ arsenals may say little about their capacity to acquire them.

This explanation is less convincing when applied to other types of light weapons, including MANPADS. As mentioned above, no surface-to-air missiles are listed in the summaries of the seized caches studied, and there is little

additional evidence of illicit acquisition or use of MANPADS by the DTOs. The few media references to illicit surface-to-air missiles in Mexico are either unsubstantiated or demonstrably erroneous. Most recently, five 'anti-aircraft missiles' reportedly recovered from an arms cache in Coahuila (Prensa Latina, 2012) were actually RPGs, as revealed by photographs of the seized items.

In a written correspondence with the Small Arms Survey, the Mexican government confirmed that it has no evidence of illicit acquisition of anti-aircraft missiles, guided rockets, or machine guns of calibres greater than .50 by the DTOs. According to the government, attacks on aircraft to date have been perpetrated with firearms of calibres ranging from 7.62 mm to .50 BMG.<sup>40</sup> While these weapons are capable of shooting down aircraft, they lack the range and accuracy of dedicated anti-aircraft weapons, such as MANPADS. Whether and to what extent the DTOs are actively seeking these weapons is unclear. As noted below, there is some anecdotal evidence of active DTO interest in procuring MANPADS, but this evidence is extremely limited.

In 2009, David Díaz Sosa, a Mexican national acting on behalf of a representative of the Sinaloa cartel, attempted to purchase a Stinger missile and other weapons from undercover US agents. A US agent involved in the case claimed that, when Díaz Sosa was inspecting weapons assembled by ATF as part of the operation, he said he 'was not interested in that particular Stinger missile' because it was 'a couple years old'. Instead, 'they were interested in a new one', according to the agent (USDC Arizona, 2011, p. 18). It is unclear whether this attempt was part of a broader, systematic effort by the Sinaloa cartel to acquire MANPADS, or whether other DTOs have engaged in similar efforts. The DTOs' need for such weapons is presumably less pressing than armed groups facing large-scale counter-insurgency air operations, but the potential tactical and strategic value is significant, and no weapon currently in their arsenals is an adequate substitute for MANPADS.

**No weapon currently in DTO arsenals is an adequate substitute for MANPADS.**

Given their potential utility, why have the DTOs not acquired MANPADS and modern infantry rockets? Regarding MANPADS, one possible explanation is that the perceived benefits are lower than potential costs, which extend beyond the high price tag of the weapons themselves. Because of the terrorist threat posed by MANPADS, they are closely tracked by intelligence agencies worldwide. Their acquisition by the DTOs, which are already widely viewed as a serious regional security threat by US authorities, could prompt greater action against the cartel by US military, law enforcement, and intelligence agencies. While some DTOs have reportedly sought to increase US involvement in Mexico through attacks on US targets,<sup>41</sup> they must be careful not to go too far, as illustrated by aggressive action against the Guadalajara cartel following their brutal execution of an agent of the US Drug Enforcement Administration in 1985 (Stewart, 2011b). As one US government official noted: 'The cartels are smart enough to know that if they acquired weapons that can be used in terrorism, they would likely attract a lot of unwanted attention from the US Defense Department.'<sup>42</sup>

Supply-side dynamics are another possible explanation for the apparent absence of MANPADS in DTO arsenals. A decade-old global counter-MANPADS campaign has significantly reduced the world's inventory of surplus and poorly secured missiles, and most exporters apply special controls to transfers of MANPADS. As a result, it is extremely difficult for non-state groups to acquire MANPADS in most regions of the world, including the Americas. Lending credence to this theory is the seizure of craft-produced weapons from cartel members, which suggests that at least some members have had difficulty acquiring sufficient quantities of more commonplace light weapons, let alone MANPADS. Particularly notable is the seizure of dozens of craft-produced under-barrel grenade launchers and components for hundreds of craft-produced hand grenades<sup>43</sup> from DTOs in recent years.

As noted above, approximately half of the 374 seized hand grenades studied were described as 'inert' or 'practice' grenades, which US authorities claim are often converted into live grenades. When queried about this practice, the

Mexican government indicated that it has seized at least 500 craft-produced ('artisan') grenades in recent years.<sup>44</sup> Given that craft-produced grenades are likely to be less reliable than their factory-built counterparts, it seems unlikely that DTOs or their suppliers would go to the trouble of acquiring the various components and assembling the grenades if they had consistent and unfettered access to conventional grenades.

The conversion of 37 mm flare launchers into grenade launchers is another sign that access to illicit light weapons may be more limited than commonly assumed, at least for some criminal groups. According to a 2010 US government report, Mexican authorities seized at least 34 counterfeit grenade launchers in 22 seizures from 2007 to 2009. The counterfeit launchers were reportedly made from the trigger housing of 37 mm Cobray flare launchers, which are 'easily purchased from a variety of locations', including on the Internet, 'for a retail price of approximately \$550' (USDOJ, 2010, p. 6). According to the Mexican government, the converted launchers are used to fire 40 mm rounds—mainly K200, M406, or M433 grenades manufactured in South Korea and the United States.<sup>45</sup>

**Authorities seized at least 34 counterfeit grenade launchers from 2007 to 2009.**

As noted above, the US government believes that production of the counterfeit launchers may be motivated by the large profit margins resulting from low supply and high demand. ATF observes that '[a]ctual military weapons are extremely difficult for the DTOs to acquire, and they are willing to pay top dollar for them' (USDOJ, 2010, p. 8). Regardless of their motivation, the procurement of craft-produced weapons is another example of how even the best-funded non-state groups do not have the same access to light weapons as the 'armies of nations'.

