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Web Trafficking

Analysing the Online Trade of Small Arms and Light Weapons in Libya

By N.R. Jenzen-Jones and Ian McCollum

small arms survey

Security Assessment in North Africa

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Small Arms Survey
Graduate Institute of International and Development Studies
Maison de la Paix, Chemin Eugène-Rigot 2E
1202 Geneva, Switzerland

Contributors: Jonathan Ferguson, James Luttrull, Graeme Rice, and Michael Smallwood
Technical review: Jonathan Ferguson

Series editor: Matthew Johnson

Copy-edited by Alex Potter (alex.potter@mweb.co.za)
Proofread by Stephanie Huitson

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Small Arms Survey
Maison de la Paix
Chemin Eugène-Rigot 2E
1202 Geneva
Switzerland

t +41 22 908 5777
f +41 22 732 2738
e sas@smallarmssurvey.org
w www.smallarmssurvey.org

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About the authors

N.R. Jenzen-Jones is a military arms and munitions specialist and security analyst who focuses on current and recent conflicts. He is the Small Arms Survey's technical specialist and director of Armament Research Services (ARES), a specialist technical intelligence consultancy. He has produced extensive research and analysis on a range of small arms and small arms ammunition issues, as well as technical assessments of incendiary weapons, emergent arms technology, and arms proliferation. His other research fields include the exploitation of technical intelligence to support counter-piracy, counter-narcotics, and other operations. He is a qualified armourer and ammunition collector, and a member of the European Cartridge Research Association, the International Ammunition Association, and the International Ballistics Society.

Ian McCollum is a researcher with ARES and the author and editor of *Forgotten Weapons*. He studies the history of firearms development and their practical use, with a particular interest in the developmental stages of manually repeating and self-loading arms. He has a degree in Mechanical Engineering Technology from Purdue University and an NIMS Level 1 CNC operator's certificate, and has worked in firearms manufacturing, as well as serving as a technical advisor for the Association of Firearm and Toolmark Examiners.

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List of abbreviations and acronyms

ACP	Automatic Colt Pistol
AK	*Avtomat Kalashnikova* ('Kalashnikov automatic rifle')
AK-74	*Avtomat Kalashnikova obraztsa 1974* ('Kalashnikov automatic rifle, model of 1974')
AK-74M	*Avtomat Kalashnikova obraztsa 1974 Modernizirovannyy* ('Kalashnikov automatic rifle, model of 1974, modernized')
AKM	*Avtomat Kalashnikova Modernizirovannyy* ('Kalashnikov automatic rifle, modernized')
AP	Armour piercing
API	Armour-piercing incendiary
API-T	Armour-piercing incendiary tracer
ARES	Armament Research Services
ATGW	Anti-tank guided weapon
BMG	Browning Machine Gun
CONMAT	ARES proprietary Conflict Material database
CS	Confidential source
EU	European Union
EUR	Euro
FAL	*Fusil Automatique Léger* ('light automatic rifle')
FALO	*Fusil Automatique Lourd* ('heavy automatic rifle')
FMJ	Full-metal jacket
FN Herstal	Fabrique Nationale de Herstal ('National Factory of Herstal')
GPMG	General-purpose machine gun
HK	Heckler & Koch
JSP	Jacketed soft point
LG1	*Lance-Grenades 1* ('grenade launcher 1')
LMG	Light machine gun
LYD	Libyan dinar

MAG	*Mitrailleuse d'Appui Général* ('general-purpose machine gun')
MENA	Middle East and North Africa
MILAN	*Missile d´Infanterie Léger Antichar* ('light anti-tank infantry missile')
MKEK	Makinave Kimya Endüstrisi Kurumu ('Machinery and Chemical Industry Corporation')
PAK	*Pistole Automatische Knall* ('automatic pistol blank')
PKM	*Pulemyot Kalashnikova Modernizirovannyy* ('Kalashnikov machine gun, modernized')
PoA	UN Programme of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons in All Its Aspects
PSL	*Puşcă Semiautomată cu Lunetă* ('semi-automatic sniper rifle')
R	Rimmed (when used as suffix in cartridge calibre designation)
RF	Rimfire (when used as suffix in cartridge calibre designation)
RPD	*Ruchnoy Pulemyot Degtyaryova* ('Degtyarev light machine gun')
RPG	*Ruchnoy Protivotankovyy Granatomyot* ('handheld anti-tank grenade launcher')
S&W	Smith & Wesson
SANA	Security Assessment for North Africa
SSC	Supreme Security Committee
SR	Semi-rimmed (when used as suffix in cartridge calibre designation)
SVD	*Snayperskaya Vintovka Dragunova* ('Dragunov sniper rifle')
UAE	United Arab Emirates
UN	United Nations
US	United States
USD	US dollar
USP	*Universelle Selbstladepistole* ('universal self-loading pistol')

Introduction

Access to arms and munitions in Libya continues to be critical to both non-state and state-supported armed groups across the ideological spectrum, as well as to individuals. Firearms play an important role in everyday life for many Libyans, often serving a dual-purpose role for those associated with militia units. Regardless of their affiliation, many Libyans keep firearms to defend their homes and businesses, and for personal protection outside the home. Distrust of the rival governments; their militias; the police and armed forces; and various tribal, ethnic, and other groups is widely expressed.[1] These sentiments are echoed in mainstream media reporting and academic research from 2012 to the present.

Prior to the 2011 revolution the Qaddafi government tightly regulated the domestic arms trade and all but prevented the widespread illicit arms trade in Libya. UN sanctions prohibited the legal export of arms and munitions to

Photo 1 **FN Herstal Browning Hi-Power self-loading pistol offered for sale on a social media platform**

Source: Confidential/Facebook, via ARES, 2016

Libya from 1992 to 2003[2] (see 'Historical trafficking and proliferation trends', below). The Libyan revolution of 2011 saw the capture and looting of a wide range of arms and munitions by non-state actors. While Libya's rival governing factions hold significant quantities of weapons and ammunition, substantial quantities have proliferated from Libya and many have found their way into the domestic black market (ARES, 2016b; 2016c).

This Working Paper examines the online trade in small arms and light weapons facilitated by the explosive growth in social media use among Libyans following the fall of the Qaddafi regime. While monitoring online trade is likely to capture data on only a small fraction of the illicit arms trade in Libya, it can serve to supplement information obtained from traditional sources (see Box 1, below) as well as offer insights into the Libyan black market more broadly. The paper draws on the Armament Research Services (ARES) Conflict Material database (CONMAT), which contains information regarding posts, groups, and individuals active on a variety of social media and communications platforms.[3] It

Map 1 **Choropleth map showing percentage of small arms and light weapons listings in the dataset by country of manufacture**

Notes: For the purpose of visualization on this map, Yugoslavian production was attributed to Serbia, East German production to Germany, Soviet production to the Russian Federation, and Czechoslovakian production to the Czech Republic. Libya is marked in blue.

Source: ARES, 2016

examines 1,346 unique attempted trades over a 12-month period (mid-November 2014–mid-November 2015) and highlights a number of important trends, including the following key findings:[4]

- Small arms and light weapons manufactured in 26 modern states[5] were offered for sale or trade on the illicit online market in Libya.
- Most of the small arms and light weapons offered for sale are attributable to pre-embargo imports by the Qaddafi regime, although post-embargo and post-revolution weapons are also listed.
- Small arms and light weapons produced from 1992 to the present day and documented as circulating in the illicit sphere in Libya consist of materiel manufactured in 12 states: Austria, Belgium, Bulgaria, China, France, Germany, Italy, the Russian Federation, Serbia, South Africa, Turkey, and the United Arab Emirates (UAE).
- Handguns are disproportionately represented in the dataset compared to the estimated percentage of the total small arms holdings in Libya that they comprise. This is primarily due to the high demand for concealable firearms in Libyan cities.
- Substantial numbers of blank-firing handguns—primarily produced in Turkey—were documented in Libya. While these handguns are often bought and sold openly, some are being converted into lethal-purpose firearms by both end users and merchants.
- Significant quantities of legacy firearms—both obsolete and obsolescent types—remain in circulation in the Libyan black market. Many of these weapons, especially handguns, remain highly sought after.
- Most trades are apparently conducted with sporting, hobby, and self-defence uses or commercial benefit in mind, but some participants involved in the illicit online arms trade have strong ties to Libyan militia groups.

This Working Paper represents only a very small 'snapshot' analysis of the online arms trade in Libya, and the broader Middle East and North Africa (MENA) region from mid-November 2014 to mid-November 2015. Analysis of CONMAT data indicates that the online trade is presently conducted across a large number of groups, and consists of a significant number of individual trades over several years. Further study would be invaluable.

Methodology and sources

Data collection

The original research informing this Working Paper is primarily based on raw data collected from online groups engaged in the arms trade in Libya. Broadly, the paper's intention is to present a case study on the types of information about illicit markets that may be derived from the detailed analysis of a specific set of social media images. The paper's analysis is thus focused on images posted on closed arms trading sites purportedly from Libya, an area of active conflict.[6]

Table 1 **Facebook group privacy settings**

	Public	Closed	Secret
Who can join?	Anyone can join or be added or invited by a member.	Anyone can ask to join or be added or invited by a member.	Anyone can join, but they have to be added or invited by a member.
Who can see the group's name?	Anyone	Anyone	Current and former members
Who can see who's in the group?	Anyone	Anyone	Only current members
Who can see the group description?	Anyone	Anyone	Current and former members
Who can see the group tags?	Anyone	Anyone	Current and former members
Who can see what members post in the group?	Anyone	Only current members	Only current members
Who can find the group in a search?	Anyone	Anyone	Current and former members
Who can see stories about the group on Facebook (ex: News Feed and search)?	Anyone	Only current members	Only current members

Source: Facebook (2016a)

The authors analysed data collected by ARES[7] from six groups[8] hosted on popular social media and communications platforms in order to monitor the online trade in arms and munitions and to engage with traders for research purposes. Access to these groups was gained in a variety of ways, including the use of traditional human intelligence methods (ARES, 2016a; 2016b). With one exception, these groups were not publicly viewable: in common social media terminology, they were either 'closed' or 'secret' groups. These typically have different levels of visibility and access available to users who are not members of these groups, and differ from 'public' groups (see Table 1).

These groups were of varying size, had differing levels of member activity, and were monitored for different lengths of time (see Table 2). The smallest of these groups, which was primarily intended to facilitate the trade in foreign currencies, but also features some arms trading, had fewer than 400 members. The largest and most active had nearly 14,000 members and accounted for the majority of the data that informs this paper.

Table 2 **Arms trading groups serving as sources for this paper**[a]

Group #	Privacy settings	Number of members[b]	Level of activity[c]	Active monitoring period[d]
Group 1	Closed	12,897	High	9 months
Group 2	Secret	2,723	Low	7 months
Group 3	Closed	6,982	Low	4 months
Group 4	Public	385	Low	4 months
Group 5	Closed	13,872	Medium	3 months
Group 6	N/A	404	Low	3 months

a The authors note that ARES monitored (and continues to monitor) additional groups not included in this paper.

b As at 5 p.m. on 22 February 2016.

c The level of activity for each group was determined by assessing the average daily posting rate over a period of three months. The bands set were as follows: low (1.0 to 4.9 posts per day), medium (5.0 to 14.9), and high (15.0 or higher).

d The active monitoring period is primarily reflective of the length of time ARES staff had access to the group in the 12-month period covered by the study. This period is generally determined by the closure or termination of groups and the formation of new groups.

Source: ARES (n.d.)

While the groups were actively monitored for different periods of time, archived posts were also documented.[9] The data analysed for this paper covers a full 12-month period from mid-November 2014 to mid-November 2015, wherever such data was available.[10]

Data gathered from these groups included numerous attempted trades of small arms and light weapons discussed in this paper.[11] Light weapons represent a comparatively small percentage of the arms and munitions offered for trade in Libya, and are examined in more detail in Security Assessment for North Africa (SANA) Dispatch No. 6, which draws on a broader range of entries in the CONMAT database, assessing 97 attempted trades of light weapons documented over an 18-month period from September 2014 to March 2016 (Jenzen-Jones and Rice, 2016).

Photo 2 **An example of a typical social media post offering a weapon (in this case, a Czech Sa vz. 25 sub-machine gun) for sale on the illicit market in Libya**

Note: the comments reflect group members' queries to the original poster regarding the asking price (LYD 1,300)[12] and location (Benghazi) of the weapon.

Source: Confidential/Facebook, via ARES, 2016

A total of 1,346 unique attempted trades[13] were assessed for this paper. The visible data shows initial offers or requests; however, evidence of further negotiation and confirmation of trades was only available for a limited number of examples. In most cases, negotiations took place via telephone or messaging platforms, including dedicated secure messaging mobile applications. The database entries assessed were almost entirely photographs; however, they were often accompanied by written information such as pricing, seller location, conditions of sale, provenance, or other pertinent details. This contextual information is also recorded in dedicated sub-sections and fields in the CONMAT database.

Data verification and compilation

The information contained in the CONMAT database was collected, graded, and assessed based on an established analysis methodology.[14] This methodology requires that each piece of data undergo a minimum, fundamental level of scrutiny before being included in the dataset. A variety of criteria informed the initial assessment of the data, including the amount and quality of the material; the nature and credentials of the material's source; the quality of any imagery,[15] including key signs of staging;[16] and any available meta-information.[17] Once data has been gathered,[18] a review is undertaken, duplicates removed, and individual entries graded according to their perceived credibility and reliability. Entries that do not meet the given requirements are cut.

Items that still form part of the dataset are then assessed for their relative importance and assigned a priority for further scrutiny. Items deemed significant[19] were given further attention by ARES researchers: images were subject to multiple reverse images searches on specialized search engines;[20] other contextual evidence was recorded and assessed; and the source of the material was vetted further to establish credibility. Contextual evidence was carefully recorded and assessed. In several cases, ARES researchers contacted parties to trades that inform the paper.[21]

Once the dataset has been finalized, an initial identification of each item by type, manufacturer, and model is conducted.[22] The authors reviewed the CONMAT database to identify data relevant to the paper. The final list, comprising 1,346 verified items in the database, forms the basis for the paper. This

data was augmented by broader research on illicit arms trafficking in Libya. Finally, specific information was gleaned from a series of interviews with both online sellers in the groups monitored, and confidential sources in Libya and elsewhere with relevant knowledge and expertise.

Data analysis

By using appropriate database functions, entries for online arms trade postings were categorized and cross-referenced. The dataset was edited to remove incomplete listings, and entries checked for verification. Because the entries were detailed largely in nominal measurements, counts were based on the number of total related entries between categories. For percentages, these counts were then taken from the total number of counts available per category topic and rounded to two decimal places. Comparative tabulation was performed to create data tables. All shading was carried out by automated choropleth shading functions.

Pricing data was averaged to the mean by regional category. For thresholds of market viability for a listing, highest offer and asking price data was refined using a ratio in terms of which highest offers must have been above 75 per cent of the value of the asking price and below 300 per cent of the same value. This ratio was designed with 75 per cent value acting as a minimum to establish that a listing at least approached market-clearing price. An upper limit of 300 per cent of the asking price was added to exclude insincere 'gag' offers and the humour rife in social media marketplaces. Because the majority of exchanges are conducted privately, this portion of the dataset is restricted in the scope of its application.

Although over 1,300 listings are contained in the dataset, it cannot be said that all items were listed with a price acceptable to the market. Additionally, with the exception of limited cases in which ARES communicated directly with buyers and sellers, it cannot be conclusively stated whether a given item was sold. The nature of private sales obscures whether listings were successfully traded—or indeed valued at the market rate. The majority of listings for each listing type indicated that very few exchanges were being publicly made online. This is confirmed by interviews with five confidential sources, who indicated

Box 1 **Social media as a research tool: potential and pitfalls**[23]

Social media is an increasingly important source of data on the authorized and illicit acquisition of small arms and light weapons. Imagery posted on Facebook, Twitter, YouTube, or other social media platforms is often the first—and sometimes the only—publicly available evidence of the proliferation of particular models of weapons. These images can also provide important information about the age, condition, provenance, and recipients of these weapons.

