

CHAPTER 8

Analysing Arms Flows: Authorized Transfers

Introduction

Never before has there been so much data on arms flows. The rapid expansion of camera-equipped smartphones, Internet connectivity, and digital file-sharing platforms has exponentially increased the amount of publicly available data on arms transfers and illicit weapons. Postings on social media provide near real-time information on weapons acquired by a wide array of armed actors, from elite military units to violent extremists. A concurrent expansion in field research by the UN and NGOs has yielded complementary data on small arms in conflict zones, including in areas where social media postings are less frequent.¹⁸⁸ When analysed alongside traditional sources of information on the arms trade, this new data provides unprecedented insight into the movement of weapons across borders and between regions.

Journalists and researchers play an indispensable role in gathering, interpreting, and disseminating this data. By linking it to broader geopolitical and security issues, they can convert this data and analysis into meaningful information for lay audiences.

The purpose of this chapter is to provide an overview of sources, strategies, and techniques for analysing authorized arms flows throughout the transfer chain.¹⁸⁹ The chapter begins with a brief assessment of several key data sources on small arms transfers, including their strengths and limitations. Guidance on how to interpret this data is also provided. The chapter concludes with suggestions for corroborating initial findings and confirming individual data points.

Sources of data on authorized small arms transfers

As defined by the Small Arms Survey, the term ‘authorized arms transfers’ refers to ‘international transfers that are authorized by the importing, exporting, or transit states’ (Dreyfus, Marsh, and Schroeder, 2009, p. 9). The main categories of data sources on authorized arms transfers are: government agencies, UN institutions, field research, industry literature, and social media (see Table 8.1). Data from these sources is disseminated through various online databases, reports, and websites. This chapter focuses on five of the most important sources: national reports on arms transfers, United Nations Commodity Trade Statistics Database

¹⁸⁸ See, for example, UNSC (2016) and Anders (2015).

¹⁸⁹ Chapter 9 looks at illicit (non-authorized) arms flows.

(UN Comtrade) and other sources of customs data, the UN Register of Conventional Arms ('the UN Register', or UNROCA), social media, and tenders and contract award notices.

Data on authorized transfers in these sources is vast. Customs data submitted to the UN Statistics Division includes records on millions of weapons transferred to and from dozens of countries worldwide. Thousands of additional records are published each year in the UN Register, national reports, and annual reports required by the Arms Trade Treaty (ATT). Table 8.1 lists these sources and the availability of data for each link of the transfer chain

Before unpacking these data sources, a brief overview of key terms is required. The term 'government data' refers to country-specific data generated and made available by government entities, including customs and export control agencies.

Table 8.1 Sources of data on authorized transfers

Data source		Exports	Re-exports	Domestic retransfers	End user [§]
Government agencies	National reports	✓	✓		✓
	Parliamentary reports	✓	✓		✓
	Tenders/contract award notices	✓			✓
Multilateral instruments	Regional reports	✓	✓		✓
	ATT annual reports	✓	✓		✓
	UN Comtrade	✓	✓		
	UNROCA	✓	✓		✓
	UN Panel of Experts reports	✓	✓	✓	✓
Other	Commercial trade data aggregators	✓	✓		✓
	Field research*	✓	✓	✓	✓
	Industry literature**	✓			
	Social media	✓	✓	✓	✓

Notes:

✓ Indicates that the data source frequently provides usable information in this category.

✓ Indicates that the data source occasionally provides usable information in this category.

§ For the purposes of this table, 'end user' refers to the specific private, commercial, or government agency that is the intended recipient of the transferred items.

* This subcategory includes field research by NGOs and inter-governmental organizations other than the UN Panel of Experts, which are categorized separately.

** Industry literature includes annual corporate reports, company websites, press releases, etc.

It consists of data on: (1) potential transfers; and (2) actual transfers. Potential transfers are proposed imports or exports that have been approved by the relevant government agencies but have not been shipped to the recipient. Arms export licences are examples of sources of data on potential transfers. Actual transfers are those in which the exported items have been delivered—or are en route—to the recipient. Records of arms shipments passing through the ports of entry or exit (customs data) are examples of data on actual transfers.

Another term that is frequently used in the literature on arms transfers is ‘mirror data’, which consists of records on arms exports published by importing governments (and records on arms imports published by exporting governments).¹⁹⁰ Nigerian records of imports of arms from China are an example of mirror data on Chinese exports (see Figure 8.4). Mirror data is useful for studying arms transfers to and from countries with non-transparent governments. In theory, this data could also be used to corroborate data from trade partners but, in practice, records from exporters and importers rarely align, even for transfers between countries with transparent governments. This curious (and often vexing) quirk of arms trade data is explained by several factors, including differences in data gathering and reporting methodologies, selective reporting, and erroneous data (Holtom, 2008). Without access to bills of lading and other commercial and official export documentation, determining the reason for a specific discrepancy and reconciling the data is extremely difficult, if not impossible.

Analysing national reports

Annual reports on arms transfers published by individual governments—often referred to as ‘national reports’—have been a mainstay of arms trade research for many years.¹⁹¹ Several dozen governments publish national reports, which vary in scope, specificity, and completeness. The data in some reports is clear and detailed while data in others is over-aggregated or reported under ill-defined commodity categories.¹⁹² Figure 8.1 is an excerpt from Albania’s 2014 annual report,

¹⁹⁰ See UNSD (n.d.a).

¹⁹¹ Some countries, such as the Netherlands, publish data on their arms transfers on a monthly basis (Netherlands MFA, n.d.).

¹⁹² The Small Arms Survey’s annual Transparency Barometer includes a list of major exporting states that publish national reports (Small Arms Survey, n.d.b).

Figure 8.1 Excerpt from Albania's national report on exports of military goods, 2014

26		STATE EXPORT CONTROL AUTHORITY			
		Annual Report on Export Control for 2014			
<i>Annex 1</i>					
LICENSED AND COMPLETED EXPORTS OF MILITARY GOODS IN 2014					
End User State	NR	Control List Code	Type of good	Value based on license	Valued Realization for 2014 - 2015
Austria	1	ML 1	SKS Rifle M-56	918.400 \$	119.720 \$
		ML 3	Ammunition Cal 7.62x39 mm	171.000 \$	170.964 \$
		ML 3	Ammunition Cal 7.62x54 mm	165.000 \$	69.854 \$
Total	1			1.254.400 \$	360.538 \$
Bulgaria	1	ML 3	Mortar Shells 120 mm	900.000 \$	300.000 \$
		ML 3	Mortar Shells 80 mm	300.000 \$	0 \$
		ML 3	Projectile 122 mm Howitzer	4.000 \$	0 \$
		ML 3	Fuse M-12	14.292 \$	0 \$
Total	1			1.218.292 \$	300.000 \$
Republic of Kosovo	1	ML3	Ammunition Cal 9 x 19 mm	23.000 \$	23.000 \$
Total	1			23.000 \$	23.000 \$
Czech Republic	1	ML 3	Ammunition Cal 7.62x39 mm	1.500.000 \$	920.160 \$
	1	ML 3	Ammunition Cal 7.62x39 mm	600.000 \$	599.997 \$
	1	ML4	TNT demolition Charges	990.000 \$	0 \$
	1	ML 3	Ammunition Cal 12.7 x 108 mm	600.000 \$	600.000 \$
		ML 3	Ammunition Cal 14.5x114 mm	75.000 \$	75.000 \$
		ML 3	Ammunition Cal 7.62x54 mm	160.000 \$	160.000 \$
Total	4			3.925.000 \$	2.355.157 \$
Iraq	1	ML 3	Ammunition Cal 7.62x56 mm	0 \$	Total
		ML 3	Hand Grenades		
		ML 3	Mortar Shells 60, 82, 120 mm		
		ML 3	Shells 40 mm GHLKT		
		ML 1	Automatic Rifle		
	1	ML 2	GHLKT 40 mm	0 \$	Total
		ML 2	Mortars 60 mm		
		ML 2	Hand Machine Guns		
Total	2			0 \$	Total

Source: Albanian MOD (2014, p. 26)

which is one of the more detailed reports published in recent years. It provides data on importing countries, values of issued licences and deliveries, and descriptions of the exported items, including the type, model, and/or calibre.