## ILLICIT SMALL ARMS AND LIGHT WEAPONS IN THE PHILIPPINES

Many insurgent groups are engaged in low-intensity armed conflict in the Philippines. Some of them have been fighting against the government for decades. This is the case with the New People's Army (NPA)—the armed wing of the Communist Party of the Philippines—which was founded in 1969 and engages in complex raids and other guerrilla operations using a variety of weapons and explosives. There are also several Islamist-oriented insurgent groups, of which the most widely known are the Abu Sayyaf Group (ASG) and the Moro Islamic Liberation Front (MILF). Both operate in the southern islands of the archipelago.

Illicit small arms and light weapons in the Philippines range from craft-produced shotguns to 81 mm mortar systems. As in other countries, the quantity of illicit small arms and light weapons available in the Philippines is difficult to assess. The Philippine government estimates that there were approximately 610,000 'loose' firearms in the country as of 2012. This figure, which is considerably higher than previous estimates, includes handguns and rifles but not machine guns or firearms with calibres larger than 7.62 mm.<sup>46</sup> There are no comparable publicly available estimates regarding the number of illicit light weapons.

Given this chapter's focus on low-intensity armed conflict, the small arms holdings of the best-known insurgent groups—the ASG, MILF, and NPA—are of particular interest.<sup>47</sup> A review of existing literature provides a sense of the size of these groups and their estimated holdings, along with baseline estimates of the types and models of weapons in their arsenals. Estimates vary, but most accounts indicate that none of the groups has large reserves of weapons. Table 12.8 summarizes recent estimates of the membership, holdings, and types of small arms and light weapons for the three most prominent insurgent groups.

Data compiled from summaries of weapons seized by Philippine authorities sheds additional light on the types, models, quantities, and end users of illicit small arms and light weapons, including weapons acquired by insurgent

**Table 12.8 Estimated holdings of small arms and light weapons by insurgent groups in the Philippines**

Group	Members	Weapon types*		Estimated holdings of 'firearms'
		Data compiled by the Small Arms Survey**	Other sources	
Communist Party of the Philippines-New People's Army	5,760-7,260	Revolvers (.22 calibre, .357 Magnum, .38 calibre); pistols (9 mm, .38 calibre, .45 calibre); rifles (.22 calibre, M16, M15, M14, M653, M2, M1, AK-47, craft-produced); shotguns (12-gauge, craft-produced); sub-machine guns (Thompson, Ingram, Uzi-style, craft-produced); machine guns (5.56 Ultimax, .30 calibre Browning Automatic Rifle); mortars (60 mm); grenade launchers (M203, M79, craft-produced); grenades (hand, projected, rifle, craft-produced); RPGs; landmines (Claymore, improvised); IEDs	Revolvers (.357 Magnum); pistols (.22 calibre, 9 mm, .38 calibre, .38 Super, .40 calibre); rifles (.22 calibre hunting rifles, AK-47, AR-18, AR-15, M16, M14, M4, M2 and M1; M1903); shotguns (factory-manufactured and craft-produced); sub-machine guns (Thompson; M10; Uzi); machine guns (M2, M60; M1918 BAR); mortars; grenade launchers (M203); hand grenades; RPGs (RPG-2); landmines (craft-produced command-detonated); IEDs	5,694-6,050
Moro Islamic Liberation Front	11,000-11,769	Pistols (.45 calibre); rifles (M16, M14, M2, M1, M653); mortars (60 mm); grenade launchers (M79, M203, craft-produced); RPGs; IEDs	Pistols (.45 Colt and .38 Smith & Wesson); rifles (M16, M14, M4, M2, M1, AR-15, FN FAL, Kalashnikov-pattern, .50 calibre); machine guns (M60, M2, .60 calibre); mortars (60 mm and 81 mm); grenade launchers (M79, M203); RPGs (RPG-2)	7,700-8,170
Abu Sayyaf Group	400-500	Rifles (M653, M16, M14, M4, M2, M1, FAL); machine guns (Minimi); mortars (60 mm); RPGs (B40)	Various types of handguns; rifles (Colt M4, M16A1, M16A2, M14, M1 Garand); machine guns (M60, Ultimax light-duty models, heavy-duty .30- and .50-calibre models); mortars (60 mm, 81 mm); grenade launchers (M203); recoilless rifles (M18, M67); RPGs (RPG-2, B40)	300

**Notes:**

\* As identified in the source document.

\*\* Models listed in the table do not necessarily reflect all models of seized weapons studied.