Other benefits of social media for data collection include its decentralized nature and the short lag time between when information and images are generated and when it is posted. This is not always the case for traditional data sources. For example, the near real-time flow of potentially relevant data from social media sources contrasts sharply with official reporting processes for arms transfers, which are often slow and only include data from transparent countries.

As the number of governments participating in these processes shrinks, the use of social media to track the authorized arms trade could become an important alternate source of useful data.

As a pure research tool, however, social media suffers from several significant limitations. Most postings on arms transfers are ad hoc, i.e. the flow of information on social media is often erratic and incomplete. Furthermore, the posts often do not contain the type of information useful in ensuring coverage of the arms trade on social media is complete. The vast majority of photos and videos of weapons on social media were taken for purposes other than documenting arms flows and therefore many do not include key details about individual weapons, including their markings. Furthermore, while voluminous, social media posts document only a small percentage of authorized and illicitly transferred weapons.

Verifying the accuracy and authenticity of social media posts is another significant challenge. Unlike traditional media sources such as newspapers, there may be little fact-checking or vetting of information posted on social media. And the barriers to entry are minimal; anyone with a smart phone can post information and images online, and instantly distribute them to people around the world. As a result, false or erroneous information can rapidly spread on social media, making it an attractive tool for propagandists and other purveyors of misinformation.

Another shortcoming of social media as a research tool is the difficulty of systematically searching, collating, and storing posted data. No single search engine generates a complete set of hits from online posts, and most images of weapons are not identified and tagged. Advances in search and image recognition technology may eventually enable comprehensive searches of the social media sites, which would significantly enhance their utility to researchers. Even then, social media's inconsistent coverage of arms flows and its vulnerability to manipulation mean that it is likely to remain a supplement to—rather than a substitute for—traditional sources of data on the arms trade for the foreseeable future.

that the standard exchange procedure involves private negotiation via online messenger or mobile phone. Therefore, while it is useful to assess the initial prices associated with listings, these are not a strong indicator of whether a particular item was sold or of the precise price for which an item was sold.

Arms in Libya

Historical trafficking and proliferation trends

Prior to the 2011 revolution, the Qaddafi government largely kept illicit arms trafficking and black market sales in check. Sources described the pre-2011 availability of small arms and light weapons among civilians as 'almost non-existent' and 'unheard of' (ARES, 2016b). A UN arms embargo imposed in March 1992 aimed to prevent the legal export of arms and munitions to Libya. This was supported by embargoes or de facto embargoes by other states, including the European Union (EU), United Kingdom, and United States.[24] In August 1998 a Security Council resolution provided for the suspension of UN sanctions against Libya once Libya had taken steps to resolve accusations of its supporting the bombing of two foreign airliners. In April 1999 sanctions were suspended, but not lifted. Once Libya had accepted responsibility for the actions of Libyan officials, agreed to pay compensation, committed to further cooperation with investigators, and denounced terrorism, Security Council Resolution 1506 of September 2003 lifted the arms embargo (SIPRI, 2012a). Some national or regional embargoes remained in place following the lifting of the UN arms embargo; the EU embargo, for example, was not lifted until October 2004 (SIPRI, 2012b). Libya's 2010 UN Programme of Action (PoA) report states that 'light weapons' (believed to mean 'small arms and light weapons') could not be possessed by civilians without authorization, and that such permits would only be granted to members of the armed forces, police officers, judicial officials, and prosecutors (Libya, 2010).

Nonetheless, the Qaddafi-era government was characterized by its massive arms holdings, vastly in excess of what was required to support the 76,000 active troops and 40,000 reserve forces ('People's Militia') estimated to comprise the government's forces before the 2011 conflict began (IISS, 2011). Qaddafi was widely suspected of providing material support, including supplying arms and munitions, to various insurgent groups in Africa, including those operating in Chad, Liberia, Somalia, and Sudan (Bhatia, 2001; Blanchard and Zanotti, 2011; Solomon and Swart, 2005). Numerous images from the revolution showed

Photo 3 **During the Libyan revolution, captured weapons were removed from storage in Qaddafi's extensive stockpiles. It was common for these to be taken from their original packaging**

Source: Reuters/Goran Tomasevic, 2011

captured or destroyed storage facilities containing immense quantities of small arms and light weapons, ammunition, and other arms and ordnance (Jenzen-Jones, 2012b). The Libyan revolution of 2011 directly resulted in a massively increased proliferation of arms and munitions in the illicit sphere in Libya. Following the outbreak of hostilities in February 2011, the UN Security Council established a new arms embargo on Libya.[25] Resolutions provided for the transfer of arms to the newly recognized National Transitional Council if such transfers were approved by the Sanctions Committee (UNSC, 2011b).[26] Further resolutions in 2013 and 2014 modified the embargo, and at present lethal arms and related materiel of all types intended solely for security or disarmament assistance to the 'Libyan authorities' can be imported with the advance approval of the committee (UNSC, 2011a; 2013a; 2014a).

The sharp rise in arms flows in Libya after the revolution has been reflected in both the quantity of arms being regularly traded, and the diversification of

Box 2 **Open-air firearms markets in Tripoli**[27]

Large Libyan cities, including Tripoli, are home to a number of open-air markets selling firearms and related hunting, sporting, and tactical products. For example, Souk (or Soug) el Hout (fish market) on Al Rashid Street in Tripoli, as well as general street markets throughout Tripoli's Old City, are popular locations for the sale of firearms (see Map 2). Souk el Hout in particular is known for merchants who offer a range of arms, including significant numbers of blank-firing guns, some of which are converted to lethal-purpose firearms (see Box 4, below). The sellers in these markets occasionally face crackdowns from local government-sponsored militia, with one such crackdown occurring in mid-2014. Confidential source (CS) 6 indicated that this has now abated and the practice of selling weapons has resumed. Interestingly, this crackdown was not due to the sale of firearms—blank-firing weapons in particular are widely accepted in Libya—but due to a number of sellers plying their trade without the appropriate licences. A source familiar with illicit street markets in Tripoli's Old City explains:

> *Usually there was no law that could be enforced other than that from the local militia or 'Katiba' clamping down on the illegal sale in the streets around the Old City and the market of 'Soug el Hout'. NOT because they were selling these guns but because they had no licence to sell any goods or set up their stalls in the area. . . . These guns were often encouraged to be tested by those selling them; to be fired into the air with no warning or care for surrounding civilians* (ARES, 2016b).

CS7 noted that the sale of firearms in Tripoli has become more difficult since 2012–13, but that weapons are still easily purchased. While blank-firing weapons are often on display, lethal-purpose firearms are often just a phone call away:

> *In the period of 2012–2013 it was very easy [to buy a] gun, there were shops selling on the streets in Tripoli (most known street was Al Rashid St). With a few phone calls you can get a firearm starting from a 9 mm [self-loading pistol] (Turkish or Belgium made) to a rifle FN [FN Herstal FAL self-loading rifle] to an AK [-type self-loading rifle]. . . . The main source of guns was in [the] Wershefana area (west of Tripoli)* (ARES, 2016b).

Map 2 **Location of selected firearms markets in Tripoli**

Source: ARES, 2016. Map data © Google, 2016

locations and platforms used to facilitate sales. The resurgence of illicit arms flows has seen black-market sellers emerge and consolidate in densely populated areas across Libya, including Tripoli and Misrata, as well as in smaller towns in closer proximity to the ongoing fighting. In larger towns and cities, firearms are now traded openly or semi-openly in marketplaces and *souks* (ARES, 2016b).

Emergence of online markets

In parallel to the general increase in illicit arms sales following the 2011 revolution, one specific phenomenon to emerge was the widespread use of online platforms, especially social media, to advertise and conduct illicit sales of arms, munitions, and other illicit materiel. Non-state armed groups in Libya also began to use social media to communicate, recruit members, and manage their public image. While it remains difficult to establish a specific time frame in which online sales began in earnest, initial reports of widespread selling emerged in mid-to-late 2013 during the course of research conducted for a Small Arms Survey Dispatch examining small-calibre ammunition available in Libya (Jenzen-Jones, 2013b). A news report later mentioned two online arms sales groups and interviewed a Libyan buyer of a Turkish air pistol (Kibrisli, 2013). A January 2014 report looked closely at the role social media played in the further distribution and proliferation of surplus or captured weaponry from the Qaddafi regime (Snell and O'Grady, 2014). And a February 2014 ARES article examined previously undocumented pistol designs that were offered for sale on Facebook (Ferguson, 2014a).

Increased access to the Internet is likely to be a key factor in explaining the growth of these online platforms. The Qaddafi government made constant efforts to disrupt Internet connectivity, and many Libyans experienced comparatively low Internet access until after the 2011 revolution (ARES, 2016b; Biswas and Snipes, 2014). Despite limitations to access, social media played an important role throughout the revolution, and platforms such as Twitter and Facebook became increasingly popular among Libyan youth (Dubai School of Government, 2011). When asked about the beginnings of arms sales via social media platforms, CS6 said:

It was around the time when people were able to register to get routers to allow them to access the internet. This was because not everyone had internet access before the revolution and with Libya being previously a socialist state the telecommunications industry was monopolised by [a] Libyan company. When routers and other 3G devices became more readily available to the public in late 2012, that was the beginning of the Libyans['] real love affair with Facebook (ARES, 2016b).

Various social media and online sales platforms have been used to facilitate the arms trade in Libya. One major provider has proved to be popular due to the quick, easy, and relatively anonymous process of creating private user accounts and invitation-only groups.[28]

Some social media and communications platforms have moved to explicitly ban private sales of firearms. In January 2016, for example, Facebook sought to ban all private firearms sales, including sales that would be legal in the country in which they occur. Facebook's 'community standards' were modified to include the language: 'We prohibit any attempts by unauthorised dealers to purchase, sell or trade prescription drugs, marijuana, firearms or ammunition' (Facebook, 2016b). These new restrictions still rely on users to report violations, however. Facebook said it would rely on its vast network of users to report any violations of the new rules (Goel and Isaac, 2016).

Despite the fact that the overwhelming majority of posts to the groups trading arms and munitions in Libya are in Arabic, little effort is made to conceal the groups' intent in their cover images, names, and similar features. Many have names such as 'The Libyan Firearms Market' (now defunct), and cover images showing arms and munitions, or proclaiming the nature and intent of the group.

While a group being shutdown can potentially hinder users temporarily, the ease with which replacement groups can be created means that it is unlikely to have a significant impact on the overall trend towards online listings. In some cases, a core 'nucleus' of members has been seen to transfer between the rise and fall of a number of groups, indicating that members are likely communicating outside of the group's structure (ARES, 2016a). Additionally, some of the larger pages documented, including those with thousands of users, have been operating without disruption for more than 18 months, suggesting that the incidence of reporting and subsequent action is rare. This, combined with

the ease with which new online trading groups can be created, means that these platforms are likely to remain attractive unless the status quo changes substantially.

While the focus of this paper is on the trade of military materiel, it should be noted that in some cases the same online groups feature adverts for other items, including consumer electronics, second-hand vehicles, fake or stolen passports, the illicit trafficking of migrants, and foreign or counterfeit currency. In general terms, different groups see more or fewer listings depending on the total number of members. In the most populated group that was monitored it was not uncommon to see 15 to 20 unique items listed in a day (Group 5 in Table 2). ARES monitoring indicates that as many as 300 posts have been made per month in some months of 2016 in Libya alone (Chivers, 2016).

Online traders in Libya

Together with what can be learned from the items being posted for sale online, insights into the broader illicit trade in Libya can be garnered from an analysis of the sellers and buyers involved. Although online trading is a relatively new phenomenon, in many respects it appears to function very much as a natural extension of illicit sales in Libya conducted in traditional physical black-market settings. Several meaningful observations can, however, be made. In addition to an analysis of the sales data collected, several traders from various online groups provided information on the participants, process, and sources of the trade of arms conducted online in confidential interviews (ARES, 2016b).

Four broad types of participants appear to be involved in the online illicit arms trade in Libya:

1. individuals making purchases for self-defence, sporting, or hobbyist reasons;
2. small-scale commercial traders, typically individuals;
3. larger-scale commercial traders often linked to physical shops or stalls; and
4. traders associated with non-state armed groups.

Group 1 primarily comprises buyers; Group 4 primarily comprises sellers; while Groups 2 and 3 comprise parties who commonly conduct both purchases and sales.

Box 3 **Confidential sources: a snapshot view**

The data analysed in this paper is supported by interviews conducted with Libyan sources actively engaged in the online trade of small arms and light weapons (ARES, 2016b). The sources were selected for their involvement in the online arms trade: some were members of one or more of the groups monitored by ARES during the research phase of this project, while others were identified by fellow participants or source networks that ARES maintains in Libya. A summary of each source's background is presented below.[29] The interviews were conducted by a Libyan Arabic speaker via telephone or VOIP services. Note that most quotes provided by confidential sources have been translated by a native Libyan Arabic speaker, and some grammar has been adjusted for clarity.

- CS1 is a 33-year-old farmer from Misrata who buys arms online and through black-market contacts to support his hunting hobby.
- CS2 is a 25-year-old member of an influential non-state armed group operating in Tripoli who acts as a buyer and seller of primarily small arms for the group.
- CS3 is a 20-year-old student from Treeg eh Suria who uses his profits from small-scale illicit arms trading to fund his education. He trades mostly in Belgian handguns.
- CS4 is a 25-year-old former militiaman in Suug el Joma who is now working in his family's textile shop. He supplements his income by engaging in the black-market arms trade.
- CS5 is a 23-year-old student in Hadba who trades in arms and munitions as his primary source of income. He notes the high demand for 9 × 19 mm handguns among his clientele.
- CS6 is a Libyan national in his early 30s, now living in the United Kingdom. He formerly worked in the education sector in Tripoli and fought in the 2011 revolution.
- CS7 is a mid-20s engineering student living in Tripoli's western suburbs. He reports that many of his fellow students have taken part in one capacity or another in the illicit arms trade in Libya.
- CS8 is the owner of a Turkish company that manufactures shotguns, primarily for sporting purposes.

Individual traders comprise the majority of members; however, in most groups they do not account for the majority of posts. Individual traders are primarily purchasers, although many also sell small arms and ammunition. For these individuals, the primary motivation for purchasing weapons seems to be self-defence, with many expressing an interest in handguns, including blank-firing handguns. The latter have proved to be the most popular among those seeking cheap self-defence weapons. CS6 said this is often 'a person who drives a vehicle (to protect himself against carjacking) and usually someone aged between 16 to 30 who cannot afford the more expensive firearms' (see Box 3, above). Other motivations for purchasing arms via online platforms

include sporting and hobbyist purposes. CS1 is an avid hunter, and buys arms both commercially (at sporting goods stores) and from informal (typically illicit) online markets for his hobby. While looking for high-quality 'sniper rifles and ammunition' to support his sporting interest, he also notes that such weapons could be used in defence of his family and farm.

A large number of sellers post regularly, suggesting that they are not simply using the online platform to cater for a hobby or personal interest. Many of the sellers who act on a small-scale commercial basis use the income from arms sales to support side interests (such as collecting arms and munitions) or to pay for other aspects of their lives. CS3 pays for his higher education using profits earned from the small-scale trade in handguns, while CS5, also a student, trades various handguns of primarily Turkish origin as his primary source of income.

Other sellers explicitly state their commercial interest, often posting listings containing multiple items or declaring the range of other wares they have to offer. A small number of these actively maintain social media profiles that represent themselves as gun stores or market stalls. Several have names such as '[Region's name] Guns' or 'Hunting Supplies [Region's name]'. These sellers

Photo 4 **Torun brand Turkish-made self-loading shotguns offered for sale by a self-identified 'commercial gun-shop owner'**

Source: Confidential/Facebook, via ARES, 2016[30]

may include in their posts phone numbers or links to social media pages or profiles for their physical trading locations. The primary products for these sellers appear to be shotguns, hunting rifles, and blank-firing handguns (see Box 4, below); however, a number have also advertised automatic rifles, machine guns, and ordnance.