Table 8.2 EU Common Military List, categories 1 to 4

ML 1	Smooth-bore weapons with a calibre of less than 20 mm, other arms and automatic weapons with a calibre of 12.7 mm (calibre 0.50 inches) or less and accessories, and specially-designed components thereof.
ML 2	Smooth-bore weapons with a calibre of 20 mm or more, other weapons or armament with a calibre greater than 12.7 mm (calibre 0.50 inches), projectors and accessories, and specially-designed components thereof.
ML 3	Ammunition and fuse setting devices, and specially-designed components thereof.
ML 4	Bombs, torpedoes, rockets, missiles, other explosive devices and charges and related equipment and accessories, and specially-designed components thereof.

Source: EU (2017, p. 6)

Figure 8.2 Excerpt from the EU's annual report on imports and exports of military goods and technologies, 2015 (exports to Iraq)

Iraq

	ML1	ML2	ML3	ML4	ML5	ML6	ML7	ML9
France	a	2	6	2	5	1	2	2
	b	8 555 282	18 997 431	79 000 000	483 462 000	675 700 000	14 710 000	48 100 000
	c							
Germany	a	3	2	3	6		6	4
	b	403 661	80 889	5 039 257	16 012 138		3 239 084	1 567 313
	c							
Italy	a	4						
	b	14 210 000						
	c							
Poland	a							
	b							
	c		2 496 731	50 224 238				
Portugal	a							
	b							
	c	96 594		49 310		18 357		
Slovakia	a	1			1			
	b	120 000			13 380 000			
	c							

Note: In this table, 'ML' refers to the categories of the EU's Common Military List, 'a' refers to the number of licences issued, 'b' refers to the value of licences issued in Euros, and 'c' refers to the value of arms exports in Euros.

Source: EU (2017, p. 158)

Table 8.3 Strengths and limitations of national reports

Best for:	Less useful for:	Caveats:
<ul style="list-style-type: none"> ■ Researching arms exports from Europe, North America, and some countries in the Pacific. ■ Identifying and tracking potential (authorized) arms transfers. 	<ul style="list-style-type: none"> ■ Monitoring and measuring global and regional trends. ■ Studying arms transfers between most countries in Africa, Asia, the Middle East, and Central and South America. ■ Identifying end users of exported arms. ■ Researching shipping methods and modes of transport. 	<ul style="list-style-type: none"> ■ Some reports only include data on potential transfers and not actual transfers (deliveries). ■ Some reports are published only in the official language of the reporting country. ■ Researchers have discovered significant errors in some reports. ■ National reports may not include data on all transfers. ■ Commodity category descriptions may be misleading or poorly defined. ■ There are often significant lags between transfers taking place and publication of corresponding data in national reports.

Source: Dreyfus, Marsh, and Schroeder (2009, p. 27)

Many states, including most European states, report on export data using categories corresponding to the Wassenaar Arrangement's Munitions List and/or the EU's Common Military List (ML) (see Table 8.2 and Figure 8.2). The most relevant categories for small arms and light weapons are ML 1 to ML 4.

Analysing UN Comtrade and other customs data

Records of small arms shipments generated by customs agencies are another important source of government data on arms transfers. Customs data is typically collected when an arms shipment passes through the ports of exit (exports) and entry (imports).¹⁹³ The largest source of customs data is the UN Commodity Trade Statistics Database (UN Comtrade), a repository of nearly one billion records on imports and exports of various items submitted to the UN Statistics Division since 1962 (UNSD, n.d.b). The data is aggregated and displayed under standardized,

¹⁹³ In a 2006 survey of 132 governments conducted by the UN Statistics Division, approximately 88 per cent indicated that customs declarations were the main source of data used in the compilation of trade statistics (UNSD, 2008, para. 1.5).

Table 8.4 Selected Harmonized system (HS) commodity categories that include small arms, light weapons, ammunition, parts, and accessories

Item type	HS code	HS description*	Comments*
Small arms	930190	Military weapons, other than revolvers, pistols and arms of heading 93.07 <ul style="list-style-type: none"> ■ Other 	<p>Includes:</p> <ul style="list-style-type: none"> ■ machine guns; military rifles; military shotguns; sub-machine guns; and other arms 'capable of continuous and very rapid fire'; ■ weapon sights mounted on or presented with the firearm at the time of export; ■ firearms that are designed to form part of vehicles but are exported separately from the vehicles. <p>Excludes:</p> <ul style="list-style-type: none"> ■ collectors' pieces and antiques. <p>Note: This is a catch-all subcategory and includes items other than small arms and light weapons.</p>
	930200	Revolvers and pistols, other than those of heading 93.03 or 93.04	<p>Includes:</p> <ul style="list-style-type: none"> ■ revolvers and pistols of any calibre; ■ hand-held firearms designed to look like other objects (e.g. pencils, pocket knives, cigarette cases). <p>Excludes:</p> <ul style="list-style-type: none"> ■ captive-bolt type humane killers; sub-machine guns ('continuous fire weapons'); flare guns; starter pistols and other blank-fire weapons; muzzle-loading and black powder pistols that do not fire cartridges; and spring, air, and gas pistols.
	930310	Muzzle-loading firearms	<p>Includes:</p> <ul style="list-style-type: none"> ■ muzzle-loading ('black powder') firearms that are 'neither designed for nor capable of firing a cartridge'.
	930320	Other sporting, hunting or target-shooting shotguns, including combination shotgun-rifles	<p>Includes:</p> <ul style="list-style-type: none"> ■ single-shot and semi-automatic sporting and hunting shotguns of all calibres, including those with one smooth-bore and one rifled barrel; ■ weapon sights presented with the firearm at the time of export.