Sources: IHS Jane's (2010); Chalk et al. (2009, pp. 42, 58); Santos et al. (2010); Small Arms Survey (2012d)

groups. Of the approximately 1,000 seized small arms, light weapons, and rounds of light weapons ammunition studied, more than two-thirds were firearms. Grenades and grenade launchers accounted for approximately 13 per cent of seized items, followed by landmines (12 per cent) and IEDs (3 per cent). Rockets, RPGs, recoilless rifles, and mortars were also seized, but in much smaller quantities. Together, the latter four categories of light weapons account for less than 4 per cent of all seized items—in sharp contrast to the thousands of mortar rounds, RPGs, and recoilless rounds recovered from arms caches in Iraq and Afghanistan (Small Arms Survey, 2012, pp. 317–36). No MANPADS



New recruits to the New People's Army undergo training, Mindanao, Philippines, July 2009. © Jonas Gratzner/Lightrocket/Getty Images

or ATGWs were identified. The types of weapons seized and their corresponding share of all weapons studied is presented in Table 12.9.

Most of the data on the seizures studied for this chapter identifies the end user (or suspected end user) of the seized weapons. Disaggregating the data by end user reveals that most of the weapons were seized from the insurgent groups in Table 12.8, with the New People's Army accounting for the vast majority of seized weapons. Combined, these three groups accounted for more than 80 per cent of the seized light weapons and ammunition, and nearly all of the landmines and RPGs. Other illicit end users include suspected members of a political clan, drug trafficking groups, fishermen, gun dealers and gun store owners, militias associated with insurgent groups, and unspecified 'communist terrorists', 'criminal elements', and 'private armed groups'.

End users of the illicit small arms studied were more diverse than end users of light weapons. Most handguns and craft-produced firearms were seized from users other than the three main insurgent groups, whereas the vast majority of rifles—most of which were identified as military rifles—were seized from insurgents. Notably, all of the recoilless rifles and nearly half of the mortars and machine guns, were reportedly seized, not from the insurgent groups listed above, but from 'the Ampatuans'—members and supporters of a powerful political family in the province of Maguindanao. The weapons were found in boxes buried in a vacant lot next to houses reportedly owned by senior members of the clan (Cinco, 2009; Roque, 2009).

**Table 12.9 Illicit weapons seized by the Philippine government, 2007–12**

Weapon category	Percentage of total
Firearms	69%
Grenades* and grenade launchers	13%
Landmines	12%
IEDs	3%
Mortar systems and rounds	2%
RPGs and rounds	1%
Anti-tank rockets and recoilless rifles	<1%
MANPADS and ATGWs	0

Note: \* This category includes hand grenades, projected grenades, rifle grenades, and other (unspecified) grenades, but not RPGs.

Source: Small Arms Survey (2012d)

The remaining firearms consisted of shotguns (7 per cent), sub-machine guns (2 per cent), and machine guns (2 per cent). A detailed listing of the seized firearms is provided in Table 12.10.

### Small arms

As noted above, firearms were the items most frequently recovered by authorities in the seizures studied. A total of 690 firearms were recovered, most of which were rifles. Nearly half of the seized rifles were identified as M16s or craft-produced M16s. Several dozen older-model US-designed semi-automatic rifles were also seized, including the Vietnam-era M14 and the M1 Garand, which was first fielded in the 1930s. Pistols and revolvers were also recovered in comparatively large quantities; together, they account for approximately 30 per cent of all seized firearms. Forty-five-calibre pistols were the most commonly seized handgun, followed by .38-calibre revolvers.



Craft-produced firearms being manufactured by gunsmiths in an illegal workshop, Danao, Philippines, July 2012. © Erik De Castro/Reuters

The data is largely consistent with existing accounts of the types and models of illicit small arms in the Philippines. Nearly all of the models and makes of firearms identified in the data are also identified in other sources, including assessments of armed group arsenals in Table 12.8.<sup>48</sup>

Also consistent with previous assessments is the prevalence of US-designed firearm models, which contrasts sharply with the thousands of Soviet-designed Kalashnikov-pattern and SKS rifles, and PK series machine guns recovered from arms caches in Afghanistan, Iraq, and Somalia. Nearly all of the seized rifles were of US design, with M16s, M14s, and M1s being the most numerous. Combined, US-designed rifles accounted for at least 88 per cent of all rifles, and approximately 96 per cent of all rifles identified by model or country of manufacture. Notably, the ratio of US- to Soviet-designed rifles is a nearly perfect inverse of the ratio of US and Soviet firearms in Iraq, where 90 per cent of all seized rifles studied—and 99 per cent of those identified by model—were Kalashnikov-pattern or SKS rifles (Small Arms Survey, 2012, p. 321). Further underscoring the dominance of US-designed rifles (and hence their ammunition), four of the remaining non-US rifles had been converted to fire M16 ammunition. Only five Kalashnikov-pattern rifles were recovered during the seizures.