Interviews with online sellers and other confidential sources, supported by an assessment of associations through social networks and via traditional intelligence-gathering methods, indicate that some participants involved in the illicit online arms trade have strong ties to Libyan militia groups (ARES, 2016b). Often, these are individual members purchasing arms and munitions for their personal use (often linked to their activities with a militia group). Other members of non-state armed groups may serve as buyers and sellers on behalf of their militia group. One confidential source indicated that these purchasing officers were typically younger members of the group, and often served under a quartermaster or senior figure in charge of acquisitions (ARES, 2016b). Several accounts believed to be linked to militia groups have posted frequent 'wanted' listings for particular arms and ammunition. In many cases, these advertisements ask for 'any quantity available' and have requested ammunition such as 12.7 × 108 mm, 14.5 × 114 mm, and 23 × 152B mm, which are cartridges not typically associated with weapons used in civilian self-defence.

Confidential sources noted the role that militia groups play in the market. Contributing to the supplies that are available, 'some militias tend to sell their own personal arms as they have guaranteed more arms coming in funded by the government', said CS5. Militias also contributed by selling any 'weapons they have confiscated at border patrols' (CS4) or checkpoints. One source noted that although a glut of weapons was available for sale in the aftermath of the revolution, 'Turkey and other countries are [now] shipping [arms] into Libya' (CS2) to feed a growing market (ARES, 2016b).

General trends

The trade of arms and munitions via social media platforms appears to be primarily conducted by male participants in their 20s and 30s.[31] CS7, an engineering student living in Tripoli's western suburbs, notes that many of his fellow

students are involved in the illicit arms trade in Libya in some capacity (ARES, 2016b). While many of the sellers did not list their location openly in posts, the majority of listings in the dataset used for this paper were documented in the Ṭarābulus region (62 per cent), in which Tripoli is located. Important population centres remain the most significant locations for participants in the illicit online arms trade in Libya.[32]

Confidential sources described a boom in the market for arms following the fall of Qaddafi. Having seen an opportunity for profit, many sources began trading as a source of income. With 'no arms or munitions in the street at all' (CS1) prior to the revolution, post-revolution demand for personal weapons exploded (ARES, 2016b). Those with backgrounds in armed groups often sold former Warsaw Pact and Soviet self-loading rifles. In contrast, part-time dealers focused more on handguns: there is intense market interest in 9 × 19 mm handguns, particularly of Belgian and Turkish design. Belgian weapons were more reputable, but Turkish handguns were known to be 'cheap and reliable for the price' (CS4). This split suggests that there are basically two types of demand: buyers looking for the 'tools of the (paramilitary) trade' versus buyers looking for guns for personal defence (ARES, 2016b).

These are 'cash only' sales, usually negotiated directly between private buyers and sellers. Buyers count on Internet sales to 'remain anonymous and . . . find better quality arms than available locally' (CS3). The standard method of transfer relies on buyers and sellers using private groups, online forums, or word-of-mouth references to connect buyers and sellers. Both parties would almost invariably discuss the sale in a telephone call or via text messaging before meeting to exchange goods for cash or trade. Although buyers are primarily Libyan, they are not exclusively so, and buyers 'from all over North Africa . . . as far as Egypt and Sudan' (CS4) participate in the market (ARES, 2016b).

A number of other brief observations can be made:

- Several sellers operate accounts with profiles that appear to have been solely set up for the purchase of illicit goods.
- Sellers often attempt to confirm the authenticity of their offerings to potential buyers. This is particularly true when the weapons offered are unique or higher priced. This includes posting pictures of the item with digital camera timestamps, alongside watches with the time of posting and with other goods

known to be in the seller's possession, or—occasionally—posting images of the serial number and other markings.

- Sellers, particularly those identified as small-scale commercial sellers,[33] attempt in various ways to 'add value' to the products they are selling. This includes the addition of cheap Chinese- or Turkish-made after-market weapons accessories such as vertical fore-grips, optical sights, and railed top covers or fore-ends.
- Items offered for sale were frequently wrongly identified, showing a lack of expertise on the part of online traders. In one particularly egregious case, a Belgian PRB NR 434 rifle grenade was described as a 'missile shield rocket' with a lethal radius of '250 metres'. It was offered for sale at LYD 1,000.[34] The dataset shows that these rifle grenades typically sell for an average of LYD 140.
- A sub-set of arms collectors seems to purchase primarily high-cost 'status weapons' and post photographs to exhibit their collections to others: the weapons are often shown together with sports cars, watches, sunglasses, and similar items.

Trends in arms sold online

A wide variety of arms and munitions have been documented in Libya since 2011, but the majority come from a discrete number of sources and their origins are readily understood. Many of these are from former Warsaw Pact countries: AK-type rifles, and PKM-type machine guns, and other common Eastern Bloc arms and munitions make up a substantial portion of the dataset. Significant quantities of arms also originate from manufacturers in Belgium (FN Herstal), Italy (Beretta), and Turkey (various). Smaller but still notable quantities of arms are found from manufacturers in Brazil (Taurus) and the United Kingdom (Webley), together with fewer items from Germany, Austria, France, and the United States.

Describing the dataset

The overall distribution of the gathered data is skewed heavily toward listings of small arms and light weapons.[35] Of the 1,346 dataset entries, 72 per cent

Table 3 **Small arms and light weapons by country of manufacture**

Country of manufacture	Number of small arms and light weapons in dataset
Unknown[a]	268
Belgium	130
Turkey	124
Italy	74
Russian Federation	61
Romania	54
Soviet Union	46
China	36
United Kingdom	20
Yugoslavia	19
Czechoslovakia	17
East Germany	16
Germany	15
United States	15
Brazil	14
India	10
Austria	9
Bulgaria	7
France	7
Serbia	7
UAE	7
Czech Republic	2
Egypt	2
Spain	2
Finland	1
Hungary	1
Iraq	1
Pakistan	1
Poland	1
South Africa	1
Total	**968**

a As noted, the majority of unknown listings were of former Warsaw Pact origin. These are largely AK-type rifles that could not be definitively identified.

of item listings were classified as small arms and light weapons, accompanied by 16.3 per cent of listings classified as small- and medium-calibre ammunition. The remaining 11.7 per cent of listings are spread among heavier weapons, military equipment, and ordnance.

Table 3 shows the market share by country of manufacture for small arms and light weapons.[36] While the largest numbers of listings originate from expected small-arms-manufacturing centres like Belgium (13.4 per cent), regional neighbours such as Turkey (12.8 per cent) also took a large share. Former Warsaw Pact states accounted for notable quantities. The majority of the 'unknown' listings are of former Warsaw Pact origin, largely comprising AK-type rifles that could not be definitively identified, but are known to have originated from one of a discrete number of sources.

Similar trends apply to the distribution of listings for self-loading rifles, which are considered to be the primary infantry weapon.[37] However, Turkey accounts for significantly fewer self-loading rifles than other categories of small arms and light weapons, with the bulk of Turkish weapons in Libya consisting of shotguns and blank-firing handguns. Additionally, compared to

the number of handguns found in the dataset, the number of rifles sold by former Warsaw Pact and Soviet Union successor states is dramatically higher. The comparative rise indicates that a larger portion of the small arms and light weapons sales from these countries (to Libya) are likely to have been self-loading rifles.[38] Self-loading rifles account for approximately 43 per cent of the small arms and light weapons in the dataset (see Table 4).

Table 4 **Small arms and light weapons by type**

Type category	Number of small arms and light weapons in dataset
Self-loading rifle	419
Handgun	325
Blank-firing weapon	92
Machine gun	44
Sub-machine gun	38
Shotgun	22
Guided light weapon	9
Recoilless weapon	8
Less-lethal weapon	3
Manually operated rifle	3
Mortar	2
Rocket launcher	2
Anti-materiel rifle	1
Total	**968**

Table 5 **Self-loading rifles by country of manufacture**

Country of manufacture	Number of self-loading rifles
Unknown	83
Belgium	67
Russian Federation	65
Romania	57
China	26
Soviet Union[a]	26
Yugoslavia	20
Turkey	19
East Germany	17
Bulgaria	11
Serbia	7
Italy	7
Czechoslovakia[b]	6
Germany	4
Czech Republic	1
Finland	1
Hungary	1
Poland	1
Total	**419**

a Some of the rifles attributed to the Soviet Union may have been produced in the Russian Federation. It was not always possible to conclusively identify the provenance of each weapon from the images and data available.

b Some of the rifles attributed to Czechoslovakia may have been produced in the Czech Republic. It was not always possible to conclusively identify the age of each weapon from the images and data available.

Table 6 **Prices of self-loading rifles in the dataset by family type, mid-November 2014–mid-November 2015**

Rifle family type	% of total	Average asking price[a] (sample size)
AK	65.6	LYD 1,820 (112)[b]
FAL	14.4	LYD 2,240 (20)
G3	6.6	LYD 3,210 (11)
Other	13.4	N/A

a Figures are approximate and rounded to the nearest LYD 10. The approximate black-market exchange rate in both November 2014 and November 2015 was LYD 3.60 to USD 1. As noted above, given the often-volatile black-market Libyan dinar exchange rates, prices quoted in US dollars would be only approximate. As such, the table uses the original dinar pricing.

b This figure includes AK-103, AR-M9F, and M70 and M92 rifles, each of which is priced higher than the average for other AK-type rifles. If these four models are excluded, the figure is LYD 1,710 (for a sample of 76).

The self-loading rifles in the dataset broadly reflect the prevalence of major types globally (see Table 5). AK-type rifles account for the majority of those traded online in Libya (65.6 per cent), followed by FAL-type rifles (14.4 per cent), and G3-type rifles (6.6 per cent). In lesser proportions, all other self-loading rifle types account for the remaining 13.4 per cent.[39] Globally, the AK is by far the prevalent rifle type, with an estimated production figure in excess of 74 million units worldwide. The G3 and FAL types follow some way behind, with approximately 8 million and 5.5 million units, respectively (Jenzen-Jones, 2017). Table 6 and Figure 1 show the distribution of self-loading rifles in the dataset by broad 'family type'.

Figure 1 **Self-loading rifles in the dataset by family type**

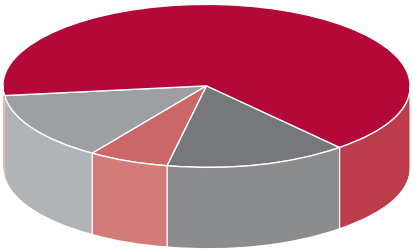

Table 7 **Self-loading rifles by calibre**

Calibre	% of self-loading rifles
7.62 × 39 mm	65.7
7.62 × 51 mm	20.2
7.62 × 54R mm	8.6
5.56 × 45 mm	3.9
9 × 19 mm	1.0
5.45 × 39 mm	0.3
Unknown	0.3

Given the distribution of self-loading rifle listings leaning heavily toward weapons of Soviet or post-Soviet origin, the rifles as classified by calibre display a significant majority of weapons chambered for the 7.62 × 39 mm cartridge common to many AK variants and successor rifles and the 7.62 × 54R cartridge common to self-loading designated-marksman rifles such as the PSL and SVD (see Table 7). NATO calibres such as 7.62 × 51 mm and 5.56 × 45 mm accounted for a minority of the rifles (a combined 24.1 per cent); 9 × 19 mm is present, primarily associated with the Beretta Cx4 self-loading rifle.

Obsolescent weapons

A succession of conflicts large and small over the past century has left a legacy of many different types of obsolete or obsolescent military hardware scattered across Libya and its MENA regional neighbours. The most significant of these were the North African campaigns involving German, Italian, British, and US forces (and their respective allies) during the Second World War. While some of the remnant weapons from these conflicts would be unserviceable, significant quantities either remain in proper working order or could be repaired without much difficulty. Once abandoned or lost in battle, these arms are beyond the reach of many formal arms control policies and can travel some distance in the illicit arms trade. We see evidence of various 'legacy'-type firearms in Libya in the dataset, accounting for at least 10 per cent of the small arms listed in the dataset.[40]

Handguns

The dataset also contains a large number of handguns (325). This is likely to be disproportionately high compared to the percentage of handguns making up the total small arms holdings in Libya (ARES, n.d.). This is most likely due to the high demand for concealable firearms for personal self-defence in Libyan cities, in particular as a defence against carjacking (ARES, 2016b).

Handguns are regarded as a status symbol in post-2011 Libya, while also representing a practical means of self-defence (ARES, 2016b; Vincent, 2016). The price of conventional handguns is often exorbitant compared to their value on commercial markets in Western countries, while handgun-calibre ammunition is similarly expensive. In one example, a Caracal Model F documented by ARES in November 2014 was reported to cost LYD 5,000 (USD 3,600)[41] (Morajea

and Smallwood, 2014). This is typical of the high value placed on handguns in Libya, with mid-2016 prices 'starting from LYD 3,000 up to LYD 10,000' (USD 2,200–7,200) (ARES, 2016b). The dataset shows that the average mid-2016 price for a handgun in terms of market-clearing prices was in excess of LYD 4,000 (USD 2,900), while an FN Herstal Browning Hi-Power, for example, commanded an average price of LYD 6,000 (USD 4,300) (see Tables 11 and 12, respectively).

These prices greatly outstrip the commercial value of these handguns. For example, while Caracal Model F handguns were listed for sale for between LYD 4,500 and 5,500 in Libya from 2014 to early 2016, their suggested retail price when offered for sale in the United States in 2012 was only USD 499 (Horman, 2012). Furthermore, an investigation conducted by the UN Panel of Experts on Libya into a Caracal Model F documented in Libya by ARES revealed that the manufacturer sold these handguns to Libya at a unit cost of USD 400 (UNSC, 2015). This can be partially accounted for by the low street value of the Libyan dinar; these prices are still extraordinarily high, though.

Various vintage military and civilian handguns are recorded in the dataset that are in excess of several decades old. Weapons of this type could have found their way into a country like Libya in a variety of ways since their original production (in some cases as many as 100 years ago). All of these handguns have been widely available on the civilian commercial market around the world and come from a wide variety of manufacturers (see Table 8).

Table 8 **Handguns by country of manufacture**

Country of manufacture	Number of handguns in dataset
Unknown	99
Italy	52
Belgium	44
Turkey	31
United Kingdom	20
United States	15
Brazil	15
Austria	9
China	9
UAE	9
Germany	5
Czechoslovakia or Czech Republic	4
France	4
Egypt	3
Spain	2
Iraq	2
Soviet Union	1
Yugoslavia	1
Total	**325**

Belgium was a key country of manufacture for handguns in the dataset, with some Belgian handguns likely dating from the 1960s or 1970s, while others were delivered as recently as 2009. However, Warsaw Pact countries and their successors are almost entirely absent from this portion of the market. The Turkish (9.5 per cent) and Italian (16 per cent) market share rivalled or exceeded Belgian listings (13.5 per cent). While Italian handguns documented in Libya range from those produced shortly after the Second World War to those produced in the last decade, Turkish handguns all appeared to be of comparatively modern production. According to UN Comtrade data, Turkey exported handguns to Libya in 2012 and 2013 (see UN Comtrade, n.d.). It should be noted that these figures do not include blank-firing handguns, because these were considered separately (see below). The vast majority of the 'unknown' handguns in the dataset are believed to be of Turkish origin, with smaller numbers likely of Chinese origin. A diversity of manufacturers, models, and counterfeit types often means that definitive identification is not possible from limited or low-quality images, as will become clear in the discussion of individual weapons types in the Annexe.