Item type	HS code	HS description*	Comments*
Small arms (continued)	930330	Other sporting, hunting or target-shooting rifles	<p>Includes:</p> <ul style="list-style-type: none"> ■ single-shot and semi-automatic sporting and hunting rifles of all calibres; ■ weapon sights mounted on or presented with the firearm at the time of export.
Light weapons	930120	<p>Military weapons, other than revolvers, pistols and the arms of heading 93.07</p> <ul style="list-style-type: none"> ■ Rocket launchers; flame-throwers; grenade launchers; torpedo tubes and similar projectors 	<p>Includes:</p> <ul style="list-style-type: none"> ■ rocket launchers; flame-throwers; grenade launchers; torpedo tubes; and other 'specialized military projectors'; ■ weapons that are designed to form part of vehicles that are exported separately from the vehicles. <p>Excludes:</p> <ul style="list-style-type: none"> ■ flame guns 'specialized for destroying weeds'.
Ammunition	930621 ¹	Shotgun cartridges and parts thereof	<p>Includes:</p> <ul style="list-style-type: none"> ■ shotgun cartridges; ■ some parts for shotgun cartridges. <p>Excludes:</p> <ul style="list-style-type: none"> ■ propellants; certain fuses; percussion and detonating caps; igniters; electronic detonators, including primers.ⁱⁱ
	930630 ¹	Other cartridges and parts thereof	<p>Includes:</p> <ul style="list-style-type: none"> ■ all types of cartridges for pistols and rifles; ■ some parts for pistol and rifle cartridges. <p>May include:</p> <ul style="list-style-type: none"> ■ cartridges for riveting tools and for starting engines. <p>Excludes:</p> <ul style="list-style-type: none"> ■ propellants; certain fuses; percussion and detonating caps; igniters; electronic detonators, including primers.



Item type	HS code	HS description*	Comments*
Parts and accessories	930510 930520 930521 930529	Parts and accessories of articles of headings 93.01 to 93.04 <ul style="list-style-type: none"> ■ Of revolvers or pistols ■ Of shotguns or rifles of heading 93.03 ■ Other 	<p>Includes:ⁱⁱⁱ</p> <ul style="list-style-type: none"> ■ parts and some accessories for revolvers and pistols; ■ parts and some accessories for sporting and hunting shotguns and rifles. <p>Excludes:^{iv}</p> <ul style="list-style-type: none"> ■ 'parts for general use' (e.g. rivets, screws, springs); ■ gun cases; ■ gun cameras for aircraft; ■ weapons sights; ■ other accessories covered by other headings.

Notes:

- * HS descriptions are reproduced verbatim from documents published by the World Customs Organization (WCO). Descriptions of the items included and excluded from each category also closely reflect WCO wording. The WCO is also the source for all direct quotes in the 'Notes' column of this table. See WCO (2012). The WCO's terminology for small arms often differs from the categories and definitions for small arms used in the rest of this Handbook.
- ⁱ The full title of HS 93.06 is 'Bombs, grenades, torpedoes, mines, missiles and similar munitions of war and parts thereof; cartridges and other ammunition and projectiles and parts thereof, including shot and cartridge wads' (WCO, 2012).
- ⁱⁱ The exact wording of the WCO explanatory note for these items is 'propellant powders and prepared explosives, even if put up in forms ready for incorporation in munitions (headings 36.01 and 36.02); safety fuses, detonating fuses, percussion and detonating caps, igniters and electric detonators, including primers for shells (heading 36.03) (WCO, 2012).
- ⁱⁱⁱ The WCO explanatory notes identify the following parts and accessories for, inter alia, pistols, revolvers, and the rifles and shotguns categorized in 9303.20 and 9303.30: 'Metal castings, stampings and forgings, for ... sporting and target shooting guns, etc., revolvers and pistols, e.g., barrels, breeches, locks, trigger guards, tumblers, levers, percussion hammers, cocking pieces, triggers, seats, extractors, ejectors, frames (of pistols), plates, butt plates, safety catches, cylinders (for revolvers), front and back sights, magazines ... Protective covers and protective cases, for butts, sights, barrels or breeches ... Morris tubes, etc. (small bore tubes for insertion in heavier calibre guns and rifles for practice on miniature ranges) ... Butt stocks and other wooden parts for guns, rifles or carbines and butts and plates (of wood, metal, ebonite, etc.) for revolvers and pistols ... Slings, band, piling or stacking and butt swivels and swivel bands for guns, rifles or carbines ... Silencers (sound moderators) ... Removable recoil absorbers for sporting or target shooting guns' (WCO, 2012).
- ^{iv} The exact wording of the WCO explanatory notes is: '(a) Parts of general use as defined in Note 2 to Section XV (e.g., screws, rivets and springs), of base metal (Section XV), and similar goods of plastics (Chapter 39). (b) Gun cases (heading 42.02). (c) Gun cameras for aircraft (heading 90.07). (d) Telescopic sights and similar sights for arms (heading 90.13). (e) Accessories more specifically covered by other headings of the Nomenclature, such as pull-throughs, cleaning rods and other cleaning tools for arms (headings 82.05, 96.03, etc.)' (WCO, 2012).

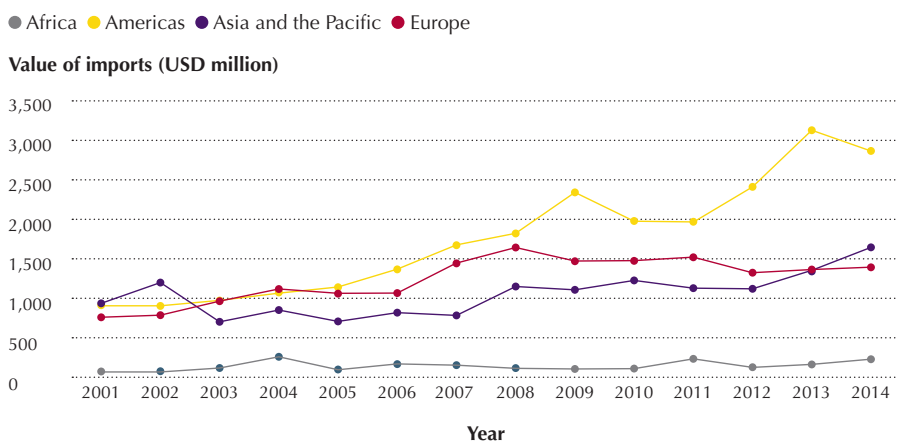
Source: WCO (2012)

six-digit commodity codes known collectively as the Harmonized Commodity Description and Coding System, or Harmonized System (HS). Most codes of relevance to tracking arms flows begin with '93', which is the HS chapter on 'arms and ammunition'. Table 8.4 lists the codes under which most data on transfers of small arms, light weapons, parts, ammunition, and some accessories are reported; the small arms and light weapons reported under each category; and any other items (non small arms and light weapons) that may be included in the data. The table includes the World Customs Organization's terminology and categorization for small arms, ammunition, and parts and accessories, which often differs from the categories and usage of terms in the rest of this Handbook.

Data from UN Comtrade is particularly useful for identifying and measuring trends in small arms transfers over time and across different regions, as illustrated by the data on small arms imports by countries in the Americas in Figure 8.3. The data reveals a sharp increase in arms transfers to this region, which jumped from less than USD 1 billion in 2002 to nearly USD 3 billion in 2014. By 2014, the value of transfers to the Americas was nearly twice as high as transfers to any other region.

When disaggregated by subregion, this data provides additional insights. Table 8.5 shows that the two largest importers of small arms, the United States and

Figure 8.3 Global trends in small arms imports by region, as reported to UN Comtrade (USD million), 2001–14



Note: All values are expressed in constant 2014 US dollars.