The frequent seizure of craft-produced firearms is also consistent with previous accounts of insurgent holdings. Craft-produced firearms have long been an integral part of the illicit trade in firearms in the Philippines. The *paltik* (craft-produced) handgun 'has been locally produced since 1928' (Quilop, 2010,

**Table 12.10 Illicit firearms seized in the Philippines, 2007-12**

Type	Model/calibre*	Quantity
Firearm (unspecified)	Various	11
	Improvised	6
	<b>Total</b>	<b>17</b>
Pistol	.45 calibre	74
	9 mm	9
	Improvised	6
	.38 calibre	4
	Other/unspecified	10
	<b>Total</b>	<b>103</b>
Revolver	.38 calibre	51
	Improvised	22
	.22 calibre	19
	.357 calibre	5
	Other/unspecified	2
	<b>Total</b>	<b>99</b>
Shotgun	Improvised	23
	12-gauge	5
	Unspecified	20
	<b>Total</b>	<b>48</b>
Rifle	M16	192
	M14	60
	Garand (including M1)	56
	Carbine, unspecified	20
	M653	11
	Improvised	9
	.30 calibre, various	8
	M2	8
	AK-47	5
	.50 calibre	4
	Other/unspecified	22
	<b>Total</b>	<b>395</b>

Type	Model/calibre*	Quantity
Sub-machine gun	Uzi and Uzi-type	4
	Ingram, 9 mm	3
	Thompson, .45 calibre	2
	KG-9	1
	Improvised	3
	<b>Total</b>	<b>13</b>
Machine gun	Browning automatic rifle, .30 calibre	4
	M60	4
	Ultimax	3
	Minimi-pattern	1
	Heavy machine gun, .50 calibre	1
	HK 11	1
	Other/unspecified	1
	<b>Total</b>	<b>15</b>
<b>Total</b>		<b>690</b>

Note: \* As identified in the source document.

Source: Small Arms Survey (2012d)

## Light weapons

More than 300 light weapons and rounds of light weapons ammunition were recovered during the seizures reviewed. Grenades and grenade launchers were the most common category of light weapon seized, accounting for 40 per cent of the seized weapons. Nearly all of the seized grenade launchers were identified as US-designed under-barrel M203 or hand-held, single-shot M79 launchers. No seizures of automatic grenade launchers were reported. Hand and projected grenades (spin-stabilized and rifle grenades) were recovered in roughly equal numbers. Not surprisingly, all of the spin-stabilized grenades identified by model were for M203 launchers.

The seized IEDs ranged from devices constructed using 60 mm and 81 mm mortar rounds to a five-foot-long pipe bomb weighing 45 kilograms. Some of the seized IEDs were designed for non-military purposes. For example, in November 2007, police seized six 'bongbongs' from a fishing boat in Vigan City on the South China Sea. Components used in the IEDs include dedicated explosives-related items, such as C-4 plastic explosives and blasting caps, along with a variety of household items, such as an alarm clock, 9-volt batteries, fishing line used as tripwire, and ball bearings.

Anti-personnel mines were also seized in comparatively large quantities. At least half were craft-produced mines, most of which were found in an NPA explosives factory in March 2011. Summaries of the seizures provide few details about the style or composition of the mines. Most are identified as 'Claymores', which are presumably versions of the US-designed directional fragmentation mine fielded in the 1950s. Claymore mines can be employed as command-

p. 244). Since then, craft producers in the Philippines, including those working for the MILF and other armed groups, have developed the capacity to produce a wide array of other firearms, including 'cheap replicas' of Armalite assault rifles and Uzi-, Interdynamic-(KG-9), and Ingram-brand sub-machine guns, along with accessories such as silencers (Quilop, 2010, p. 244; IHS Jane's, 2010, p. 3).

The continuing influence of this tradition is evident in the data on seized weapons. Ten per cent of seized firearms were identified as craft-produced.<sup>49</sup> This ratio of craft-produced to conventional firearms is significantly higher than in Afghanistan, Iraq, Mexico, and Somalia.<sup>50</sup> Approximately half of the 69 seized craft-produced firearms were handguns, with shotguns accounting for most of the remaining weapons. Several craft-produced military firearms were also seized, including copies of M16 rifles and Ingram and Thompson sub-machine guns.

detonated weapons (controlled role), meaning that they are detonated by the operator rather than the victim, or as victim-actuated weapons (uncontrolled role). The data contains little descriptive information about the seized anti-tank mines.

The remaining light weapons identified in the data include 17 mortars and mortar rounds, 13 RPG launchers and rounds, and four ‘bazookas’ allegedly recovered from the Ampatuan political clan. Nearly all of the RPGs and RPG launchers were seized from—or surrendered by—members of the ASG, MILF, and NPA. The make and model of most seized RPGs and launchers are not specified. The one exception is a B-40 recovered in April 2010 from an Abu Sayyaf camp. The B-40 is a variant of the first-generation Soviet RPG-2, which was first fielded in the late 1940s. According to IHS Jane’s, the MILF also uses the RPG-2, reportedly producing its own launchers (IHS Jane’s, 2010, p. 3).

Data on the seized ‘bazookas’ is unclear. Of the four seized items, two are described simply as ‘bazookas’, a term that is often used to refer to any man-portable recoilless gun. The third item, a ‘57RR baby bazooka’, is probably a US-designed M18 recoilless rifle, a World War II-era system that was reportedly ineffective as an anti-tank weapon but widely used against personnel. The Chinese military produced a copy called the Type 36, which was exported to the Viet Cong during the Vietnam War. The fourth item is referred to as a ‘90 recoilless rifle’, which could be a reference to the 90 mm US M67 recoilless rifle, another older system that was widely deployed by US forces in Vietnam and is currently in the Philippine Armed Forces’ inventory. Table 12.11 provides a detailed summary of light weapons seized by Philippine authorities.