Table 9 **Handguns by calibre (excluding blank-firing handguns)**

Calibre	% of handguns in dataset
9 × 19 mm	49.8
9 × 18 mm	12.3
Unknown	12.2
7.65 × 17SR mm (.32 ACP)	9.1
9 × 20R mm (.38 S&W)	5.8
9.1 × 29R mm (.38 Special)	2.6
6.35 × 16SR mm (.25 ACP)	1.6
9 × 17 mm (.380 ACP)	1.6
9 mm PAK (converted)[a]	1.6
5.7 × 28 mm	1.0
11.25 × 23 mm (.45 ACP)	0.7
7.62 × 25 mm	0.7
9 × 33R mm (.357 Magnum)	0.7
10 × 22 mm (.40 S&W)	0.3

a This entry reflects 9 mm PAK (blank-firing) handguns that have been converted to lethal-purpose weapons, where the calibre of the conversion is unknown.

Of the handguns listed, a wide range of calibres were represented, with the dominant majority being chambered for the ubiquitous 9 × 19 mm calibre (49.8 per cent). There were also notable quantities of 9 × 18 mm, .32 ACP (7.65 × 17SR mm), and .38 S&W (9 × 20R mm)[42] (see Table 9).

Turkish-origin small arms

As noted above, small arms and light weapons of Turkish origin account for a significant portion of the total listings (12.8 per cent). While Belgian materiel accounts for a slightly larger share at 13.4 per cent, the majority of Turkish arms in the dataset appear to have been produced in the last ten years, while many bear markings indicating their production in the past five years. The most significant small arms types of Turkish origin (see Table 10) are blank-firing weapons (30.2 per cent), shotguns (27.9 per cent), and handguns (22.5 per cent). Self-loading rifles are also reasonably common (14 per cent). Turkish arms dominate the blank-firing weapons and shotguns categories, representing approximately 74 per cent of all blank-firing weapons[43] and 90 per cent of all shotguns included in the dataset. Many of the blank-firing handguns of Turkish origin are suitable for conversion to lethal-purpose weapons. There is evidence of the conversion of these weapons by different parties in Libya (see Box 4), and the dataset records several of these converted blank-firing handguns that were offered for sale.

Table 10 **Turkish small arms in the dataset by type**

Type of weapon	% of Turkish arms and munitions[a]
Blank-firing weapon	30.2
Shotgun	27.9
Handgun	22.5
Self-loading rifle	14.0
Small-calibre cartridge	3.0
Other ammunition	0.8
Medium-calibre cartridge	0.8
Other	0.8

[a] Percentage of posts in the dataset offering Turkish small arms or related ammunition.

Table 11 **Average asking price of small arms in the dataset in the market-clearance range**

Type of weapon	Average asking price in market-clearance range
Blank-firing weapon	LYD 130
Handgun	LYD 4,080
Less-lethal weapon	LYD 2,000
Self-loading rifle	LYD 2,370
Shotgun	LYD 210
Small-calibre cartridge[a]	LYD 570
Sub-machine gun	LYD 1,300

[a] The number included in the offer/s was unspecified.

Pricing data

In general, bidding seemed to undercut asking prices, with an overall average of asking price well above the average

Box 4 **The conversion of blank-firing handguns in Libya**

Despite the significant numbers of blank-firing handguns (92 examples were listed in the dataset, accounting for some 9.5 per cent of small arms and light weapons), there does not appear to be a standard conversion method. The conversion process is often carried out by individual traders seeking to maximize profits, and occasionally by small groups, as an informant stated:

> *By no means is it a commercial process, as they are most often converted by an individual, sometimes in a semi-organised fashion if they are converted in larger quantities . . . it is sometimes a small group of individuals (no more than 5 to 10 people) and done in a warehouse close to where the individual selling the firearms lives, as most people who own warehouses in Libya set them up in close proximity to where they live* (ARES, 2016b).

This description agrees with the figures in the dataset, because no more than four converted handguns have been documented as being offered for sale in one post. (This is in contrast to the larger quantities of other types of firearms offered in a single post.) It is likely that individuals wishing to sell converted blank-firing handguns carry out the conversion process themselves after purchasing a suitable basic model. The conversion process is suited to individuals and small-scale production, because it requires relatively common equipment and basic skills. Reports of larger-scale conversions outside Libya prior to importation or of commercial-scale conversion at factories in Misrata could not be verified.

Blank-firing handguns are primarily composed of two designs: front-venting[44] and top- or side-venting. These labels describe the way by which the firearm expels propellant gasses after firing. Front-venting models[45] expel these gasses through the muzzle in much the same way as conventional firearms, and are generally easier to convert to fire live ammunition. While barrel inclusions may be present, these are typically more readily removed than in top- and side-venting models. Top- and side-venting models are harder to convert, often featuring an inclusion blocking the barrel, forcing propellant gasses to vent out of a port (or ports) in the top or side of the weapon's chamber and/or barrel.[46] In some cases, top- or side-venting models may have a 'false barrel' unsuitable for conversion (Ferguson, 2014b).

This is reflected in the converted models seen for sale in Libya, with all examples documented to date being converted from front-venting blank-firing handguns. Blank-firing handguns constructed of comparatively durable materials such as steel or metal alloys and certain polymers are preferred to those constructed from cheaper, more brittle polymers. The conversion process may be as simple as removing a barrel inclusion, or may require the chamber of the weapon to be rebored to accept lethal-purpose ammunition. In some cases, the barrel may be partially or entirely replaced.

The way in which blank-firing handguns are converted may allow them to fire converted blank ammunition. This ammunition is typically standard blank ammunition with the crimped or closed end cut open and a projectile such as lead shot, pellets, or ball bearings inserted. Ammunition of this type is included in the dataset (for an example, see Photo A26). The ballistic effectiveness (and lethality) of these rounds depends on a multitude of factors, including the weight, calibre, and material of the projectile; the cartridge being modified; and the quality of workmanship in the conversion. Broadly speaking, such designs are likely to be significantly less effective in a combat or self-defence scenario than lethal-purpose ammunition.

Source: ARES (2015a)

Table 12 **Dataset pricing data compared with historical pricing information**

Weapon	Historical pricing data[a]			Average dataset pricing
	2012	2013	2014[b]	Mid-Nov. 2014–mid-Nov. 2015
AK-type rifle[c]	(No data)	LYD 1,100–1,300 (Kibrisli, 2013) LYD 1,020–1,200 (Tabib, 2014)	LYD 1,070–1,240 (Tabib, 2014)	LYD 1,820 (112 examples)[d]
AK-103 rifle	(No data)	LYD 1,700 (Tabib, 2014)[e]	LYD 1,500 (Snell, 2016)[f] LYD 1,400 (Tabib, 2014)	LYD 1,840 (30)
FAL-type rifle	USD 500–800 (Spleeters, 2012)[g]	LYD 2,050–2,130 (Tabib, 2014)	LYD 2,070–2,730 (Tabib, 2014)	LYD 2,180 (20)
F2000 rifle	(No data)	(No data)	LYD 9,930 (Tabib, 2014)	LYD 15,500 (3)
Browning Hi-Power handgun	USD 2,400–3,200 (Spleeters, 2012)	(No data)	LYD 3,970 (Tabib, 2014)	LYD 6,000 (17)
USP handgun	(No data)	(No data)	LYD 5,000–6,000 (Snell, 2016)	LYD 7,300 (2)
SA vz. 61 Škorpion sub-machine gun	(No data)	LYD 2,500 (Kibrisli, 2013)	(No data)	LYD 2,010 (5)
RPG-7-type recoilless weapon	(No data)	LYD 1,020 (Tabib, 2014)	LYD 2,000 (Snell, 2016)	LYD 6,500 (3)
7.62 × 54R mm	LYD 0.50 (Jenzen-Jones, 2013a)[h]	(No data)	(No data)	LYD 2.80 (6)[i]
7.62 × 51 mm	LYD 0.50 (Jenzen-Jones, 2013a)	(No data)	(No data)	LYD 2.70 (11)
7.62 × 39 mm	LYD 0.25 (Jenzen-Jones, 2013a)	(No data)	LYD 1 (Tabib, 2014)	LYD 1.80 (15)
5.56 × 45 mm	LYD 8+ (Jenzen-Jones, 2013a)	(No data)	(No data)	LYD 6.20 (4)
9 × 19 mm	LYD 8 (Jenzen-Jones, 2013a)	(No data)	(No data)	LYD 5.10 (14)

a Pricing figures in this table represent asking prices as indicated by sellers, either in online forums or in interviews with researchers. They do not account for bartering, discounts, trades, etc. The price of those items sold may actually be lower in some cases.

b Note that the pricing data in Tabib (2014) was originally denominated in EUR. For the present paper, Tabib's pricing was converted from EUR to LYD using historical exchange rates. Pricing from this source was taken in Kufra in 'early 2013' and in Fezzan/Sabha in 'fall–winter 2013–14'.

c 7.62 x 39 mm variants and copies, excluding derivative designs and the AK-103.

d This figure includes AK-103, AR-M9F, M70, and M92 rifles, each of which is priced higher than the average for other AK-type rifles. If these four models are excluded, the figure is LYD 1,710 (76 examples).

e This weapon is described as an 'AK-74 (folding stock)', but is most likely an AK-103.

f Author correspondence with Lindsey Snell, 26 February 2016.

g Pricing from Spleeters (2012) was converted to USD at the time of his research.

h Average prices for all calibres of ammunition taken from Jenzen-Jones (2013a) indicate a small-quantity purchase (20–40 rounds) of ball (FMJ)-type ammunition.

i Average prices for all calibres of ammunition taken from the dataset are subject to limitations as described in the notes for Table 13.

Notes:
Prices indicated in the dataset column (extreme right) were calculated by taking the average of relevant entries' asking prices in the database. The number of items of this type used to determine the average is given in parentheses. It should be noted that this method is imperfect for a number of reasons: for example, weapons may be sold with accessories that can increase their total asking price as advertised. Nevertheless, the prices provide a useful indicator.

Prices rounded to nearest LYD 10 when converted, or nearest LYD 0.1 for ammunition.

Average price for all calibres of ammunition given as price per cartridge. Sellers frequently offer a discount for purchases of larger quantities, and different types of ammunition may cost more or less than ball rounds.

highest offer, where such data was publicly available. Firearms chambered in standard self-loading rifle calibres such as 7.62 × 39 mm or 7.62 × 51 mm seemed to have standardized pricing in the LYD 1,000–2,000 and LYD 2,000–3,000 ranges, respectively. Throughout all Libyan regions, pricing seemed to remain standard despite minor outliers (likely from package deals, items in high demand, or insincere offers both high and low). However, the supply of different weapons types documented in each region significantly affected the regional averages. For example, the wide selection available in Ṭarābulus made for highly robust regional averages. Data on Surt, on the other hand, was heavily skewed by a single high-value deal on 14.5 × 114 mm anti-aircraft guns.

The average asking price of small arms and light weapons in the market-clearance range[47] is presented in Table 11, while Table 12 presents historical pricing data from available sources compared to the average asking price of specific weapon models in the dataset. Finally, Table 13 presents the average asking price for various calibres of small-calibre ammunition.

Table 13 **Average prices for small-calibre cartridges**[a]

Calibre	Average price per cartridge (rounded to nearest LYD 0.1)	Sample size (number of transactions)	Number of cartridges in transactions	Type/s used to calculate average price
14.5 × 114 mm	LYD 28.10	3	40–60	API & API-T
12.7 × 108 mm	LYD 20.00	3	40–85	API
.50 BMG (12.7 × 99 mm)	LYD 25.00	1	100	AP & tracer
7.92 × 57 mm	LYD 3.25	1	200	Ball (FMJ) & tracer[b]
7.62 × 54R mm	LYD 2.80	6	200–640	Ball (FMJ) & tracer[c]
7.62 × 51 mm	LYD 2.70	11	50–400	Ball (FMJ) & tracer[d]
7.62 × 39 mm	LYD 1.80	15	60–2,800	Ball (FMJ)
5.56 × 45 mm	LYD 6.20	4	40–80	Ball (FMJ)
.45 ACP (11.25 × 23 mm)	LYD 8.00	1	12	Ball (FMJ)
.40 S&W (10 × 22 mm)	LYD 13.00	1	42	Ball (FMJ)
9 mm PAK	LYD 1.00	1	100	Blank
.38 Special (9.1 × 29R mm)	LYD 9.60	2	3–40	JSP
9 × 19 mm	LYD 5.10	14	25–125	Ball (FMJ)
9 × 18 mm	LYD 9.80	3	16–96	Ball (FMJ)
.32 ACP (7.65 × 17SR mm)	LYD 4.70	3	50–150	Ball (FMJ)
5.7 × 28 mm	LYD 14.00[e]	1	50	Ball (FMJ)

a Abbreviations used in this table are given in the 'List of abbreviations and acronyms'.

b Sold as a mix of tracer and ball rounds in non-disintegrating belts; this may drive the price up.

c Sometimes sold as a mix of tracer and ball rounds in non-disintegrating belts; this may drive the average price up. The price appears to be lower for FMJ cartridges sold loose.

d Most commonly sold belted with M13 disintegrating links. Belted configurations often include tracer rounds, and both of these factors may drive the average price up. The price appears to be lower for FMJ cartridges sold loose.

e According to a source in Libya, this price is high, but not unheard of. A more typical price, he says, is around LYD 10 (USD 7.10) per cartridge. This is approximately ten times the US market value. High-quality 5.7 x 28 mm cartridges are rarely more than USD 0.70 each in the United States, and are often much cheaper.

Note:
Average price for all calibres of ammunition taken from data indicating a small-quantity purchase (see column for quantity range per calibre). Average price given per cartridge. Sellers frequently offer a discount for larger-quantity purchases, and different types of ammunition may cost more or less than ball rounds.

Box 5 **Southern Libya case study**[48]

The dataset documents only ten items from southern Libya. The specific items in the dataset include two handguns (one Belgian FN Herstal Browning Hi-Power and one Brazilian Taurus PT-92), two RPG-7-type recoilless weapons, two Belgian FN Herstal FAL rifles, three AK-type rifles (two Serbian M92 carbines and one East German Mpi-KMS 72), and two batches of small arms ammunition (one of 9 × 19 mm and one of 5.7 × 28 mm). These items taken together are a fairly representative sub-sample of the dataset as a whole, which illustrates no unusual types.

The average prices of weapons in the south appear to be slightly higher than in other regions; however, the sample size is too small to make a meaningful assessment of any pricing discrepancies. Interviews with CS1, CS3, and CS7 indicate that buyers (and sometimes sellers) are often willing to travel substantial distances across Libya in order to access arms and munitions that they are interested in. Confidential sources indicated that while there is a robust arms trade in southern Libya, it is dwarfed by the availability of arms and munitions in Tripoli, Misrata, and other areas, and has a less pronounced online presence (ARES, 2016b). The lower population density in southern Libya is likely to partially account for the lower trade volumes and limited range of available arms.

Small arms and light weapons of interest

Although the focus of this Working Paper is on the broad trends in sales conducted via online social media platforms, the weapons that are offered for sale in this way are also interesting sources of information. Without physical access to the weapons, it is sometimes difficult to conclusively identify those in question or to determine how they arrived in Libya. Nevertheless, in some cases the dataset does offer sufficient information to determine the likely paths some items may have taken prior to their appearance on the Libyan black market. Weapons identification and tracing are supported by an examination of the items' physical characteristics and markings. The goal is to identify the type and model of a weapon, along with the manufacturer and country of manufacture, and the weapon's serial number. These pieces of information may allow for tracking or tracing procedures to take place (Jenzen-Jones, 2015).

Older weapons are inherently more difficult to trace from their original sale or export to their current location. And prior to 1992, weapons sales to Libya were not restricted under a UN arms embargo,[49] making their presence in contemporary Libya often more easily understood as the result of proliferation in

the wake of the 2011 revolution. Weapons produced from 1992 to the present are of particular interest, because Libya was subject to arms embargoes from 1992 to 2003 and again from 2011 to the present.[50] Thus, the presence of weapons manufactured after 1992 offers possible examples of illicit proliferation.[51]

The source of these weapons cannot always be definitively identified.[52] There is evidence to suggest, however, that the sources vary widely—from covert support by governments to armed groups during the revolution, to overt sales to Libya's government, to diversion from legitimate sales made to the Libyan government or other governments in the region (see the Annexe).