Sources: NISAT (n.d.) via Holtom and Pavesi (2017, p. 25)

Table 8.5 Value of small arms supplied to the Americas, by subregion, as reported to UN Comtrade (USD million), 2001–14

Subregion	Value of small arms imports (USD million)			
	2001	2014	Average, 2001–14	Change from 2001 to 2014
Caribbean	14	16	17	2
Central America	34	107	68	73
Northern America	759	2,580	1,538	1,821
South America	114	172	140	57

Note: All values are expressed in constant 2014 US dollars. Due to rounding, individual values may not add up.
Sources: NISAT (n.d.) via Holtom and Pavesi (2017, p. 29)

Canada, account for most—but not all—of this increase. Imports of small arms in Central America rose by more than 300 per cent from 2001 to 2014. This increase may be of interest to journalists and researchers covering security issues in Central America, including the sharp rise in drug-related violence during this period. Data from UN Comtrade is a good starting point for investigating possible links between drug-related insecurity and the procurement of small arms by state and non-state actors in the region.

UN Comtrade is less useful for tracking individual transfers, and exports of certain categories of items. The data is aggregated by year and, unless there was only one transfer to a given country during the year under review, determining the quantity or value of a particular transfer is not possible. Since the data contains no information about the manufacturer, model, or calibre of transferred weapons, UN Comtrade is also not particularly useful for corroborating claims in other sources about transferred weapons.

Data aggregation also precludes meaningful analysis of most light weapons transfers. Exports of light weapons and their parts, accessories, and ammunition are reported with data on non small arms and light weapons items, such as artillery guns, air-delivered weapons, and torpedo tubes. Similarly, data on weapon sights is combined with data on telescopes and periscopes (WCO, 2017, p. 5), rendering this data largely useless for tracking transfers of optics for small arms and light weapons. Data on transfers of military firearms (HS code 930190) is also mixed with unrelated items, and determining exactly which items is difficult

because 930190 is a catch-all code, meaning that, in addition to military firearms, this code contains data on any transfers of items that do not clearly fit into one of the other four subcategories of ‘military weapons’.

More detailed customs data is available for certain countries. A good example is data on exports of ‘military firearms’ published by the United States Census Bureau. As noted above, data on military firearms available from UN Comtrade also contains data on other items, which significantly reduces the usefulness of this data for tracking small arms transfers. The data published by the Census Bureau, which is from the same source as the data provided by the United States to UN Comtrade, partially addresses this problem by disaggregating the data into four subcategories: military rifles, military shotguns, machine guns, and other ‘military weapons’.

As shown in Table 8.6, machine guns account for most of the items reported under HS code 930190, followed by military rifles. Military shotguns only comprise a small percentage of these items. The disaggregated data also reveals that transfers of military firearms comprise approximately 94 per cent of the all transfers

Table 8.6 Exports of military firearms and other items from the United States as recorded under HS code 930190, 2006–15

Commodity (HST code)*	Value		Quantity	
	Total (USD)	Per cent	Total	Per cent
Military rifles (HS code 9301903000)	576,397,770	33	641,887	37
Military shotguns (HS code 9301906000)	41,161,670	2	242,923	14
Machine guns (HS code 9301909030)	633,144,241	37	734,060	43
Military weapons, exc Arms Of Heading 9307, Nesoi (no) (HS code 9301909090)	477,987,227	28	102,451	6
Total (USD)	1,728,690,908		1,721,321	

Note: * The code used here is the ten-digit Harmonized Tariff Schedule (HTS) of the United States. In accordance with Article 3 of the HS Convention, individual governments can add subdivisions to the HS code for statistical reasons. The first six digits of any national tariff system will always be the relevant HS codes.

Source: US Census Bureau (n.d.)

Table 8.7 Data on weapon sights imported by Chile, Peru, and Uruguay, 2007–10

Importing Country	Importer	Country of Purchase	Country of Origin	Transport Method	Quantity	Brand	Description
Peru	Armaq sociedad anonima	*	China	Aerea	3	Shilba	Mira, shilba, 3-10x44 illuminator 152306 - para carabinas de aire comprimido y deporte
Uruguay	Pinor sociedad anonima	China	China	Vapor	16	Not specified	*
Chile	Immaxal S.A	Uruguay	Uruguay	Aereo	20	Shilba	Con montura,para armas
Chile	Immaxal S.A	Uruguay	Uruguay	Aereo	20	Shilba	Pararifle, de uso en caza
Uruguay	Pinor sociedad anonima	Montevideo free zone	China	Vapor	10	Not specified	*
Peru	Armaq sociedad anonima	*	China	Maritimo	6	Shilba/para carabinas de aire comprimido	Mira, shilba, iluminator 3-10 x 44 para carabinas de aire comprimido - 152306
Uruguay	Arcocity S.A	United states	Philippines	Vapor	19	Not specified	*
Chile	Immaxal S.A	Uruguay	Uruguay	Aereo	20	Shilba	Con montura,para armas
Chile	Immaxal S.A	Uruguay	Uruguay	Aereo	10	Shilba	Vision 6-24x50
Uruguay	Arcocity S.A	United states	Philippines	Avion	18	Not specified	*
Peru	Armaq sociedad anonima	*	China	Aerea	8	Shilba	Mira shilba 10x50 152307 uso comercial bultos mira ``shilba`` 2.5-10X50ir d30 il.Mag. S/cp
Peru	Armaq sociedad anonima	*	China	Maritimo	18	Shilba	Mira, shilba, 152306 para carabinas de aire y/o deporte 3-10 x 44a illuminator

Note: The information in this table is taken verbatim from the source to reflect the original data.

Source: Datamyne (n.d.)

reported by the United States under HS code 930190 in number, but only 72 per cent of the value. The rest of the exports were reported under the ambiguous subcategory of 'Military weapons, Exc Arms Of Heading 9307, Nesoi (no).' Whether US customs data is representative of the data submitted by other states is unknown. Regardless, this case underscores the need to fully understand commodity categorization schemes, and to treat data in catch-all categories with an abundance of caution.

Even more detailed customs data is available for a fee from companies that specialize in obtaining trade data directly from customs agencies. While less voluminous than data reported to UN Comtrade, the records collected by these companies often include key information generally not available elsewhere, such as the make and model of the imported items, the importer, end user, and transport method. An example of data from the US-based company Datamyne is provided in Table 8.7.

UN Comtrade and other publicly-available customs data is less useful for tracking transfers between countries with less transparent governments, which include several major arms exporting and importing states.¹⁹⁴ These governments often withhold data on transfers of key items, including military firearms, pistols, and revolvers (Dreyfus, Marsh, and Schroeder, 2009, p. 10).

One strategy for tracking arms transfers from non-transparent countries is analysis of mirror data, which, as noted above, is data published by an importing or exporting country's trade partner. Data on African imports of small arms from China illustrates the utility of mirror data in filling gaps in export data. Figure 8.4 shows data submitted by China on exports of light weapons (930120), military firearms (930190), small calibre ammunition (930630), and pistols and revolvers (930200) to four African countries in conflict zones (Cameroon, Niger, Nigeria, and Sudan). China does not report on transfers of these items to UN Comtrade and thus the query yielded no data. However, mirror data on imports of weapons from China submitted by these countries shows transfers worth more than USD 8 million from 2010 to 2014. By systematically searching mirror data in UN Comtrade, it is often possible to piece together information on some transfers to and from less transparent states. Rarely does this data provide a complete accounting of transfers from large exporters, however.