The seized weapons include few, if any, technologically sophisticated systems. There are no references to ATGWs or MANPADS in the summaries of the seizures analysed, nor is there any mention of modern automatic grenade launchers, anti-tank rockets, or technologically advanced accessories for these weapons, such as computerized fire control systems or thermal sights.

The data also suggests that illicit light weapons in the Philippines, including light

**Table 12.11 Light weapons seized in the Philippines, 2007–12**

Type	Model*	Quantity
Grenade, hand	Various/unspecified	45
Grenade, rifle	Unspecified	28
Grenade, projected	M203 rounds	22
Grenade, craft-produced	Improvised grenade	1
Grenade, unspecified	Various/unspecified	16
Grenade launcher	M203	7
	M79	5
	Craft-produced	2
IEDs	IEDs	33
Landmines, anti-personnel	Claymore, including craft-produced copies	43
	Unspecified	13
Landmines, anti-tank	Unspecified	10
Landmines, unspecified	Craft-produced	56
Mortar system and rounds	60 mm	9
	81 mm	6
	Various/unspecified	2
RPG launcher	Unspecified	3
RPG round	Various/unspecified	10
Recoilless rifle	Various/unspecified	4
<b>Total</b>		<b>315</b>

Note: \* As identified in the source document.

Source: Small Arms Survey (2012d)

**Table 12.12 Comparison of small arms and light weapons recovered from non-state armed groups in Afghanistan, Iraq, Mexico, and the Philippines**

Weapon category	Percentage of seized weapons studied			
	Afghanistan (2006-08)	Iraq (2008-09)	Mexico (2009-12)	Philippines (2004-12)
Mortar systems and rounds	37	57	<1	2
Grenades and grenade launchers*	29	7	19	13
Recoilless rifles and rounds	13	2	0	<1
RPG launchers and rounds	13	10	<1	1
Firearms	4	12	80	69
Landmines	4	7	0	12
IEDs	1	5	<1	3
Rockets in disposable launchers	<1	<1	<1	0
Portable missiles (MANPADS and ATGWs)	0	<1	0	0

Note: \* This category includes hand grenades, project grenades, rifle grenades, and other (unspecified) grenades other than RPGs.

Sources: Small Arms Survey (2012a; 2012c; 2012d)

weapons acquired by insurgent groups, differ in key ways from light weapons in high-intensity armed conflict. Table 12.12 compares small arms and light weapons seized in the Philippines with weapons seized in Afghanistan, Iraq, and Mexico. As illustrated in the table and explained in the *Small Arms Survey 2012*, the majority of weapons recovered from caches in Iraq and Afghanistan were light weapons and their ammunition, which accounted for more than 88 per cent of the seized weapons studied in Iraq and 96 per cent of seized weapons in Afghanistan. In contrast, most small arms and light weapons seized in the Philippines were firearms.

Particularly notable are the differences in the quantity of indirect fire weapons (such as mortars) seized in Iraq and Afghanistan vs. those seized in the Philippines. Only a handful of mortar systems and mortar rounds were identified in the Philippines seizures studied, and several of them were converted into IEDs rather than used as designed. The quantity and type of seized mortars and RPGs is consistent with other accounts of armed groups and their weapons. According to Santos, '[t]here have been no reports of the Philippine security forces ever having come under attack by NPA units using either mortars or rocket-propelled grenades'. Santos et al. attribute the absence of such attacks to 'a lack of ammunition' (Santos et al., 2010, p. 271). Previous accounts also indicate that the types of mortars and RPGs are limited to 60 mm and 81 mm mortars, as well as first-generation RPG-2s; there is no mention of 120 mm mortars or more modern RPGs.

### Sources of small arms and light weapons

The data on the weapons seized in the Philippines contains little specific information on the country of origin and proximate source of the seized weapons. To fill these gaps, information was obtained from the Philippine government and collected from existing literature, including assessments by the Small Arms Survey, IHS Jane's, and the RAND Corporation, all of which identify several sources of illicit weapons and ammunition for insurgent groups.

These reports indicate that military and police depots are sources of illicit weapons and ammunition.<sup>51</sup> Weapons stockpiled by—or intended for—Philippine security forces are acquired by armed groups and other unauthorized end users in a variety of ways. Some are looted from overrun outposts and taken from security forces captured or killed in battle (PCTC, n.d., p. 7). Others are reportedly stolen or diverted from depots and stockpiles. In one particularly brazen incident, NPA members donned police uniforms, walked into a police station, and simply helped themselves to weapons and ammunition (Quilop, 2010, p. 242).

Diversion is often more subtle and is sometimes facilitated by corrupt or sympathetic government officials or members of government-sponsored civilian militias composed of relatives and former members of insurgent groups, according to IHS Jane's (2010, p. 3). Some weapons intended for security forces are also reportedly diverted shortly after import. According to Quilop, arms dealers acting on behalf of local governments order more weapons than are needed by the agency and then sell the excess weapons on the black market (Quilop, 2010, p. 242).