Possible examples of covert supply

AR-M9F self-loading rifles

A handful of modern rifles manufactured by Arsenal (a Bulgarian arms manufacturer) were identified in Libya in late 2011 and in 2013 in the hands of the Libyan 11th 'Lightning' Battalion. Sources claimed that the weapons were provided by the UAE, which also supplied camouflage uniforms, body armour, weapons, communications devices, and armoured light tactical vehicles (Jenzen-Jones, 2016b). Bulgaria sold a significant number of AR-M9 series rifles to the UAE over the past five years, and examples of weapons from these deliveries have been documented in the hands of Libyan, Sudanese, and Yemeni fighters over that time. The visible serial number of one of these rifles allowed the authors to confirm that it was originally exported from Bulgaria to the UAE before ending up in Libya (ARES, 2016b).[53]

MILAN series anti-tank systems

These systems are manufactured by MBDA (a multinational arms manufacturer). Evidence suggests that such systems were supplied to both the Qaddafi government and rebel forces: in 2007 France and Libya signed a USD 218 million deal for 1,000 MILAN 3 anti-tank missiles (Assemblée Nationale, 2011; Lewis, 2007), while during the 2011 revolution both France and Qatar delivered MILAN series anti-tank guided weapons (ATGWs)—among other arms and munitions—to rebel forces in western Libya (Spencer, 2011; UNSC, 2012). The dataset contains three MILAN F-3 series missiles and a MIRA thermal site, all of which are likely to be from the 2007 contract with France. The dataset also contains

a MILAN F2 (DM 92) missile tube bearing German markings. Four other DM 92 missiles with similar markings and lower serial numbers were previously identified in Libya. A German parliamentary inquiry found that none of the four missiles was held in the inventory of the German Army (the Bundeswehr), nor were they legally exported from Germany (Bundestag, 2011b).[54]

Possible and confirmed examples of overt sales

Beretta Holdings (Italy)

In 2009 the Gumhouria Bank of Tripoli allegedly bought nearly EUR 8 million worth of Beretta firearms. The order included some 7,500 Px4 pistols, 1,900 Cx4 carbines, and 1,800 Benelli M4 Super 90 shotguns,[55] and was apparently approved by Italian authorities in Brescia (as opposed to the national authorities in Rome, who control military exports). The ostensible reason for this approval was because the sale was 'commercial' (to a bank) as opposed to 'military' (*Independent*, 2011). It should be noted that the sale did not violate any UN or EU arms embargoes on Libya, because none was in place at the time of the export. Given the number of these three particular models of firearm documented in Libya recently, it is reasonable to conclude that at least some of these weapons have leaked out of the bank's control and onto the illicit market. For example, the dataset includes three examples of the M4 Super 90, all with the optional collapsing buttstock. This type of stock is usually only available to 'legitimate' security customers, suggesting that the three examples are likely to be from the 2009 purchase. (It should be noted, however, that the security forces of some of Libya's regional neighbours use the M4 Super 90 in this configuration.)

Caracal Model F self-loading pistols

In 2012 Caracal (a UAE arms manufacturer) contracted with the Supreme Security Committee (SSC), at the time a branch of the Libyan Interior Ministry, for the sale of 5,000 Model F self-loading pistols and 1 million rounds of ammunition. However, according to the 2015 report by the UN Panel of Experts on Libya, the end-user certificate mentioned 15,000 pistols and 5 million rounds of ammunition (UNSC, 2015). When the certificate was sent to the Libyan embassy in the UAE for approval, the embassy responded with a request that

the deal be cancelled, because the Interior Ministry was unaware of it. Despite this request, the first 1,500 pistols had already been delivered. The diversion of some of these pistols is already documented; for example, in 2014, a Tripoli jeweller purchased such a pistol from an SSC official (Morajea and Smallwood, 2014; Smallwood, 2015).

FN Herstal (Belgium)

FN Herstal (a Belgian arms manufacturer) is a long-standing supplier of arms to Libya.[56] In May 2008 the Libyan government placed an order worth EUR 12 million for small arms, light weapons, and small-calibre ammunition (Spleeters, 2012). The contract included 2,000 FN 303 less-lethal launchers, 367 F2000 rifles each fitted with an LG1 under-barrel grenade launcher, 367 P90 sub-machine guns, 367 Five-seveN handguns, 50 Browning Hi-Power 'Renaissance' handguns, 30 Minimi light machine guns, and more than 1.1 million rounds of differing ammunition types, including 5.7 × 28 mm SS190 ball (FMJ) and SB193 subsonic, and 5.56 × 45 mm SS109 ball cartridges. The contract also included M27 links for 5.56 × 45 mm cartridges, presumably for use with the Minimi light machine guns, and more than 20,000 high explosive 40 × 46SR mm cartridges for the LG1 modules (Jenzen-Jones, 2016a).

The intended recipient of the order was the 32nd Reinforced Brigade of the Libyan Army[57] for use in '[escorting] humanitarian convoys to Darfur' (according to the export licence application).[58] The official request for approval of the export licence also indicated that the arms were intended to be used to 'escort humanitarian convoys to Darfur'. Weapons related to this contract are among those in the dataset and have certainly proliferated throughout Libya, and perhaps beyond. For example, the dataset contains one example of a 'Renaissance' model of the Browning Hi-Power pistols that were part of the 2008 order. This pistol (in common with the others in the order) has a gold finish, is extensively engraved, and features customized wooden grip panels with an inset Libyan seal on the left-hand side and a bas-relief profile of Muammar Qaddafi on the right-hand side. It also has custom engraving ('32nd Reinforced Brigade' in Arabic towards the muzzle on the forward portion slide on both the left- and right-hand sides, and 'Fatah forever' on the left-hand side of the frame, just forward of the trigger guard). The example offered for sale almost certainly

belonged to a senior military officer or official in the Libyan government prior to its capture and being offered for sale.

Possible examples of diversion[59]

FN-FAL self-loading rifles

Significant numbers of FAL rifles are believed to have entered Libya in recent years. Indeed, the FAL is the most-represented Western self-loading rifle in the dataset, with 49 examples listed. Without proper access to verify serial numbers, it is impossible to definitively trace the origin of any of these 49 rifles. The UN Panel of Experts has traced FAL rifles in Libya to shipments from Belgium to Qatar and the UAE, however (UNSC, 2013b; 2014).[60] FAL rifles proliferating from Libya have been identified in several countries in the region, including Algeria, Chad, Egypt, Lebanon, Niger, Syria, and Tunisia (ARES, n.d.; Tunisian MoI, 2013; UNSC, 2012; 2013b).

Heckler & Koch G36 self-loading rifles

Two examples of Heckler & Koch (HK) G36K series self-loading rifles appear in the dataset.[61] Images provided to ARES of other such rifles in Libya showed that they were produced in 2003, and that the original serial numbers on the weapons had been abraded and replaced with new numbers that do not follow the HK format.[62] HK stated that the serial numbers were not original manufacturers' markings and, further, that

> *At no point in time have there been shipments to Libya of the G36 rifle or any other H&K-products through H&K or its associated companies or organizations. Arms that have appeared in Libya were obtained illegitimately through channels unknown to Heckler & Koch* (HK, 2011).

Further, a German parliamentary inquiry found that no export licences were (or could be) issued for the export of G36 rifles directly to Libya, or legally re-exported through a third country (Bundestag, 2011a). HK indicated to members of the German Bundestag that the weapons were likely part of 606 G36 series rifles originally legally exported to Egypt, indicating possible diversion (Friederichs, 2012; Germany, 2003).

Conclusion

Significant quantities of small arms and light weapons continue to circulate in the illicit sphere in Libya, aided by the advent of widespread social media usage in the country. The findings presented in this Working Paper represent only a snapshot of available data from a limited number of groups over a limited period of time. This is the 'tip of the iceberg', and continued research on an expanded dataset will be helpful in validating our conclusions.[63] Although the data used in this paper is limited, it is reasonable to conclude that the Libyan online illicit weapons marketplace is growing in terms of both demand and supply. The volume and variety of small arms and light weapons offered for sale is likely to expand with growing demand.

Online illicit arms markets are still in their infancy in the MENA region. It is a distinct possibility that they will continue to develop in technical sophistication: clearly, groups are able to exist in a state of flux, with a nucleus of core members transferring between various trading groups that have essentially served as different incarnations of the same network. At the same time, social media and communications companies continue to take steps to moderate and restrict behaviours contributing to the online illicit arms trade, both in Libya and elsewhere. Further restrictions may be implemented in the form of increasingly restrictive policies, moderation techniques, technical countermeasures, and so on. As for many other uses of rapidly evolving online platforms, it is difficult to predict future developments in this sphere.

The specific availability of small arms and light weapons—not just their presence in the illicit sphere—is a critical determinant of the types of warfare non-state armed groups may prosecute. 'Availability' is more than the total numbers of arms circulating illicitly, but is rather a factor of accessibility, which in turn is determined by groups' resources, organization, goals, audacity, and external support (Marsh, 2007; Strazzari and Tholens, 2014). There can be little doubt that the presence of organized arms trading 'groups' operating via social

media and other online platforms increases the general availability of arms and munitions in Libya.

Firearms play an important role in day-to-day life for many Libyans, including private individuals and members of non-state armed groups. It is important to note that the vast majority of weapons traded online in the groups monitored are small arms such as self-loading pistols, self-loading rifles, and light machine guns. Substantial numbers of blank-firing handguns—including examples converted to lethal-purpose firearms—have been documented, and legacy firearms also remain important to the illicit market in Libya.

However, the trade is not restricted to small arms: there is also a notable presence of light weapons. As this Working Paper and the related SANA Dispatch (Jenzen-Jones and Rice, 2016) show, the presence of relatively advanced ATGWs and man-portable air defence systems in the Libyan online marketplace demonstrates that sophisticated weaponry is available to those with the means and desire to acquire it. Interviews with active traders suggest that buyers may travel substantial distances in order to acquire items of interest.

Sanctions monitors and field researchers have had limited access to Libya since the end of 2014, increasing the need for supplementary research techniques that offer a view into the situation on the ground. Analysis of online sales can be a meaningful addition to the toolset of sanctions monitors and researchers, helping to gain insight into aspects of the arms trade in the country, including current pricing, the nature and relative availability of items on offer and in demand, the identification of newly available materiel, and the actors involved. Continued study of online sources can help to accurately identify the sources of arms outside state control and add to the totality of information useful in aiding policy-makers and interested parties in reducing the further proliferation of small arms and light weapons in Libya and the wider MENA region.

Annexe[64]

Part A: Weapons manufactured after 1990

Country	Make	Model	Weapon type	Calibre
Bulgaria	Arsenal	AR-M9F	Self-loading rifle	5.56 × 45 mm

Photo A1 **Arsenal AR-M9F self-loading rifles, pictured with two boxes of Turkish MKEK 5.56 × 45 mm cartridges**

Italy[67]	Beretta[68]	Beretta Px4	Self-loading pistol	9 × 19 mm

Photo A2 **A Beretta Px4 self-loading pistol**

Italy	Beretta	Beretta Cx4	Self-loading rifle	9 × 19 mm

Photo A3 **A Beretta Cx4 self-loading carbine**

Notes on weapon/s[65]

The Bulgarian AR-M9 rifle series comprises modern AK rifle variants chambered for either the 5.56 × 45 mm or 7.62 × 39 mm cartridges. The AR-M9F is available with both fixed and folding stocks (designated the AR-M9 and AR-M9F, respectively) and can be identified by its distinctive muzzle device and, in the case of the 5.56 × 45 mm variant, its semi-transparent, nearly straight polymer magazines.

A significant number of AR-M9 series rifles have been sold by Bulgaria to the UAE over the past five years, and these rifles have been documented in the possession of Libyan, Sudanese, and Yemeni fighters over this period. A handful of modern rifles manufactured by Arsenal were identified in Libya in late 2011, and in 2013 the Libyan 11th 'Lightning' Battalion was publicly seen using AR-M9F rifles. Sources in Libya told ARES that the 11th Battalion was directly supported by the UAE, and had been supplied with camouflage uniforms, body armour, weapons, communications devices, and armoured light tactical vehicles (Jenzen-Jones, 2016b). It is not surprising that some of these rifles have leaked into the illicit market, given the continued instability in Libya.

The dataset includes five examples of Bulgarian AR-M9F rifles, some pictured with spare magazines and 5.56 × 45 mm cartridges. There is also one example of a bayonet for the AR-M9 rifle series being offered for sale. The visible serial number of one of these rifles allowed the authors to confirm that it was originally exported from Bulgaria to the UAE before ending up in Libya (ARES, 2016b; UNSC, 2016).[66]

The Px4 'Storm' is a recent military and police semi-automatic service pistol design produced by Beretta. It was introduced in 2004, with features including a rotating-barrel locked breech, polymer frame, and modular frame and fire control components. These elements make it an appealing firearm for modern military and security organizations, and it has been adopted by a significant number of law enforcement agencies and some armed forces. The Px4 handguns documented in Libya have all been full-size 'Type F' models, indicating they are single- and double-action with a manual safety and decocker, chambered for 9 × 19 mm.

The dataset includes 18 Px4 pistols, making this the second most common Western handgun in the dataset (behind the FN Herstal Browning Hi-Power). As noted earlier, despite handguns accounting for a significant portion of the dataset, this does not accurately represent their standing as a percentage of all firearms either in or outside of state control in Libya. A total of 7,500 Px4 handguns, therefore, is likely to represent a significant number of handguns imported to Libya. This, combined with their recent import (as part of the Gumhouria contract in 2009; see note 68), goes some way towards explaining their prevalence in the dataset.

The Cx4 is a carbine marketed by Beretta as a partner weapon to the Px4 pistol (above). It employs an unlocked breech and is chambered for the 9 × 19 mm, .40 S&W, or .45 ACP cartridges. The Cx4 is able to accept magazines from the Px4 series pistols of a corresponding chambering.[69] The Cx4 may not typically be considered a military firearm because of its semi-automatic-only action and small calibre, but it has seen use in police and security applications in several countries.

All of the examples of Cx4 carbines offered for sale in Libya and present in the dataset are chambered for 9 × 19 mm. This is consistent with the Px4 handguns observed (see above). Interestingly, three of the four examples in the dataset are pictured in their original fitted hard cases, with one example still featuring a Beretta tag attached to the stock. This suggests that the weapons have not been in circulation long, or have not changed hands very many times (cases are often lost or discarded after multiple transactions).

Country	Make	Model	Weapon type	Calibre
Italy	Benelli	Benelli M4 Super 90	Self-loading shotgun	12 gauge

Photo A4 **Benelli M4 Super 90 self-loading shotgun. Note collapsible stock**

United Arab Emirates	Caracal	Model F and Model C	Self-loading pistol	9 × 19 mm

Photo A5 **Example of a Caracal Model F self-loading pistol**

Source: Hassan Morajea/ARES, 2014

Notes on weapon/s

All of the examples of Cx4 carbines offered for sale in Libya and present in the dataset are chambered for 9 × 19 mm. This is consistent with the Px4 handguns observed (see above). Interestingly, three of the four examples in the dataset are pictured in their original fitted hard cases, with one example still featuring a Beretta tag attached to the stock. This suggests that the weapons have not been in circulation long, or have not changed hands very many times (cases are often lost or discarded after multiple transactions).

The M4 Super 90 is a semi-automatic shotgun developed by Benelli (a Beretta subsidiary) for the US military.[70] The US Marine Corps adopted the shotgun in 1999 as the M1014, and Benelli simultaneously marketed it to other law enforcement and military organizations worldwide. The gun has proved to be quite popular and has been widely exported.