¹⁹⁴ Major small arms exporters are ranked by level of transparency in Small Arms Survey's Transparency Barometer (Small Arms Survey, n.d.b). See also the Small Arms Survey's *Trade Update* series.

Figure 8.4 Data on small arms exports reported by China (top) and by four trade partners in Africa (bottom), 2010–14

UN Comtrade Database Extract data Data Availability Metadata Reference Knowledge base API portal

1. Type of product & Frequency

Type of product: Goods Services Frequency: Annual Monthly

2. Classification

HS: As reported 92 96 02 07 12 17 SITC: As reported Rev. 1 Rev. 2 Rev. 3 Rev. 4 BEC: BEC

3. Select desired data

Periods (year): 2010 2011 2012 2013 2014
ALL or a valid period. Up to 5 may be selected.

Reporters: China
ALL or a valid reporter. Up to 5 may be selected. ALL may only be used if a partner is selected.

Partners: Cameroon Niger Nigeria Sudan
World, ALL, or a valid reporter. Up to 5 may be selected. ALL may only be used if a reporter is selected.

Trade flows: Import
ALL or select multiple trade flows.

HS (as reported) commodity codes

930120 - Military weapons; rocket launchers, flame-throwers, grenade launchers, torpedo tubes and similar projectors
 930190 - Military weapons; other than revolvers, pistols, and arms of heading 9307, n.e.c. in heading 9301
 930630 - Ammunition; cartridges and parts thereof n.e.s. in heading no. 9306 930200 - Revolvers and pistols; other than those of heading no. 9303 or 9304
ALL, Total, AG[X] or a valid code. Up to 20 may be selected. If you know the code number, e.g. 01 - Live animals, type 01. To search by description type a word, e.g. rice.

4. See the results

[Preview >](#) [Download CSV](#)

Issues opening CSV in Excel? See this Microsoft how-to.

5. Preview (0 records)

Show 25 entries

Period	Trade Flow	Reporter	Partner	Commodity Code	Trade Value (US\$)	Netweight (kg)	Qty Unit	Qty	Flag
No data available in table									

Showing 0 to 0 of 0 entries [First](#) [Previous](#) [Next](#) [Last](#)

Estimated quantity/netweight shown in italics.
 Flag refers to quantity/netweight estimation:
 0 = no estimation, 2 = quantity, 4 = netweight, 6 = both quantity and netweight

View API call | API documentation

Period	Trade Flow	Reporter	Partner	Commodity Code	Trade Value (US\$)	Netweight (kg)	Qty Unit	Qty	Flag
2012	Import	Cameroon	China	930120	\$927	889	No Quantity	0	0
2012	Import	Cameroon	China	930200	\$195,932	193	Number of items	506	2
2012	Import	Niger	China	930120	\$887,456	14,000	No Quantity	0	0
2010	Import	Niger	China	930190	\$564	8	No Quantity	0	0
2011	Import	Niger	China	930190	\$318	2	No Quantity	0	0
2012	Import	Niger	China	930190	\$395,652	4,744	No Quantity	0	0
2014	Import	Niger	China	930190	\$2,647,363	8,728	No Quantity	0	0
2010	Import	Niger	China	930200	\$907	7	Number of items	3	2
2012	Import	Niger	China	930200	\$1,175	2	Number of items	3	2
2013	Import	Niger	China	930200	\$203	1	Number of items	1	2
2014	Import	Niger	China	930200	\$350	2	Number of items	1	2
2011	Import	Nigeria	China	930630	\$7,915	4,801	Weight in kilograms	4,801	0
2013	Import	Nigeria	China	930630	\$1,136	354	Weight in kilograms	354	0
2012	Import	Sudan	China	930190	\$3,792,195	262,700	No Quantity	0	0
2012	Import	Sudan	China	930200	\$513,364	15,000	Number of items	1,268	2
2013	Import	Cameroon	China	930200	\$1,216	2	Number of items	3	2

Showing 1 to 16 of 16 entries [First](#) [Previous](#) [Next](#) [Last](#)

Estimated quantity/netweight shown in italics.
 Flag refers to quantity/netweight estimation:
 0 = no estimation, 2 = quantity, 4 = netweight, 6 = both quantity and netweight

Modify selection [Download CSV](#)

Source: UNSD (n.d.c)

Table 8.8 Strengths and limitations of UN Comtrade

Best for:	Less useful for:	Caveats:
<ul style="list-style-type: none"> ■ Monitoring and measuring trends in small arms transfers over time and across regions. ■ Identifying trade partners of less transparent countries ■ Researching transfers of: (1) pistols and revolvers; (2) sporting and hunting rifles and shotguns; (3) small calibre ammunition; and (4) parts for small arms. 	<ul style="list-style-type: none"> ■ Tracking individual transfers. ■ Researching: (1) most light weapons; (2) accessories for small arms and light weapons; (3) light weapons ammunition; and (4) parts for light weapons and light weapons ammunition. ■ Confirming reports of arms transfers in other sources. 	<ul style="list-style-type: none"> ■ Many commodity categories include data on unrelated items (see Table 8.4). ■ There is no central mechanism for ensuring accuracy and completeness. ■ Some governments do not report on transfers of certain items, such as military firearms (930190). ■ Some types of transfers, such as military-to-military arms exports, are not always captured in customs data. ■ Some weapons are not clearly, consistently, or explicitly categorized. ■ Errors found by researchers highlight the need to confirm and corroborate data.*

Note: * See Dreyfus, Marsh, and Schroeder (2009, p. 27).

Even governments that submit data on all commodity categories do not necessarily report on every arms transfer. Government-to-government transfers sometimes go unreported, including when exported weapons are shipped directly from military installations and do not pass through ports of exit administered by customs agencies. Also noteworthy is the absence of information on intermediary recipients and end users of transferred arms, which is critical for tracking weapons throughout the chain of custody.

Finally, since the UN Statistics Commission cannot verify the accuracy of the data that it receives, the onus is on individual governments to ensure that their data is accurate. ‘The WCO makes efforts to ensure uniform application of the [Harmonized System],’ observed one WCO representative. ‘But it is up to [individual governments] to ensure correct classification and thus reporting of trade data.’¹⁹⁵ Thus, the completeness and accuracy of the data varies, and errors discovered by researchers highlight the need to verify and corroborate the data, when possible.¹⁹⁶ Table 8.8 summarizes the primary uses for—and limitations of—UN Comtrade.

¹⁹⁵ Email correspondence with WCO official, 19 September 2016.

¹⁹⁶ See Dreyfus, Marsh, and Schroeder (2009, p. 27).

Analysing the UN Register of Conventional Arms (UNROCA)

The UN Register of Conventional Arms, or 'UN Register', is a UN-administered reporting mechanism for international transfers of major conventional weapon systems and, to a lesser extent, small arms and light weapons. All UN member states are requested to submit data annually on exports and imports of seven categories of weapon systems:

- battle tanks (Category I);
- armoured combat vehicles (Category II);
- large-calibre artillery systems (Category III);
- combat aircraft (Category IVa), including unmanned combat aerial vehicles (Category IVb);
- attack helicopters (Category V);
- warships (Category VI); and
- missiles or missile launchers (Category VII),¹⁹⁷ including man-portable air defence systems (MANPADS) (Category VIIb).