Craft production is another source of illicit small arms and light weapons in the Philippines, although the extent of this production—and the utility of the weapons produced—is difficult to assess. As noted above, there is a long tradition of craft production of firearms that continues to some extent today, although the quantity of craft-produced weapons has declined in recent years, according to the Philippine government.<sup>52</sup> Some insurgent groups have reportedly developed the capacity to produce a variety of small arms and light weapons. Several analysts claim that the MILF is able to produce semi-automatic and automatic firearms, M79 grenade launchers, and RPG-2 launchers (IHS Jane's, 2010; Chalk et al., 2009, p. 42).



Philippine soldiers carry light weapons seized following a massacre in Maguindanao Province, Philippines, December 2009. © Jeffrey Maitem/Getty Images

There is a sub-group of paltik firearms that the Philippine government considers ‘high quality (class A)’.<sup>53</sup> However, the quality of most craft-produced weapons is reportedly low. Commenting on craft-produced guns, a Philippine government official explained that ‘[t]hese weapons are useable but do not last very long’ and that, in some cases, ‘the ammunition for which the firearm is designed does not fit properly, or the gun misfires and injures the user’.<sup>54</sup> IHS Jane’s describes the quality of the MILF’s light weapons as ‘questionable’, noting that ‘some sources clai[m] that the only weapon that the MILF can successfully produce is the crude RPG-2’ (IHS Jane’s, 2010).<sup>55</sup>

Finally, weapons are reportedly shipped to armed groups by sympathizers located abroad. The Philippine government confirmed that these shipments are often large but did not provide any additional information.<sup>56</sup> An undated government report on arms trafficking notes that Philippine nationals living abroad are a major external source of illicit weapons, and particularly of ‘the more sophisticated and high powered firearms’ (PCTC, n.d., p. 5). The report notes that the weapons are smuggled into airports and maritime ports with assistance from corrupt officials. Other modes of delivery reportedly include door-to-door shipments of commercial goods and international aid (p. 4). The report cites data on weapons seized at Ninoy Aquino International Airport from 1991 to 1999, suggesting that the information is quite dated. Whether the methods and routes highlighted in the report are still used is unclear.

## CONCLUSION

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Data on weapons seized in Mexico and the Philippines sheds important light on illicit weapons in these and other countries studied as part of this project. The data presented here suggests that most illicit weapons in Mexico and the Philippines are firearms. This contrasts sharply with previously compiled data on weapons seized in Iraq and Afghanistan, where illicit light weapons and light weapons ammunition were overwhelmingly more common than firearms (Small Arms Survey, 2012a).

The types of light weapons most frequently acquired by armed groups in the five countries also varied significantly. Whereas RPGs and mortars constituted the bulk of seized light weapons in Iraq and Afghanistan, hand grenades and 40 mm grenade launchers were the most commonly recovered light weapons in Mexico and the Philippines. There are also notable differences in the models and provenance of illicit weapons in the countries studied, with US and European designs constituting most of the seized weapons in the Philippines and Mexico, and Soviet- and Chinese-designed systems accounting for most weapons seized in Afghanistan, Iraq, and Somalia.

Illicit small arms and light weapons in the five countries studied are also similar in several ways. Among the most notable similarities is the apparent absence of latest-generation light weapons. There is no evidence that any armed groups in the countries studied have acquired the most recently fielded MANPADS or ATGWs, and groups in Mexico and the Philippines have acquired few, if any, portable missiles. Other advanced light weapons are also scarce. There is no mention of thermobaric or tandem HEAT infantry rockets, or light weapons (that is, mortars or automatic grenade launchers) equipped with computerized fire control systems, or thermal weapon sights. Armed groups in Iraq have acquired some of these systems, namely tandem HEAT RPGs, but only in very small quantities.

Another similarity is the widespread acquisition and use of craft-produced weapons. In Mexico, the DTOs have acquired craft-produced shotguns, rifles, hand grenades, and grenade launchers. In the Philippines, craft-produced weapons include handguns, rifles, shotguns, sub-machine guns, RPG launchers, grenades, grenade launchers, and landmines. In Iraq and Afghanistan, craft-produced launchers for artillery rockets are common. Uniting all of these

countries is the increased use of IEDs, which are now prevalent among non-state groups worldwide (IMPROVISED EXPLOSIVE DEVICES). Iraq has seen the most—and the most sophisticated—IEDs, but that may change in the coming years as more groups acquire the skills and experience required to build and deploy them effectively, and as they adapt to government counter-IED efforts.

These comparisons highlight several common misperceptions and oversimplifications regarding illicit small arms and light weapons. The first is the tendency to associate the AK-47 assault rifle and the RPG-7 with the global black market in small arms and light weapons. While these weapons are widely available on many local and regional black markets, they are not the dominant illicit weapons in every country. In Mexico and the Philippines, US and European models<sup>57</sup> are much more common than in Afghanistan, Iraq, and Somalia. These differences are largely explained by the apparent reliance by armed groups on local and regional sources of weapons.

Second, data collected as part of this study suggests that another common assumption—that most illicit weapons are supplied by international ‘merchants of death’ such as Viktor Bout—is not accurate, at least with regard to the five countries studied to date. While specific data on proximate sources is scarce, evidence suggests that sympathetic governments in neighbouring states, remnants of looted stockpiles, or the country’s own security forces serve as the largest sources of illicit weapons for armed groups in the contexts studied to date. In all five case studies, nearly all of the models identified in the data are available either in country or in neighbouring states, and many have been available for decades. International arms brokers do provide weapons to armed groups and other unauthorized end users, but their contributions appear to be comparatively limited.