The dataset includes three examples of the M4 Super 90, all of them with the optional collapsible buttstock. This type of stock is often made available only to legitimate security customers (depending on the country). This may indicate that the examples in the dataset are more likely to have originated from the Gumhouria contract in 2009. It should be noted, however, that the M4 Super 90 is used in this same configuration by some of Libya's regional neighbours, including Egypt (ARES, 2016a).

Caracal handguns are produced by Caracal International LLC in Abu Dhabi, a subsidiary of Tawazun, a UAE government entity. The Caracal series handguns are striker-fired semi-automatic designs featuring fully ambidextrous polymer frames. Chambered for a variety of modern pistol-calibre cartridges and produced originally in three sizes—full, compact, and sub-compact[71]—the Caracal series was first unveiled in 2007. The series has been plagued by safety issues resulting in a series of wide-ranging recalls, despite initial adoption by some security forces in the Gulf region and promising early commercial sales in the United States.[72]

Two Caracal Model C and five Model F handguns are included in the dataset. Based on their serial numbers, it is certain that the two Model C handguns were subject to the recall notice, as were at least two of the Model F handguns. Other Model F examples are also likely to have been subject to the recall. These handguns may have been refurbished prior to their export to Libya, or may have been sold without the rectification of serious safety issues, and could pose a threat to users.

ARES has previously documented the diversion of a Caracal Model F pistol in Libya. The weapons were exported by the UAE as part of a 2012 contract (dated 18 December 2012) with the Libyan Interior Ministry for use by the Supreme Security Committee (SSC). (The SSC was originally a branch of the Libyan Interior Ministry tasked with providing security in Tripoli following the 2011 revolution.) The contract specified the transfer of 5,000 Caracal F pistols and 1 million rounds of ammunition. The UN Panel of Experts on Libya found that the end-user certificate mentioned 15,000 pistols and 5 million rounds of 9 mm ammunition (UNSC, 2015).[73]

This contract is the apparent source of the Caracal pistols found in the dataset. As with pistols in general, the resale value of these pistols is high. Despite a sales price of approximately USD 400 per pistol when sold to Libya, the weapon was illicitly purchased from an SSC official by a Tripoli jeweller for LYD 5,000, which represents a markup of at least 150 per cent, if not more (Morajea and Smallwood, 2014; Smallwood, 2015).[74] This reported price is corroborated by information in the dataset: four examples feature asking prices ranging between LYD 5,500 and LYD 5,800.

Country	Make	Model	Weapon type	Calibre
Belgium	FN Herstal[75]	Browning Hi-Power 'Renaissance' model	Self-loading pistol	9 × 19 mm

Photo A6 **A gold-plated FN Browning Hi-Power 'Renaissance' model self-loading pistol**

Belgium	FN Herstal	F2000	Self-loading rifle	5.56 × 45 mm

Photo A7 **An FN Herstal F2000 self-loading rifle fitted with an LG1 grenade launcher**

Notes on weapon/s

The Browning Hi-Power is a self-loading pistol chambered for 9 × 19 mm and developed by FN Herstal in the early 1930s. It has been globally successful and remains in production to this day. The Belgian military adopted the weapon as a standard sidearm in 1935 and several other militaries followed suit.[76] Many nations adopted the weapon after the Second World War (Stevens, 2014).

The Browning Hi-Power is widely distributed around the world (see Part B, below, for further details on Hi-Power pistols in Libya). The 'Renaissance' models of the Hi-Power are a range of presentation-grade guns often featuring a nickel, gold, or silver finish; extensive engraving work; wooden, pearlite, ivory, or faux ivory grip panels; and a range of customization options. The examples offered for sale in Libya and found in the dataset are among the 50 examples imported in 2009 as part of the 'Khamis Brigade contract' (see note 75). These have a gold finish, are extensively engraved, and feature customized wooden grip panels with an inset Libyan seal on the left-hand side and a bas-relief profile of Muammar Qaddafi on the right-hand side. They are marked with further custom engraving in Arabic that reads '32nd Reinforced Brigade'. This engraving is located towards the muzzle on the forward portion slide on both the left- and right-hand side. On the left-hand side of the frame, just forward of the trigger guard, there is further engraving reading 'Fatah forever'. There appears to be additional engraving in the same position on the right-hand side of the frame, but what is engraved cannot be determined from available images.

There is one example of an FN Herstal Browning Hi-Power 'Renaissance' model in the dataset, which almost certainly belonged to a high-placed military officer or official in the Libyan government prior to its being offered for sale.

The F2000 is a very distinctive modern self-loading rifle chambered for 5.56 × 45 mm, introduced by FN Herstal at the turn of the century. It is a bullpup-style rifle; i.e. the weapon's magazine and action are located behind the trigger, thus shortening the overall length of the weapon while maintaining a barrel length comparable to other full-size rifles. The light weight of the weapon's working parts results in a high rate of automatic fire—approximately 850 rounds per minute (FN Herstal, n.d.a; n.d.b). The F2000 has been adopted by the Slovenian Army and elements of the Belgian Army, and has seen small-scale purchase by other security organizations worldwide. It is believed that some 80,000 F2000 rifles have been produced to date (ARES, 2015b; Johnston and Nelson, 2010).

Three examples of the F2000 are present in the dataset. All three are F2000 Standard models fitted with LG1 grenade launchers.

A total of 367 F2000 rifles were imported into Libya in 2009 as part of the Khamis Brigade contract (see note 75), all of which were FN F2000 Standard Base B models.[77] All were also fitted with LG1 under-barrel grenade launcher modules (Jenzen-Jones, 2016a).[78] Both F2000 rifles and LG1 grenade launchers imported into Libya were engraved with Arabic markings reading '32nd Reinforced Brigade'. On the F2000 the engraving is located to the rear left-hand side of the stock, below the factory, model, and calibre markings. On the LG1 module the engraving is located on the rear left-hand side, below the serial number and factory marking.[79]

Interestingly, it appears that because of its striking modern appearance and scarcity, the F2000 has become something of a status symbol among combatants in Libya. As such, it commands very high prices, even when compared to other 5.56 × 45 mm rifles available in the local market. The F2000 with an LG1 appears to have a local value of more than LYD 10,000 (approximately USD 7,300) per rifle. One seller asked as much as LYD 18,000 (approximately USD 13,000).[80]

Country	Make	Model	Weapon type	Calibre
Belgium	FN Herstal	Five-seveN	Self-loading pistol	5.7 × 28 mm

Photo A8 **An FN Herstal Five-seveN self-loading pistol. Note Arabic script indicating the weapon was produced for the 32nd Reinforced Brigade**

Belgium	FN Herstal	FN 303	Pneumatic less-lethal weapon	18 mm

Photo A9 **An FN Herstal FN 303 less-lethal weapon**

Belgium	FN Herstal	Minimi	Light machine gun	5.56 × 45 mm

Photo A10 **An FN Herstal Minimi Para light machine gun**

Notes on weapon/s

The Five-seveN is FN's 'companion' sidearm to the P90 sub-machine gun, chambered for the same 5.7 × 28 mm cartridge in a handgun package. Because of the small size of the cartridge, the pistol's magazine holds 20 rounds, giving it a notably larger ammunition capacity than most other handguns documented in Libya.

A total of 367 Five-seveN handguns were exported to Libya in 2009 as part of the Khamis Brigade contract (see note 75), along with substantial quantities of 5.7 x 28 mm ammunition. These are engraved with Arabic markings reading '32nd Reinforced Brigade', located towards the muzzle on the forward right-hand side of the slide, above the serial number (ARES, 2016a; Jenzen-Jones, 2016a). The dataset contains three examples of Five-seveN pistols, each engraved as described above. Both the Five-seveN pistols and their associated ammunition are expensive by Libyan standards: in excess of LYD 5,000 for the pistol and LYD 10–14 per round for 5.7 x 28 mm cartridges. These prices represent significant obstacles to the ownership of these weapons by the average Libyan.

The FN 303 is a purpose-designed, semi-automatic riot less-lethal launcher using compressed air to propel impact projectiles (some with secondary effects) out to approximately 100 m (FN Herstal, n.d.d). Weapons of this type are generally intended to disperse hostile individuals when a standoff weapon is desired, but lethal firearms are not appropriate.

As part of the Khamis Brigade contract (see note 75), FN Herstal delivered 2,000 of these launchers to Libya in 2009. These are engraved with Arabic markings reading '32nd Reinforced Brigade', with the engraving located on the right-hand side of the fore-end directly above the forward hand-grip (ARES, 2016a; Jenzen-Jones, 2016a). The presence of advanced riot control weapons of this type would generally be unusual in a conflict or post-conflict zone such as Libya, unless they had been standard equipment for domestic police or security forces.

The dataset includes three examples of FN 303 launchers. One of these is shown packed in its original FN packaging, suggesting that ownership has not been transferred many times, or it was taken directly from government storage. According to sources in Libya, numerous FN 303 systems were looted as trophies from government storage facilities in 2011, but are rarely used (ARES, 2016b).

The FN Minimi is an infantry machine gun chambered for the 5.56 × 45 mm cartridge. It entered mass production in 1982, and was adopted by the United States and dozens of other nations (Popenker and Williams, 2008). It did not see significant service with the Libyan military, which did not make widespread use of the 5.56 × 45 mm cartridge.

Thirty Minimi LMGs were imported into Libya in 2009 under the terms of the Khamis Brigade contract (see note 75). These were all Minimi 5.56 'Para' versions with a short barrel and collapsible stock. This weapon also has an MIL-STD-1913 rail on its top cover to allow optical sights to be mounted. Given that all the other weapons imported under the Khamis Brigade contract have been documented with an Arabic engraving reading '32nd Reinforced Brigade', it is likely that the same engraving also appears on the Minimi LMGs (Jenzen-Jones, 2016a).

The dataset contains only one example of the Minimi. The seller asked LYD 17,000 for this weapon.

Country	Make	Model	Weapon type	Calibre
Belgium	FN Herstal	P90	Sub-machine gun	5.7 × 28 mm

Photo A11 **An FN Herstal P90 sub-machine gun**

Austria	Glock	17, 17T, and 19	Self-loading pistol	9 × 19 mm

Photo A12 **A Glock 19 self-loading pistol and magazine**

Photo A13 **A Glock 17T training model**

Notes on weapon/s

The P90 is a modern sub-machine gun (sometimes described as a personal defence weapon), chambered for the proprietary 5.7 × 28 mm cartridge designed by FN Herstal. The P90 is a bullpup-type firearm, with its action located behind its trigger, allowing the overall length of the weapon to be reduced compared to conventionally configured firearms of the same barrel length. It fires a small-calibre, high-velocity cartridge from a large magazine (50 rounds) with an unconventional feeding mechanism. It has a high cyclic rate of fire—some 850–1,100 rounds per minute (FN Herstal, n.d.e). The P90 was envisioned as a replacement for the handgun for military personnel who might encounter combat, but whose primary duties were not conducive to carrying a full-size rifle.

The dataset contains three examples of P90 sub-machine guns. The P90 is not a commonly available weapon, and these almost certainly originated from the 2009 Khamis Brigade contract (see note 75). In one instance in the dataset the '32nd Brigade' engraving can be discerned. As noted earlier, the price of 5.7 × 28 mm cartridges in Libya would make the P90 impractical for regular use, especially given its high rate of fire.

The Khamis Brigade contract included 367 P90 sub-machine guns. All were engraved with Arabic markings reading '32nd Reinforced Brigade', located on the left-hand side of the receiver, directly above the thumbhole in the stock and below the factory marking.

The original Glock was one of the first commercially successful handguns to make use of extensive polymer construction, resulting in a lighter and less expensive frame than traditional pistols. Since the Austrian military adopted the Glock 17 in 1980, the pistol has become very popular with military, police, and civilian users worldwide, and has been produced in a wide variety of configurations and calibres. It is one of the most popular makes of sidearm among security services today.

The dataset includes eight Glock pistols, including four Glock 17 and four Glock 19 types. The Glock 17 is a full-size model chambered for 9 × 19 mm (and was the first Glock model to be designed). The Glock 19 is the compact version of the same gun, also chambered for 9 × 19 mm, but featuring a slightly shorter barrel and grip for reduced weight and easier concealment. All of the Glock handguns listed in the dataset are Generation 3 models, indicating that they were produced after 1997 (Brudenell, 2014). Seventy Glock handguns chambered for 9 × 19 mm were originally exported to Libya for the exclusive use of the European Border Assistance Mission. All were reported stolen in March 2014 (UNSC, 2015). Approximately 100 other Glock handguns are reported to have been stolen from US forces in Libya in 2013 (Housley, 2013). Further details regarding the models, generations, and serial numbers of these weapons could be compared against the pistols in the dataset should they be discovered.

One of the Glock 17 examples is unusual in being a training version of the pistol, known as the Glock 17T (see Photo A13). This pistol has a bright blue polymer frame and is intended for force-on-force training. The 17T model is chambered for 9 mm FX, a paint-marking cartridge produced by General Dynamics Ordnance and Tactical Systems Canada under the brand name 'Simunition'. The weapon is constructed so that it is unable to chamber lethal 9 × 19 mm cartridges. These training guns are not sold on the civilian market, and are available to law enforcement and military customers only (Glock, 2015). Research indicates that the Libyan 32nd Reinforced Brigade acquired Glock 17T models.[81]

One example of a Glock 19 in the dataset shows significant cosmetic damage to its exterior. It may also have internal damage. This particular pistol exhibits mismatching serial numbers on the barrel and slide, indicating that parts from more than one pistol were assembled in this example. It is likely that this indicates that the replaced parts were so severely damaged as to be rendered unserviceable. One entry for a Glock 19 magazine also appears in the dataset.

Country	Make	Model	Weapon type	Calibre
Germany	Heckler & Koch	G36K series	Self-loading rifle	5.56 × 45 mm

Photo A14 **A Heckler & Koch G36K series self-loading rifle**

Germany	Heckler & Koch	USP series	Self-loading pistol	.40 S&W and .45 ACP

Photo A15 **A Heckler & Koch USP chambered for .40 S&W. Note the extended, threaded barrel to accommodate a sound suppressor**

Notes on weapon/s

The G36 is a modern assault rifle chambered for the 5.56 × 45 mm cartridge. It is manufactured by HK primarily for the military and law enforcement markets. It features a light and inexpensive-to-manufacture polymer receiver, and—in several variants—an integrated optical sight. The rifle is used by the German military in the standard length G36 and shortened G36K configurations, as well as by various other militaries worldwide; the export versions of these guns are known as the G36V and G36KV, respectively.[82]

Both G36V and G36KV[83] rifles have been documented in Libya. Initially they were seen in the hands of Qaddafi government forces; a video from February 2011 showed Saif Qaddafi brandishing a G36V, while one of his bodyguards carried a G36KV. Subsequently, rebel forces captured these types of rifles, particularly during the looting of Qaddafi's Bab al-Aziziya compound in Tripoli (ARES, 2016a).

Research indicates that the G36 rifles in Libya were produced in 2003, and that the original serial numbers on the weapons had been abraded and replaced with new numbers that do not follow the HK format.[84] HK advised that 'these are not original Heckler & Koch serial number markings' and further stated in a 2011 press release that 'At no point in time have there been shipments to Libya of the G36 rifle or any other HK-products through Heckler & Koch or its associated companies or organizations. Arms that have appeared in Libya were obtained illegitimately through channels unknown to Heckler & Koch' (HK, 2011). The German government did not issue any export permits that would allow G36 rifles to be exported directly to Libya or legally re-exported through a third country (Bundestag, 2011a). HK indicated to members of the German Bundestag that the weapons were likely part of a shipment of 606 G36 series rifles originally legally exported to Egypt (Friederichs, 2012; Germany, 2003).

Two examples of G36KV series rifles are included in the dataset, identified by their pictographic fire-selector markings. It is noteworthy that both feature two-round burst functionality. Serial numbers or other identifying marks that could indicate the weapons' year of production are not visible. It is most probable that they were captured from government holdings.