The lists of items reported under two of the seven main categories include light weapons. Category III includes mortar systems with calibres of 75 mm or larger, which are frequently encountered in seized arms caches and in the arsenals of armed groups.¹⁹⁸ Category III also includes crew-portable and towed multiple-barrel rocket launchers (MBRLs), some of which are also considered light weapons. The Iranian defence industry, for example, produces a single tube rocket launcher that weighs just 23 kg (DIO, n.d.). While most other multiple-launch rocket systems exceed size and weight limits for 'light weapons', armed groups often fire their ammunition from improvised launchers that are man- or crew-portable. Groups in Iraq and elsewhere have built a wide array of launchers for these rockets, which vary significantly in terms of size and sophistication (Schroeder, 2014b).

The highest-profile light weapons reported in the seven main categories are MANPADS, which many governments regard as particularly sensitive because of the potential threat they pose to commercial aviation. This sensitivity is evident

197 With exception of MANPADS (which has its own subcategory), Category VII only includes missiles, rockets, and launchers with a range of at least 25 km, which excludes most if not all crew-portable anti-tank guided missiles. See UNODA (2007, p. 20).

198 Category III also includes mortar systems that are generally not considered light weapons, including systems with calibres that are greater than 120 mm.

Figure 8.5 Excerpts from the Russian Federation's submission to the UN Register regarding conventional arms exported in 2009 (top) and 2012 (bottom)

A		B	C	D	E	Remarks	
Category (I-VII)		Final importer State(s)	Number of Items	State of origin (if not exporter)	Intermediate location (if any)	Description of Item	Comments on transfer
VII. Missile launchers and missiles	(a)	Algeria	306				
		India	282				
		Serbia	8				
		Viet Nam	16				
	(b)	Egypt	98			MANPADS	
		Venezuela (Bolivarian Republic of)	1 800			MANPADS	
VII. (b) Man-portable air defence systems	Venezuela (Bolivarian Republic of)	2 400			2 000 man-portable air defence missiles and 400 launchers		
	Brazil	26			18 man-portable air defence missiles and 8 launchers		
	Azerbaijan	1 200			1 000 man-portable air defence missiles and 200 launchers		

Sources: Top: UNGA (2010, p. 24); bottom: UNGA (2013b, p. 28)

in the special status of MANPADS in the UN Register; it is one of only two groups of weapons that have their own dedicated subcategories. Since the subcategory for MANPADS was first used in 2004, governments have reported on the transfer of thousands of the missile systems, making the UN Register one of the best sources of data on the proliferation of MANPADS.

Among the most notable MANPADS transfers recorded in the UN Register are exports of advanced Russian Igla-S systems to Venezuela in 2009 and 2012 (see Figure 8.5). Russian export data reveals that the Venezuelan military has received at least 4,200 MANPADS missiles and launchers, making it the largest documented importer of MANPADS in more than a decade.¹⁹⁹ Journalists reporting on the potential threat posed by these missiles frequently use data from the UN Register.²⁰⁰ These articles highlight the UN Register's value as a source for data on potentially problematic accumulation of sensitive weapons in unstable regions.

199 See also SIPRI (n.d.); UNROCA (n.d.b).

200 See Forero (2010); Gupta (2017).

Figure 8.6 Excerpt from the Czech Republic's submission to the UN Register regarding small arms exported in 2010

A	B	C	D	E	Remarks	
					Description of Item	Comments on transfer
Small arms						
1. Revolvers and self-loading pistols	Australia	10			Tokarev 1933	
		3			GP 35	
	Bangladesh	5 003			CZ 75	
	Philippines	1 500			CZ 75	
	Indonesia	3			CZ 75	
	Iraq	6 000			CZ 75	
	Jordan	1			CZ 75	
	Canada	390			TT cal 7,62	
	Kenya	31			CZ 75	
	Lithuania	25			CZ 75, 2075,83	
	Luxembourg	2			Tokarev 1933	
	Mexico	3 695			CZ 75	
	Namibia	508			CZ 75	

Source: UNGA (2011, p. 88)

States are also invited (but not required) to submit information on: (1) transfers of small arms and light weapons;²⁰¹ (2) national holdings of weapons; and (3) procurement of weapons through domestic production.²⁰² The first data on small arms transfers received by the UN Register dates back to the 1990s, but few governments reported on small arms until 2006. Since then, the UN Register has received records on tens of thousands of imports and exports of small arms, some of which are quite detailed. As this archive grows, it is increasingly useful for researching small arms flows.

Submissions to the UN Register vary significantly in terms of scope, detail, and completeness. Some states only submit the bare minimum of data required to meet UN reporting requirements while others provide detailed lists of all transfers of small arms and light weapons, identifying the make, model, calibre, origin state, and intermediate states for each transferred weapon.

²⁰¹ In 2016, the UN adopted a '7+1 formula' that elevated the status of reporting on small arms and light weapons above its previous categorization as 'background information' but stopped short of creating an eighth main reporting category. It is not clear what, if any, impact this change will have on reporting on small arms and light weapons transfers. See Holtom and Pavesi (2017, p. 57); UNGA (2016a, para. 61(a)–(h), para. 75; 2016b).

²⁰² See UNGA (2006a, p. 1).

Figure 8.6 is an excerpt from the Czech Republic’s submission on exports of small arms and light weapons in 2010, which includes a reference to 6,000 CZ 75 pistols transferred to Iraq in 2010. This type of data is extremely useful for studying arms flows to conflict zones and for narrowing down possible sources of weapons recovered from unauthorized end users.

Like all of the data sources profiled in this chapter, the UN Register has limitations, which affect the completeness, comparability, and verifiability of the data (see

Table 8.9 Strengths and limitations of the UN Register of Conventional Arms

Best for:	Less useful for:	Caveats:
<ul style="list-style-type: none"> ■ Researching arms exports from certain countries, including many European countries. ■ Tracking exports, re-exports,ⁱ and imports. ■ Researching transfers of: (1) military firearms; (2) pistols and revolvers; and (3) light weapons, especially MANPADS. 	<ul style="list-style-type: none"> ■ Tracking transfers from major non-European exporters to much of Asia, Africa, Latin America, and the Middle East.ⁱⁱ ■ Tracking transfers of civilian firearms.ⁱⁱⁱ ■ Researching: (1) small arms ammunition; (2) ammunition for most light weapons; (3) parts for small arms and light weapons, including kits for assembling complete weapons;^{iv} (4) accessories for small arms and light weapons; (5) missiles and rockets with a range of less than 25 kilometres;^v and (6) missiles for MANPADS delivered separately from launchers.^{vi} 	<ul style="list-style-type: none"> ■ Some states report on arms transfers to governments and civilians while others only report on transfers to other governments.^{vii} ■ Many states do not indicate whether they are reporting on authorizations (licences issued) or deliveries. ■ Some states report selectively, excluding data on certain transfers.^{viii} ■ Researchers have discovered significant errors.^{viii}

Notes:

- i UN reporting guidelines explicitly advise states to report on transfers, including transfers of ‘second-hand equipment’ (UNODA, 2007, para. 18).
- ii See UNROCA (n.d.c) for reporting rates by region.
- iii While some states report on transfers of civilian weapons, UN guidelines only recommend that states report on transfers of weapons that are ‘made or modified to military specification and intended for military use’ (UNGA, 2003, para. 113(e)). Similarly, states are only expected to report on transfers involving ‘States Members of the United Nations’ (UNGA, 2006b, para. 126(a)).
- iv UNODA (2007, para. 15).
- v Few, if any, missiles or rockets categorized as ‘light weapons’ have a range of 25 km or more.
- vi See UNODA (2007, para. 8).
- vii See Holtom (2008, p.35).
- viii See Wezeman and Wezeman (2015).