These observations have clear implications for policy-makers. The illicit weapons that are acquired and used most frequently in the countries studied are technologically simple systems that are readily available in the region and often have been around for decades. Armed groups in these countries have acquired few if any latest-generation portable missiles and other technologically sophisticated weapons, and it is unclear whether and to what extent they are attempting to acquire them. These findings underscore the need for strong controls on *all* small arms and light weapons, not just the newest and most sophisticated models. Similarly, while large international shipments of weapons arranged by global arms traffickers continue to fuel conflict, the slow leakage of weapons from domestic and regional sources is often the more pressing threat. Identifying these sources and strengthening controls is at least as important as chasing the ‘merchants of death’. ■

## LIST OF ABBREVIATIONS

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ASG	Abu Sayyaf Group
ATGW	Anti-tank guided weapon
ATF	United States Bureau of Alcohol, Tobacco, Firearms and Explosives
DTO	Drug-trafficking organization
GAO	Government Accountability Office
HEAT	High explosive anti-tank
IED	Improvised explosive device
MANPADS	Man-portable air defence system
MILF	Moro Islamic Liberation Front
NPA	New People’s Army
SEDENA	Secretaría de la Defensa Nacional
RPG	Rocket-propelled grenade

## ENDNOTES

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- 1 See LaPierre (2009).
- 2 See Small Arms Survey (2012a, pp. 312–54).
- 3 Note that the weapons are of US design but may have been produced or sourced in countries other than the United States.
- 4 This category includes all military and civilian rifles, including assault rifles.
- 5 See Small Arms Survey (2008, pp. 8–11; 2012a, pp. 314–15).
- 6 Parts for small arms and light weapons are not included in the datasets. For the Small Arms Survey's definition of 'parts' and 'accessories', see Small Arms Survey (2012a, pp. 243–46).
- 7 The data reflects seizures by officials from US Customs and Border Protection, US Immigration and Customs Enforcement, and the US Border Patrol. Author telephone interview with US Customs and Border Protection official, July 2012.
- 8 Summaries of caches seized by SEDENA are the only relatively comprehensive source of detailed, disaggregated data on weapons seized in Mexico. Consequently, it is extremely difficult to account for possible selection biases in the source data.
- 9 Mexican and US officials have stated that 'most guns trafficked into Mexico are facilitated by and support operations of Mexican DTOs' (USGAO, 2009, p. 22). See also US Embassy in Mexico (2010, p. 4). The US Government Accountability Office did note, however, that a 'small number' of firearms trafficked from the United States are for 'hunters, off-duty police officers, and citizens seeking personal protection' (USGAO, 2009, p. 23).
- 10 The Brady Center notes: 'Estimates of the guns flowing into Mexico from the U.S. are as high as 2,000 guns every day' (Brady Center, 2009, p. 7).
- 11 The .38 Super is a .38-calibre round that was first developed in the 1920s. According to IHS Jane's, it is more powerful and more accurate than the .38 automatic even though the two rounds have the same dimensions (Ness and Williams, 2007, p. 32).
- 12 The information in the table was taken from a graph titled 'Armas decomisadas en México (1990–2011)'.
- 13 See, for example, US House of Representatives (2012b, p. 72).
- 14 See USDOJ (2009, p. 11).
- 15 See, for example, Harris (2009) and Tucker (2011).
- 16 See Small Arms Survey (2012a, pp. 319–22, 331–33, 338–39).
- 17 Twenty-eight per cent of all firearms recovered from caches in Mexico were handguns, whereas pistols and revolvers comprised only 5 per cent of firearms recovered from caches in Iraq. See Small Arms Survey (2012, p. 320).
- 18 See, for example, USDC Southern District of Texas (2011a; 2011b; 2012) and Dodge (2012).
- 19 See AP (2009).
- 20 Written response from the Government of Mexico to questions submitted by the Small Arms Survey, September 2012, and author telephone interview with a US government official, November 2012.
- 21 Written response from the Government of Mexico to questions submitted by the Small Arms Survey, September 2012.
- 22 Many firearms trafficked to Mexico from the United States are acquired by 'straw purchasers'—individuals who purchase firearms for someone else while falsely claiming that they are the 'actual transferee/buyer of the firearm(s)' on ATF firearms transaction forms. See, for example, USDC Eastern District of California (2011).
- 23 Operation Fast and Furious was a multi-year investigation into an extensive network of arms traffickers accused of supplying firearms to Mexican DTOs. During the course of the investigation, which began in October 2009, at least 40 suspects purchased more than 2,000 firearms worth approximately USD 1.5 million. Hundreds of the weapons were later recovered at crime scenes in Mexico, including firearms purchased by individuals whom law enforcement officials had identified as suspects. For more information on this operation, see OIG (2012, pp. 103–418) and Small Arms Survey (2012a, pp. 57–60).
- 24 A 2005 ATF report also references possible illicit transshipment of foreign-sourced firearms through the United States. Citing an unconfirmed Mexican intelligence report, the ATF identifies Port Langley, British Columbia, as the 'landing point' for Kalashnikov-pattern rifles from former Eastern bloc states, Kosovo, and Serbia. The weapons are reportedly trafficked through Arizona, California, and Texas and are eventually delivered to Mexico (Price, 2005, p. 21).
- 25 See Farley (2009) for examples of less nuanced statements made by US and Mexican officials.
- 26 Kuhn and Bunker also estimate that 17 per cent of 'weapons currently acquired by the Mexican cartels' come from US domestic weapons sources. It is not clear what is meant by 'weapons'—that is, whether their estimate includes all weapons or just firearms, or how they arrived at so precise an estimate given the limitations of open-source data (Kuhn and Bunker, 2011, p. 818).