Introduced by HK in 1993, the USP (*Universelle Selbstladepistole*, or 'universal self-loading pistol') was an attempt to capture part of the modern military and police handgun market. The USP was offered in several different sizes, calibres, and configurations. The manufacturer has stated that, to its knowledge, no HK weapons have been legally transferred to Libya at any time.[85]

Three examples of the USP series pistols are included in the dataset. One of these features an extended and threaded barrel for the easy attachment of a sound suppressor (see Photo A15). This pistol is also chambered for the .40 S&W (10 × 22 mm) cartridge. A second example, also a Tactical model, is chambered for the .45 ACP (11.25 × 23 mm) cartridge. Both of these cartridges are uncommon in Libya and command a high price when offered for trade (see Table 13).

The third example is a standard full-size model chambered for the .40 S&W cartridge. The presence of three of these rather unusual pistols chambered for cartridges rarely seen in Libya may suggest that they came from the same source, although there is no definitive indication of what that source may be. USP handguns are known to be in service with some law enforcement units in the region, including Egypt's General Security and Central Security Forces (ARES, 2016a).

Country	Make	Model	Weapon type	Calibre
Russian Federation	IZHMASH[86]	AK-103	Self-loading rifle	7.62 × 39 mm

Photo A16 **A photo of three AK-103 self-loading rifles**

Photo A17 **An AK-103 self-loading rifle. Note the presence of a standard steel AK magazine, rather than black polymer magazines imported with the AK-103 rifles, and an EOTech-type optical sight with protective shield installed incorrectly**

Photo A18 **An AK-103 self-loading rifle. Note extensive fire damage and replacement wooden furniture**

Notes on weapon/s

While AK-pattern rifles in general are very common in the Libyan conflict, one sub-set of particular note is the AK-103 self-loading rifle (see Photo A16). This is a modern iteration of the design that first entered production in Russia in 1995 and formed part of the so-called 'AK-100' series of rifles.[87] These rifles feature different barrel lengths and are chambered for different calibres. They include a number of distinct features, including optics-mounting rails on the left side of the receiver, black polymer furniture, side-folding solid polymer stocks, and AK-74-style muzzle brakes. Despite being visually distinctive, mechanically speaking the AK-103 remains essentially the same as the earlier AKM, which itself is an update of the original AK series rifle introduced in 1959 (Ferguson and Jenzen-Jones, 2014).

The AK-103 features a full-length (415 mm) barrel and is chambered for the 7.62 × 39 mm cartridge. This model has been popular for export to areas where the 7.62 × 39 mm cartridge is still in common use; it also accepts all existing AK magazines in this calibre (see Photo A17). The rifle also features a familiar operating manual, making it easy to introduce in organizations already familiar with AK-type weapons. Despite these attractive qualities and despite being designed primarily for the export marker the AK-103 has seen generally poor sales globally (Jenzen-Jones, 2012a). The AK-103-2 variant features a three-round burst mechanism, designed to increase hit probability and conserve ammunition.

In late 2003 or early 2004 the Libyan government entered into negotiations with the Russian Federation for a substantial purchase of arms and munitions. This deal included a sizable but ultimately unknown quantity of AK-103-2 self-loading rifles (the '-2' variant denotes a burst-fire capability). An assessment of shipping documents, packaging, and rifle serial numbers determined that Libya may have ordered as many as 230,000 rifles, although the precise number eventually delivered is unclear (Jenzen-Jones, 2016a). It has also been reported that Libya was pursuing a licence to produce AK-103 rifles domestically, in a deal worth some USD 600 million (CAST, 2010; Jenzen-Jones, 2012a). Historically, it is common for domestically licensed arms production contracts to include a sizable initial purchase of complete weapons from the selling nation. Based on the foregoing, it is almost certain that all AK-103 rifles listed in the dataset are of the AK-103-2 variant imported into Libya under the 2004 contract with the Russian Federation.

The dataset documents 49 examples of AK-103 rifles, accounting for 19.6 per cent of all AK-type rifles listed. Several examples in the dataset can be identified as the AK-103-2 variant (Jenzen-Jones, 2016a). On average, the AK-103 rifles in the dataset are priced slightly higher than other AK-type rifles, with a mean price of LYD 1,920.[88]

Some of the AK-103 rifles in the dataset exhibit noteworthy characteristics. Seven have optical sights installed, although many of these show signs of the installation being done by inexperienced persons. One model features an EOTech[89] optical sight with its protective shield installed backwards (see Photo A17). Another rifle has a telescopic sight with only one mounting ring, which is likely to be unstable. Some of the rifles show signs of moderate to extensive repairs. Several have replacement handguards and have had their stocks removed (which is unusual, given that the AK-103 folding stock does not add significant bulk to the rifle).[90] One rifle (see Photo A18) lacks a stock, features a replacement handguard, and is missing its rear sight. This rifle appears to be functional, but would be extremely difficult to use effectively.

There is evidence to suggest that significant numbers of AK-103 rifles in Libya have been destroyed or severely damaged. Dozens of weapons have been documented as having suffered significant fire damage (see Photo A18), with many no longer serviceable (Jenzen-Jones, 2016a).

Country	Make	Model	Weapon type	Calibre
(Multinational)	MBDA	MILAN series	Anti-tank guided weapons	

Photo A19 **Example of a MILAN series ATGW fired by German Army forces in Afghanistan**

Source: Member 30091762/Military.com, 2013

China	Norinco	NZ75 and Type 77B	Self-loading pistol	9 × 19 mm

Photo A20 **Example of a Norinco NZ75 self-loading pistol**

Source: Zib-Militaria.de, n.d.

Photo A21 **Example of a Norinco Type 77B self-loading pistol**

Source: MayorFuglycool/YouTube, 2014

Notes on weapon/s

The MILAN series of ATGWs was developed by MBDA subsidiaries based in France and Germany (for an example, see Photo A19).[91] The German companies produce the launch post and missile warhead, while the missile is assembled in France, from where the complete ATGW system is exported (Duquet, 2014).

The MILAN series systems were directly supplied to both government and rebel forces in Libya. In 2007 France and Libya signed a USD 218 million deal for the export of 1,000 MILAN 3 anti-tank missiles. The breakdown between launch posts and missiles is not clear (Assemblée Nationale, 2011; Lewis, 2007). Additionally, France and Qatar delivered MILAN series ATGWs (among other arms and munitions) to rebel forces in western Libya during the 2011 revolution (Spencer, 2011; UNSC, 2012).

The dataset contains three MILAN F3 missiles and a MIRA thermal sight, both of which are likely to be part of the 2007 contract between Libya and France. Additionally, the dataset contains a MILAN F2 (DM 92) missile tube bearing German markings. The latter missile carries the serial number 246002. Four other DM 92 missiles with lower serial numbers[92] were previously identified in Libya and were reported by the German Bundestag to have neither been held in the inventory of the Bundeswehr nor exported from Germany (Bundestag, 2011b).

Chinese pistols in the dataset are limited to two types, both chambered for the ubiquitous 9 × 19 mm cartridge. Neither is well documented in the English-speaking world, despite having been made available for export by Norinco. The first of these, the NZ75 (for an example, see Photo A20), is a straightforward copy of the CZ 75, a common European hammer-fired design. Designed by and for *Česká zbrojovka* in 1975, the CZ 75 was derived from the FN Herstal Browning Hi-Power. It is still in production today, together with a range of variants and derivatives (CZUB, 2016).

The NZ75 is functionally a copy of the Czech original, but as is typical with Chinese copies, it is not a direct copy and no parts are interchangeable. Unlike the CZ, the NZ75 features a slide-mounted rather than frame-mounted safety catch. A compact counterpart was also marketed as the MNZ75 (Norinco, n.d.). It is not known how many NZ75 pistols have been produced, nor when production began. However, as of 2012, the type no longer appears in Norinco catalogues (Norinco, 2012).[93]

The other Chinese type present in the dataset is the Type 77B, which is an original and technically interesting design (for an example, see Photo A21). As well as employing a somewhat unusual gas-delayed blowback operating system, the single-action Type 77B was designed with one-handed operation in mind. The front of the trigger guard is attached through the frame to the slide, allowing a round to be chambered (and the hammer cocked) using the trigger finger of the firing hand. This pistol (not to be confused with the smaller Type 77) first appeared outside China in a 1990-dated sales flyer (Norinco, 1990), and is still to be found in recent Norinco catalogues.

Four NZ75 and three Type 77B pistols appear in the dataset, both chambered for the 9 × 19 mm cartridge. The origin of these weapons is not clear. Several appear in their original packaging, however, indicating that they may be recent entries into the Libyan marketplace.

Country	Make	Model	Weapon type	Calibre
South Africa	Truvelo Armoury	CMS 7,62x51mm[94]	Bolt-action rifle	7.62 × 51 mm
Turkey	(Various)[97] Makina ve Kimya Endüstrisi Kurumu (MKEK)	G3A7	Self-loading rifle	7.62 × 51 mm

Photo A22 **A Turkish MKEK G3A7 self-loading rifle**

Photo A23 **A G3A3-pattern self-loading rifle. Note the after-market optical sight, railed fore-end, and custom paint finish**

Notes on weapon/s

The CMS series of rifles, produced by Truvelo Armoury in South Africa, are precision bolt-action rifles primarily intended for use by snipers and marksmen. The design features a folding stock, an adjustable grip, and variable fore-end lengths. The muzzle is threaded to accept an optional suppressor. The manufacturer gives the effective range of the CMS 7,62x51mm model (chambered for 7.62 × 51 mm) as up to a kilometre, depending on the type of ammunition used (Truvelo, n.d.).

Some 120 CMS rifles were exported from South Africa to Libya in late 2010 (Rademeyer, 2011). Documents recovered by Human Rights Watch indicate that the rifles were delivered under a contract dated 3 December 2009.[95] The contract noted that the rifles were packed in wooden crates, with five rifles per crate. Each rifle was supplied with a bipod, suppressor, telescopic sight, spare magazine, cleaning kit, hard and soft carrying cases, replacement extractor kit, and manuals.

One example of a South African-made Truvelo CMS 7,62x51mm bolt-action rifle is contained in the dataset. It is very likely to have entered Libya directly from South Africa as part of the 2009 order noted above.[96]

MKEK, a government-owned Turkish arms and munitions manufacturer, produces a number of products under licence, including several firearms designed by Heckler & Koch. The Turkish military uses a version of the HK G3 rifle produced by MKEK (under licence) as its standard infantry rifle. This rifle is a copy of the HK G3A3, designated the G3A7. While the Turkish G3 is virtually identical in features to most other varieties of G3 rifle, the fire selector markings are unique to Turkish-produced rifles.

A total of 17 G3-type rifles of suspected Turkish origin are contained in the dataset. Turkish fire-selector markings can be distinguished on several of these examples. While it is not conclusive whether all of the G3 rifles in the dataset are of Turkish origin, no examples could be identified as definitively of German origin. Although German-made G3 series rifles proliferate widely in the MENA region, HK has stated that none of its weapons was legally transferred to Libya at any time (HK, 2011).

Among the G3A7 rifles in the dataset are several that mount non-standard optical sights. One example features an after-market sight and railed fore-end, and has been painted with a desert camouflage pattern (see Photo A23).

Country	Make	Model	Weapon type	Calibre
Turkey	Various	Various	Blank-firing handguns	9 mm PAK and other

Photo A24 **Example of an EKOL Firat Magnum self-loading blank-firing handgun produced by *Voltran Av Silahları İns***

Source: Blank-Pistol.com, n.d.

Turkey	Various	Various	Converted blank-firing handguns	Various

Photo A25 **Example of a Sa-Ka Pointer handgun. These can be converted to fire live ammunition**

Source: Saricarms.com, n.d.

Notes on weapon/s

The term 'blank-firing firearms'—also known as 'gas alarm guns', 'alarm guns', or 'gas guns'—is generally understood to mean noise- and flash-producing replicas of lethal-purpose firearms. Some blank-firing firearms may discharge less-lethal rounds, including rubber projectiles and irritant loads (Ferguson and Williams, 2014).[98] Many models of blank-firing handguns may also be converted to chamber lethal-purpose ammunition.

Among the conventional arms and munitions for sale in Libya, blank-firing firearms are widely available. The overwhelming majority of these—some 93 per cent of all blank-firing firearms in the dataset that could be conclusively identified—are of Turkish origin.[99] While blank-firing replicas of common rifles and sub-machine guns are known to be available in Libya, blank-firing handguns are much more popular: 53 examples were listed in the dataset.

Blank-firing handguns are available from hunting goods stores and other established merchants in Libya, but are more commonly purchased in street markets. CS6 explained that a street trader can expect to make LYD 30–50 on the average sale of a blank-firing handgun. As a result, popular alternatives for those of lesser means are blank-firing handguns, which are significantly cheaper and are more widely available than their conventional counterparts. CS6 notes that the price of blank-firing handguns varies, depending on the calibre and model: prices range from about LYD 100 up to a maximum of LYD 500 (ARES, 2016b).[100] The dataset corroborates these pricing ranges, with Turkish models chambered for 8 mm PAK and 9 mm PAK typically exhibiting an asking price between LYD 150 and LYD 350 (ARES, 2016a).[101]

Blank-firing handguns en route to Libya have been included in seizures reported by Greece, Malta, and Turkey. They are often seized together with illicit firearms such as shotguns and hunting rifles. The UN Panel of Experts on Libya has documented an ongoing trend of arms trafficking for the civilian market. Most of the materiel enters Libya through the ports of Tripoli, Misrata, and Khoms (ARES, 2015a; UNSC, 2015).

'Converted blank-firing handguns' are handguns made to fire blanks that are modified to be capable of firing lethal-purpose ('live') ammunition (King, 2015). Many of the blank-firing handguns documented in Libya are known for the relative ease with which they can be converted to fire live ammunition. Such conversions are frequently traded in Libya: at least seven examples are included in the dataset.[102]

Converted blank-firing handguns are generally more expensive than unconverted blank-firing handguns. Costs can vary significantly depending on the base model and the quality of the conversion work, however. CS7 claims that converted blank-firing handguns can be purchased from around LYD 250, while CS6 claims that the price can vary between about LYD 200 and LYD 600 (ARES, 2016b).[103] Those in the dataset range from LYD 200 to LYD 350.

Country	Make	Model	Weapon type	Calibre
Turkey	Torun Arms	Various	Shotguns	12 gauge and .410 bore

Photo A26 **Example of a Torun 305 self-loading shotgun**

Source: TorunArms.com, n.d.