Table 8.9). Many countries, including major producers, exporters, and importers in conflict zones, do not report on most small arms and light weapons transfers. These countries include several identified by the Small Arms Survey as top small arms exporters, including Belgium, Brazil, China, Israel, and Russia. Compounding this problem is a precipitous decline in reporting more generally. In 2015, the UN Register received 54 submissions as compared to 126 in 2001 (UNGA, 2016a, para. 17; Holtom, Pavesi, and Rigual, 2014, p. 133). If reporting rates do not improve, the UN Register will become increasingly irrelevant as a data source for tracking arms flows.

Researchers should also be aware of divergent reporting practices by participating governments. Some submissions are based on licensing data while others reflect actual deliveries.²⁰³ The submission of licensing data without indicating that the data is based on licences and not actual transfers is problematic because not all licences lead to transfers, or to the transfer of all of the items specified in the licences. Similarly, some states report on exports to civilians while others only include data on government-to-government transfers.²⁰⁴ Differences in how states categorize transferred weapons also complicate analysis of UN data. This problem is exacerbated by ambiguous categorization on the UN Register's reporting form. One state may categorize an automatic AK-pattern rifle as a 'light machine gun' while another may report it under 'rifles and carbines', 'sub-machine guns', or 'assault rifles'.²⁰⁵

These incongruities often preclude the use of mirror data to verify information on specific transfers. Data submitted by exporting governments often does not match data on the same transfer submitted by the importing government, and often one of the governments does not report on the transfer at all. An analysis of 77 submissions on light weapons transfers from 2003–06 by the Stockholm International Peace Research Institute (SIPRI) yielded only ten exact matches (Holtom, 2008,

203 The UN's *Guidelines for Reporting on International Transfers* explicitly instructs participating governments to report on 'only those transfers which they consider to have been effected' during the previous calendar year (UNODA, 2007, para. 5). More than half of the governments surveyed by SIPRI in 2008 indicated that their UN Register submissions on exports were based on licensing data (Holtom, 2008, p. 26).

204 In its 2003 report, the Group of Government Experts on the continuing operation and further development of the United Nations Register of Conventional Arms limited its recommendation regarding submission of data on transfers of small arms and light weapons to 'weapons made or modified to military specification and intended for military use' (UNGA, 2003, para. 113 (e)).

205 UNGA (2016a, p. 37).

pp. 31–32). Thus, researchers often have to use other sources to verify data found in the UN Register.

Finally, the UN Register’s database has several significant functional limitations. It has no keyword search function and is currently incapable of retrieving data on specific transfers by year, weapon category, region, or report type (that is, import or export). To gather data on transfers of a particular type of weapon, researchers must download each country’s annual submission individually and manually compile relevant data points from each submission. These shortcomings significantly limit the database’s utility as a research tool. Fortunately, much of the data in the UN Register is accessible via user-friendly databases maintained by SIPRI and the Norwegian Initiative on Small Arms Transfers (NISAT) (SIPRI, n.d.; NISAT, n.d.).

Analysing social media

Social media outlets, including YouTube, Facebook, Flickr, and Twitter, are increasingly powerful tools for researching arms flows. These platforms are the largest repositories of open-source data in the world. This data includes millions of photographs, videos, and documents, including numerous images of exported small arms and light weapons. Unlike government reporting (most of which is annual), images available on social media are often posted shortly after they are generated, sometimes providing near real-time updates on transfers and holdings.

Images posted on social media also shed light on transfers to and from governments that do not publish data on their arms imports and exports. From footage of military parades to selfies taken by soldiers holding imported rifles, social media is awash with images of transferred weapons, the importance of which increases as the number of governments who regularly provide data to the UN Register shrinks.

These images are also useful for determining—or confirming—the make and model of specific weapons. It was a YouTube user, not a government report, that revealed the model of Russian MANPADS exported to Venezuela in the 2000s (Herron, Marsh, and Schroeder, 2011, p. 22; see Image 8.1).

Social media has also facilitated a notable expansion in the capacity to analyse the steady stream of images of transferred weapons posted online. By pooling their expertise via loosely organized networks on Facebook and Twitter, analysts and hobbyists with different backgrounds are able to instantaneously share infor-

Image 8.1 Screenshots from video of Venezuelan military parade, 2009



Source: Soto (2009)

Table 8.10 Strengths and limitations of social media

Best for:	Less useful for:	Caveats:
<ul style="list-style-type: none"> ■ Identifying transferred weapons, accessories, and ammunition in combat zones and in some countries with non-transparent governments. ■ Corroborating claims about the make and model of some transferred weapons. 	<ul style="list-style-type: none"> ■ Systematically tracking and measuring arms flows. 	<ul style="list-style-type: none"> ■ Erroneous identification of weapons is common. ■ Postings are ad hoc and therefore coverage of transferred weapons is incomplete. ■ Widely available search engines are currently incapable of identifying all images of a particular weapon or from a particular country or region.

mation and, in some cases, accurately identify different models of arms and ammunition, including new and obscure items.

Social media's strengths are also its weaknesses, however (see Table 8.10). The decentralized nature of social media means that anyone with a smartphone can anonymously upload images and distribute them to millions of people around the world. Unlike traditional media, there is no vetting and little accountability, and dissemination (through retweets, for example) is instant and effortless. Consequently, information—including erroneous information—spreads rapidly, making social media an attractive tool for distributing propaganda and advancing political agendas.

There are several tools for assessing the accuracy of claims about weapons in social media posts, the authenticity of their contents, and the time and location of the events depicted in the posts. Among the most important tools are the weapons identification techniques included in this Handbook (see Chapters 3–7). Other tools include digital forensic techniques, time-stamping, and geolocation. None of these techniques are foolproof, however, and information from social media posts should be corroborated with data from other sources and verified by weapons specialists, whenever possible.

Decentralization also means that it is difficult to systematically search, collate, and store data on arms transfers posted on social media. No single search engine generates a complete set of hits from all social media posts, and most images of weapons are not identified and tagged. Advances in image recognition technology are yielding software capable of distinguishing weapons from other items, but these

technologies are not yet widely available. Until advanced image recognition technology becomes more available, many—perhaps most—images of imported weapons posted on social media will go unnoticed.

A related problem is that most social media posts on imported and exported weapons are ad hoc and, consequently, coverage of arms transfers is almost always incomplete. While voluminous in number, these images only document a small percentage of transferred weapons. Furthermore, the vast majority of photos and videos of weapons shared on social media were taken for purposes other than documenting arms flows. As a result, many do not include the weapon's markings or distinctive physical characteristics, which reduces their analytical value. As described in detail in previous chapters, markings can reveal much about illicit weapons, including their make and model, country and date of manufacture, and even uniquely identifying information such as serial or batch number. This information provides important clues about the item's history, including, in some cases, its chain of custody.

Analysing tenders and contract award notices

Documents on the procurement of weapons and ammunition by government entities sometimes contain detailed information about exports and imports. These documents take many forms, including budget documentation, contract award notices, and tender notifications. An example of a contract award notice is provided in Figure 8.7.