- 27 According to data provided by the government of Mexico, Mexican authorities seized 154,943 firearms from December 2006 to 23 August 2012. Of those firearms, 99,691 were traced through 'e-trace'; 68,161 of those were manufactured in the United States or brought to Mexico from the United States (written response from the Government of Mexico to questions submitted by the Small Arms Survey, September 2012). ATF provides the same figures, suggesting that the two datasets are comparable even though the Mexican government's data covers six additional months.
- 28 See also Cook, Cukier, and Krause (2009).
- 29 These figures differ from the trace data released by ATF in 2012. It is unclear what accounts for these differences.
- 30 See, for example, Dodge (2012); USDC Southern District of Texas (2011a; 2011b; 2012); and USDC Eastern District of California (2012).
- 31 Anecdotal data on trafficking suggests that straw purchasers are often paid about USD 50–200 per weapon. See, for example, US Court of Appeals (2011, p. 11) and USDC Southern District of Texas (2008).
- 32 See Small Arms Survey (2008, pp. 112–53).
- 33 Data provided to the Small Arms Survey by the government of Mexico indicates that Mexican authorities seized and collected 15,673 grenades from 1994 to 2012; of these, 13,917 were seized by the military and police and 1,756 were voluntarily forfeited as part of a weapons collection programme. Included in this total are projected, military-style fragmentation, craft-produced, smoke, and tear gas grenades.
- 34 Written response from the Government of Mexico to questions submitted by the Small Arms Survey, September 2012.
- 35 Written response from the Government of Mexico to questions submitted by the Small Arms Survey, September 2012.
- 36 See, for example, McCaffery (2009) and Johnson (2009).
- 37 Written response from the Government of Mexico to questions submitted by the Small Arms Survey, September 2012.
- 38 Written response from the Government of Mexico to questions submitted by the Small Arms Survey, September 2012.
- 39 See Small Arms Survey (2012a, pp. 313–55; 2012b).
- 40 Written response from the Government of Mexico to questions submitted by the Small Arms Survey, September 2012.
- 41 For an example involving the Juárez cartel and the Barrio Azteca gang, see Stewart (2010).
- 42 Author telephone interview with US government official, November 2012.
- 43 See Myers (2011).
- 44 Written response from the Government of Mexico to questions submitted by the Small Arms Survey, September 2012.
- 45 Written response from the Government of Mexico to questions submitted by the Small Arms Survey, September 2012.
- 46 Author telephone interview with a Philippine government official, October 2012. Previous estimates were not only significantly lower but also included additional types of weapons. Data obtained by Quilop indicates that, as of 2005, there were 321,685 'loose' firearms, meaning weapons acquired by armed groups and criminals but also citizens who have not registered their firearms (Quilop, 2010, p. 234).
- 47 Several additional armed groups are active in the Philippines. For a description of these groups, see Santos et al. (2010, pp. 260–418).
- 48 See IHS Jane's (2010, p. 3); Quilop (2010, p. 237); and Chalk et al. (2009, p. 58). The few exceptions include AR-18 rifles and .60-calibre and M2 .50-calibre machine guns, none of which are identified in the accounts of the seizures studied.
- 49 This figure includes four firearms converted to fire a different calibre.
- 50 This assertion is based on the description of the seized firearms in the source documents. It is possible that additional firearms were craft-produced but not identified as such in the source document. See Small Arms Survey (2012a).
- 51 See PCTC (n.d., p. 6) and IHS Jane's (2010, p. 3). Research for this study indicates that a 'significant number of small arms and light weapons are seized on the battlefield' (author telephone interview with a Philippine government official, October 2012). Former insurgents have also identified the Philippine military as a source of arms and ammunition; see Quilop (2010, p. 242).
- 52 One interviewee indicated that '[c]raft-produced guns account for a small fraction of loose weapons, roughly around 2 per cent' (author telephone interview with a Philippine government official, October 2012).
- 53 Author telephone interview with a Philippine government official, October 2012. The official further explained: 'During the administration of the late President Corazon Aquino [1986–1992], the government allowed the registration of paltik weapons for legal use. This is no longer allowed and all previously registered paltik weapons must be surrendered to the government.'
- 54 Author telephone interview with a Philippine government official, October 2012.
- 55 Quilop uses similar language when describing anti-personnel mines and bombs produced by the MILF (Quilop, 2010, p. 244).
- 56 Author telephone interview with a Philippine government official, October 2012. See also Santos et al. (2010, p. 356).
- 57 Note that the weapons are of US and European design but may have been produced or sourced elsewhere.

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