The notice concerns the planned procurement by the US military of 40 mm grenade launchers on behalf of the government of Iraq. The contract for the launchers was awarded through the US Foreign Military Sales programme, the primary mechanism for authorizing and administering government-to-government arms sales.²⁰⁶ The notice includes the value of the contract, the company to which the contract was awarded, the location where the launchers will be manufactured, and the scheduled completion date—significantly more information than is included in most arms transfer reports. The notice also includes a reference number for the contract, which can be used to request more information (US DoD, 2016), such as the model and precise calibre of the launchers. Government agencies in some other countries publish similar documents online.²⁰⁷

²⁰⁶ In addition, the Defense Security Cooperation Agency (DSCA, n.d.) provides more information on the US Foreign Military Sales programme.

²⁰⁷ See, for example, EU (n.d.); Philippine DND (2013); Indian National Informatics Centre (2013).

Contract award notices and other procurement documentation can be valuable sources of data on weapons procured through government-to-government arms export programmes. Contracts are sometimes cancelled or revised, however, rendering data in award notices obsolete. Furthermore, such notices often do not provide a full accounting of potential exports since they may not reflect contracts issued by agencies or through programmes that are exempt from reporting requirements. Some agencies do not issue notices for contracts worth less than a certain amount. For example, the US Department of Defense only issues award notices for contracts valued at USD 7 million or more (US DoD, n.d.). Given the comparatively low unit cost of most small arms, contracts that fall below reporting thresholds may account for a large quantity of these weapons in some countries.

Figure 8.7 US Defense Department contract award notice regarding the procurement of 40 mm grenade launchers for Iraq, 2016

The screenshot shows the US Department of Defense website interface. At the top, there is a navigation bar with links for HOME, ABOUT, LEADERS, NEWS, PHOTOS, VIDEOS, and SPECIAL REPORTS. Below the navigation bar is a search bar and a breadcrumb trail: HOME > NEWS > CONTRACTS > CONTRACT VIEW. A disclaimer states: "This information is provided for historical purposes only. It may contain outdated information and links may no longer function. Please contact the DoD Webmaster if you have any questions about this archive." The main content area is titled "Contracts for June 7, 2016" and includes a sub-section for "CONTRACTS" under the "ARMY" category. The first contract listed is for Boeing Co., Mesa, Arizona, awarded a \$667,522,500 contract for 24 AH-64E Apache helicopters. The second contract, highlighted with a red box, is for AMTEC Corp., Janesville, Wisconsin, awarded an \$84,546,877 firm-fixed-price, foreign military sales contract (Iraq) for 40mm grenade systems. The text for this contract is: "AMTEC Corp., Janesville, Wisconsin, was awarded an \$84,546,877 firm-fixed-price, foreign military sales contract (Iraq) for 40mm grenade systems. One bid was solicited with one received. Work will be performed in Janesville, Wisconsin, with an estimated completion date of Sept. 30, 2018. Fiscal 2014, 2015 and 2016 other procurement (Army) funds in the amount of \$84,546,877 were obligated at the time of the award. Army Contracting Command, Rock Island Arsenal, Illinois, is the contracting activity (W52P1J-16-C-0049)." To the right of the main content are sections for "TOPICS" (FACE OF DEFENSE, HERDIO SERVICE, GLOBAL PARTNERSHIPS) and "SPECIAL REPORTS".

AMTEC Corp., Janesville, Wisconsin, was awarded an \$84,546,877 firm-fixed-price, foreign military sales contract (Iraq) for 40mm grenade systems. One bid was solicited with one received. Work will be performed in Janesville, Wisconsin, with an estimated completion date of Sept. 30, 2018. Fiscal 2014, 2015 and 2016 other procurement (Army) funds in the amount of \$84,546,877 were obligated at the time of the award. Army Contracting Command, Rock Island Arsenal, Illinois, is the contracting activity (W52P1J-16-C-0049).

Source: US DoD (2016)

Box 8.1 Tips for researchers: analysing data on authorized arms flows

- **Determine which items are included in the data.** Some sources only include data on government-to-government transfers of fully-assembled weapons while other sources include data on transfers of civilian firearms; parts, accessories, and ammunition; and/or technical information. Determining which items are included helps to identify any data gaps, and enables you to convey to your readers which items are covered—and which are not covered—in the data.
- **Determine whether the data reflects potential exports or actual exports.** Reports on ‘arms exports’ published by governments sometimes only consist of data on potential exports, such as export licences issued. Since not all licences result in deliveries, or in deliveries in the quantities specified in the licence, you should attempt to determine whether the data reflects potential or actual exports. If these attempts prove unsuccessful, you should explain to the reader that it is not clear whether the weapons have been delivered to the end user.
- **Identify any commodity categories or column headings that are vague, misleading, or over-aggregated.** Of particular concern are the following data and categorization practices:
 - (1) Inclusion of components, technical data, accessories, and other items in commodity categories that appear to only include complete weapons (for example, ‘rifles’, ‘firearms’, etc.).
 - (2) Use of ‘catch-all’ commodity categories that combine data on transfers of clearly identified items with transfers of items that do not clearly fit into other commodity categories. These categories can become dumping grounds for data on unusual items and on shipments by exporters who do not fully understand the categorization scheme.
 - (3) Use of misleading or unclear data on quantities. It is sometimes unclear whether data in the ‘quantity’ column refers only to complete (assembled) weapons or a combination of complete weapons, components, and/or accessories. In these cases, assuming that the data refers to complete weapons may result in significant overestimates.
- **Determine whether the data includes all arms transfers from a particular country or agency.** Some sources only include data on certain categories or types of arms transfers, such as government-to-government arms sales. Transfers that are commonly omitted from national reports and other government data sources include: (1) exports and imports of firearms and ammunition to civilians; (2) classified exports; (3) transfers that fall below reporting thresholds; (4) transfers of parts, components, and technical data in furtherance of licensed production arrangements; and (5) weapons, ammunition, and related items that are provided as part of foreign aid and training programmes.
- **Verify the data and interpretations of the data.** As noted above, reports on arms transfers often do not define key terms or column headings. These reports also sometimes include ambiguous or poorly defined commodity categories, and occasionally contain errors. Providing the reporting agency with the opportunity to explain its methodology, clarify terms and definitions, and confirm the accuracy of key data points helps to minimize errors and misinterpretations, and to ensure that analysis of the data is sufficiently nuanced and includes the appropriate caveats. You should cross-check data from the above-mentioned sources with other sources, and attempt to resolve any discrepancies with the assistance of officials from reporting agencies. Any unresolved discrepancies should be flagged for readers.

Conclusion

Tracking arms flows is a challenging but critically important endeavour that, until recently, has been constrained by the centralization of data and ponderous reporting practices. Recent advances in computing power, connectivity, and smartphones have resulted in exponential increases in the quantity of information that is publicly available, including information on weapons in (and from) some

of the least transparent countries in the world. The simultaneous expansion of field research complements the voluminous but often unverifiable imagery available on social media. When combined with records from UN databases and other legacy sources, this rapidly growing pool of data has the potential to dramatically improve our understanding of how, where, and to whom small arms are acquired and used.

— **Author**

Matt Schroeder