Turkey	Eksen Arms	MKA 1919	Self-loading shotgun	12 gauge

Photo A27 **Example of a Eksen Arms MKA 1919 self-loading shotgun**

Source: Mid*Star Firearms via Armslist.com, 2012

Turkey	Sarsilmaz	M204 ATP	Pump-action shotgun	
Turkey	Milano Arms	Various	Shotguns	

Notes on weapon/s
Turkey is well known today as the home of numerous shotgun manufacturers, many of whom export their guns abroad. These are primarily marketed to the sporting community, as well as to law enforcement. Most are produced in 12-gauge chambering, but 10-gauge, 20-gauge, 16-gauge, and .410 bore (among others) are also available. Break-action, manually operated, and self-loading shotguns are all widely produced. The Greek Coast Guard intercepted a number of Turkish shotguns in September 2015 en route to the Libyan port of Misrata (Trayner, 2015). Many of these weapons were manufactured by Torun Arms, a relatively young company that has already exported widely (Torun Arms, 2016a). It is perhaps unsurprising that a large number of Turkish shotguns are listed in the dataset, many of which were identified as products (or possible products) of Torun Arms. For example, three Torun Arms Model 305 shotguns are present in the dataset. The Model 305 is a traditional gas-operated, self-loading sporting design with a 4+1 magazine capacity. Two similar Torun guns—the T1012 and KNT12—were also present. Additionally, two examples of the Torun 407 over-and-under were present in the dataset, one of which had a sawn-off buttstock (Torun Arms, 2016b). Other possible 400 series guns were noted, although they did not quite match any of the current Torun range in their details. One had an elaborately engraved buttstock, while another, similar weapon (with a black-finished action) was marked 'Torun', but neither was an exact match to current or former Torun offerings. Given that some of the other shotguns in the dataset are apparently imprecise copies, it is possible that these two 'Torun' guns were also illicit copies.
The Eksen MKA 1919 is a gas-operated 12-gauge shotgun. It has distinctive AR-15-type styling, including a detachable rifle-style box magazine. One example of an Eksen Arms MKA 1919 is present in the dataset.
The Sarsilmaz M204 ATP pump-action shotgun is fitted with an over-folding stock. Such a shotgun is present in the dataset.
Milano Arms is a small Turkish manufacturer with a limited public presence: it has no observable export presence, nor even a website.[104] Several examples of Milano Arms shotguns—apparently 12 bore pump-action weapons—are included in the dataset.[105]

Country	Make	Model	Weapon type	Calibre
Turkey	Various	Various	Self-loading handguns	.25 ACP and other
Serbia	Zastava Arms[107]	M70 and M92	Self-loading rifles	7.62 × 39 mm

Photo A28 **An M92-pattern self-loading rifle**

Serbia	Zastava Arms	M93 'Black Arrow'	Bolt-action rifle	12.7 × 99 mm

Photo A29 **A Zastava Arms M93 'Black Arrow' bolt-action anti-materiel rifle**

Serbia	Zastava Arms	MP 17 and MP 22	Bolt-action rifle	.17 HMR or .22 LR

Photo A30 **Examples of Zastava Arms MP 17 and MP 22 bolt-action rifle**

Source: Zastava Arms, n.d.

Notes on weapon/s
Several models of Turkish lethal-purpose handguns were also listed in the dataset. According to UN Comtrade data, Turkey has exported handguns to Libya since 2012 (UN Comtrade, n.d.). These have primarily been low-cost, simple designs (many of which are blowback operated) chambered predominantly for 9 x 19 mm, .32 ACP, and .25 ACP cartridges. Others were chambered for .38 Special, .380 ACP, or 9 x 18 mm. As with Turkish shotguns and blank-firing handguns, little is known about the wide range of handguns produced in Turkey. Several of the examples contained in the dataset bear obviously spurious markings. These include poor attempts to imitate successful global brands (with markings such as 'Clock' in lieu of 'Glock' or 'Tauruce' instead of 'Taurus'). They also include outright fakes, including counterfeit trademarked logos and brand names.[106]
The Zastava factory in Serbia (previously Yugoslavia) has been producing M70 Kalashnikov-pattern rifles for export from 1970, and continues to do so. It has produced M92-pattern Kalashnikov rifles since 1992. The Iraqi government (prior to the overthrow of Saddam Hussein) contracted with Zastava for assistance in setting up domestic Iraqi production of these rifles under the name Tabuk (Johnston and Nelson, 2010, p. 543). The Yugoslav, Serbian, and Iraqi versions of these rifles are visually indistinguishable, except for weapons markings. Both M70 and M92 rifles are found in the dataset. All of the versions in the dataset were produced in Serbia (or on Yugoslavian territory that became Serbia). Their presence in Libya is likely the result of 2008–12 deals between Libya and Serbia, including a 2008 deal that could account for the export of 30,000 M92 rifles (Serbia, 2010)[108] and a 2009 deal that included 50,000 M92 self-loading rifles (Serbia, 2011). The dataset includes seven examples of M70 rifles of several patterns, most commonly the M70AB2. The dataset also contains seven examples of M92 rifles.
The Zastava Arms M93 'Black Arrow' is an anti-materiel rifle chambered for either .50 BMG (12.7 × 99 mm) or 12.7 × 108 mm. It is a bolt-action design capable of engaging lightly armoured targets at long ranges—up to 1,800 m, according to the manufacturer (Zastava, 2013a). The dataset includes one example of a 'Black Arrow' rifle (see Photo A29). This rifle is likely to have entered the country as part of the 2008–13 exports from Serbia or as part of a more recent deal. A 2013 media report claims that a '100 million dollar' deal was due to be signed between Libya and Serbia. The deal was alleged to include significant numbers of M84 GPMGs, M21 self-loading rifles, unspecified grenade launchers, M93 anti-materiel rifles, and other weapons (*Serbia Times*, 2013).
The MP 17 and MP 22 are bolt-action sporting rifles manufactured by Zastava Arms. Both use a Mauser rotating-bolt action and feature cold-forged barrels. The MP 17 is chambered for .17 HMR (4.3 × 27RF mm), while the MP 22 is chambered for either .22 LR (5.6 × 15RF mm) or .22 WMR (5.6 × 27RF mm) (Zastava, 2013b). The dataset includes one example of either an MP 17 or MP 22 bolt-action rifle.[109] The rifle is likely to have entered Libya in one of the various export deals between Libya and Serbia in the period 2008–13. Alternatively, it could have arrived as a result of an export deal in 2005–06 that explicitly included 'sporting and hunting rifles or shotguns' (Holtom and Rigual, 2015, p. 103).

Part B: Weapons manufactured prior to 1990

Country	Make	Model	Weapon type	Calibre
Belgium	FN Herstal	Browning Hi-Power	Self-loading pistol	9 × 19 mm

Photo B1 **An FN Herstal Browning Hi-Power self-loading pistol**

Belgium	FN Herstal	FAL	Self-loading rifle	7.62 × 51 mm

Photo B2 **An FAL 50.00-pattern self-loading rifle**

Photo B3 **An FN Herstal FALO 50.41 self-loading rifle**

Photo B4 **An FN Herstal FAL 50.61 'Para' self-loading rifle**

Notes on weapon/s

The dataset includes 31 examples of Hi-Power pistols. Interestingly, all of the examples in the dataset with visible serial numbers (eight handguns) have a '75-' prefix to these numbers, indicating that the weapons were manufactured in 1975.[110] This would suggest a large government purchase of these pistols in or around that year. Specific documentation of direct Libyan orders for the Hi-Power is not available, but this route of importation seems highly likely for at least some of the pistols present in Libya. This is especially true given the presence of significant quantities of other Belgian arms and munitions from the same time period. Libya was not alone in the choice of (at least some) Belgian weapons: by 1965, several other Arab countries in the MENA region—including Iraq, Lebanon, Saudi Arabia, and Syria—had adopted the Hi-Power for various government agencies or their militaries (Stevens, 1996).

Interestingly, several of the Hi-Power pistols in the dataset had been nickel-plated at some point after leaving the FN factory.

The *Fusil Automatique Léger* ('light automatic rifle', or FAL) is a self-loading rifle chambered for 7.62 × 51 mm. FN Herstal introduced it in 1953, and nearly 5.5 million FAL-type rifles are believed to have been produced since then (ARES, 2015b). The FAL was produced in several variants, including the 50.00 with a fixed stock and 533 mm barrel; the 50.61 'Para' with side-folding stock and 533 mm barrel; and the 50.41 and 50.42 *Fusil Automatique Lourd* ('heavy automatic rifle'; FALO) models, which feature heavy barrels and bipods and were intended to be used in the automatic rifleman role (Jenzen-Jones and Spleeters, 2015).

Tracing the exact origin of the FAL rifles found in the dataset is impossible for most of the rifles described there. Markings visible on many of the rifles indicate that they were originally produced in Belgium. The FAL rifles in the dataset show a variety of receiver types, as well as buttstock, handguard, and pistol grip variations. These rifles are likely to have originated from several original purchasers. Only two of the examples have fully legible serial numbers. Of these, only one has the primary serial number visible. This rifle was manufactured in 1976.[111]

At some point prior to 1965—most likely in the early 1960s—Belgium exported an unknown quantity of FAL rifles to Libya. These rifles had a particular combination of physical features (a wooden stock without butt trap, polymer pistol grip and fore-end, etc.) that may aid in identifying them. Indeed, several of the rifles in the dataset exhibit these physical characteristics, although these can only be considered to be indicative rather than definitive (Jenzen-Jones and Spleeters, 2015; Smith and Smith, 1965).

NATO member states widely adopted the FAL in the 1960s, as did many other states in the MENA region, including Kuwait, Lebanon, Qatar, Syria, and the UAE (Jenzen-Jones and Spleeters, 2015; Stevens and Van Rutten, 1981). In addition to the contract noted above, further direct exports from Belgium to Libya were authorized in March 1969 (10 rifles), December 1971 (10,000 rifles), July 1973 (30,000 rifles), October 1974 (4,250 rifles), and November 1985 (2,000 rifles) (Spleeters, 2013).[112]

Significant quantities of FAL rifles are believed to have entered Libya in recent years, all likely to have been manufactured prior to 1992. There are three primary sources known for FAL rifles documented in Libya: (1 &2) rifles that were originally exported from Belgium to Qatar or the UAE. The UN Panel of Experts on Libya successfully traced such rifles in 2012 and 2013 (UNSC, 2013b; 2014b); and (3) rifles directly exported to Libya. ARES and other research organizations have documented FAL rifles with features and estimated years of production indicating they are most likely present in the country as the result of direct exports to Libya.[113]

Country	Make	Model	Weapon type	Calibre
 Photo B5 **An FN Herstal 50.00-pattern self-loading rifle**				
Belgium	FN Herstal	FNC	Self-loading rifle	5.56 × 45 mm
 Photo B6 **An FN Herstal FNC self-loading rifle**				
Belgium	FN Herstal	MAG	General-purpose machine gun	7.62 × 51 mm
 Photo B7 **An FN Herstal MAG general-purpose machine gun**				

Notes on weapon/s

The FAL is the most represented Western self-loading rifle in the dataset, with a total of 49 examples listed. This number is primarily made up of standard 50.00-pattern rifles (see Photo B2). The dataset does include other models, however, including one 50.41 FALO (see Photo B3), two 50.42 models, and five 50.61 'Para' models (see Photo B4).[114]

As originally delivered by FN, the FAL rifle was not provisioned for the mounting of an optical sight. After-market suppliers have developed replacement receiver covers that incorporate a MIL-STD-1913 ('Picatinny') rail, however, allowing a wide range of optical sights to be fitted to the weapon. Nine examples of FALs with such railed covers are present in the dataset. The types of optics used on these rifles vary, with one example sporting an Elcan SpecterOS 3.4x (AKA C79 or 'Wildcat'; see Photo B5), two with traditional-style Bushnell telescopic sights, and three with telescopic sights of undetermined model. In addition, two examples feature optic mounts but no optics, and another is shown with its original receiver cover in place, but alongside a railed cover fitted with an unknown telescopic sight. Bushnell telescopic and Elcan SpecterOS 3.4x sights were documented mounted on FAL rifles during the 2011 Libyan revolution (Jenzen-Jones, 2011a; 2011b). CS6 notes that during the revolution, FAL rifles with optics were often employed in the designated marksman or counter-sniper roles, and were sometimes known as the 'French sniper' (ARES, 2016b).[115]

The dataset also contains FAL rifles that were repaired or modified. Military rifles tend to be very durable items and can often continue to function with simple repairs when necessary (McCollum, 2014). One FAL in the dataset has a broken pistol grip, while another has a simple replacement wooden pistol grip. Another example is missing the grip for its carry handle. The most significant alteration of an FAL rifle seen in the dataset is one in which the rifle's barrel was shortened to the end of the handguard.[116]

When NATO adopted the 5.56 × 45 mm cartridge, FN Herstal responded by developing a 5.56 mm version of its then-popular FAL rifle. The result was the *Fabrique Nationale Carabine* (FNC), introduced in 1975.[117] The rifle did not prove to be nearly as successful as the FAL, with estimates of total production reaching some 455,000 units to date (including licensed production in Sweden and Indonesia; ARES, 2015b).

Several African nations purchased the FNC in small quantities. Several FNC rifles have previously been documented in Libya, including a number in the hands of the Libyan National Army (LNA).

A single example of the FNC appears in the dataset (see Photo B6). The origin of this weapon cannot be determined from existing information, but it was mostly likely produced before 1990. It bears a 'rack number' on the folding stock in the same location and in the same format, style, and colour as rifles documented in service with the LNA in Benghazi.[118]

The *Mitrailleuse d'Appui Général* ('general purpose machine gun'; MAG) is a GPMG developed by FN Herstal in the 1950s as a companion to the FAL rifle. It is chambered for the same 7.62 × 51 mm cartridge as the FAL and also saw substantial commercial success worldwide. It is heavy compared to many modern GPMG designs, with a quick-change barrel and belt-feed mechanism to allow heavy sustained fire. In addition to the infantry model, versions are also produced for use in armoured vehicles and aircraft.

The MAG machine gun is present in Libya as a result of direct purchases by the Libyan government. The MAG was also exported to nearly all of Libya's neighbours, including Egypt, Sudan, Chad, Niger, and Tunisia. MAG machine guns of varied provenance are likely to be circulating illicitly in Libya (ARES, 2016a).

Country	Make	Model	Weapon type	Calibre
 Photo B8 **An FN Herstal MAG general-purpose machine gun mounted on a tripod**				
Belgium	FN Herstal	Model 1910	Self-loading pistol	.32 ACP (7.65 × 17SR mm)
 Photo B9 **A FN Herstal Model 110 self-loading pistol**				
Brazil	Taurus	PT-92	Self-loading pistol	9 × 19 mm
 Photo B10 **Example of a Taurus PT-92 self-loading pistol** **Source:** Chris Dumm/TheTruthAboutGuns.com, 2012				

Notes on weapon/s

The dataset contains a significant number of MAG machine guns—30 in total. While the vast majority are standard-pattern infantry machine guns (see Photo B7), two examples appear of guns intended to be mounted on vehicles. These can be distinguished by their lack of stock, pistol grip, and sights.[119]

Another application of a machine gun like the FN MAG is mounting it on a tripod to allow more accurate fire at extended ranges. Two examples of MAG machine guns tripods appear in the dataset. The first is shown by itself and the second is shown with a gun mounted on it (Photo B8).

The dataset also contains two partial examples of the MAG. The first is missing many major components— including its bolt and bolt carrier, pistol grip, and stock—making it inoperable. The second is missing its stock, making it extremely difficult to use effectively even if it is otherwise operable.

Three examples of 'spare' MAG barrels are included in the dataset. The MAG barrel is designed to be quickly and easily removed, so this is not surprising. These spare barrels are generally interchangeable among any MAG machine guns and do not need to remain paired with the gun they were originally shipped with.

The Model 1910 was an early semi-automatic handgun developed by FN for military, law enforcement, and civilian markets. It was a popular pistol worldwide and was purchased by numerous law enforcement agencies. Export examples date from just after the First World War until at least the late 1940s. An updated version of the Model 1910 remained in production until the 1980s (Vanderlinden, 2009).

The dataset contains one example of a Model 1910-variant pistol. Despite the wide proliferation of the Model 1910, this example is remarkably identifiable. It is a Model 110—an updated variant distinguished by large fixed sights, 'Browning' grip panels, and specific slide markings (see Photo B9). The Model 110 was only produced from 1975 to 1983, and the only significant purchaser was the Dutch government, which used these pistols to equip police forces (Vanderlinden, 2009). Finding this model outside of Europe is rare, and it is possible that this pistol originated from a Dutch purchase before somehow reaching Libya.

The Italian Beretta Model 92 was introduced in 1976 as a larger, locked-breech design chambered for 9 × 19 mm.[120] The Model 92 was intended as a full-size sidearm for military and law enforcement use. The US military adopted it as the M9 in 1985 (Beretta, n.d.).

A number of Model 92-type handguns are included in the dataset; however, they are all examples of a Brazilian-made copy produced under licence: the Taurus PT-92. Brazil was among the first countries to adopt the Model 92 for official use (Beretta, n.d.). The country also has a long arms export history with Libya. From 1973 to 1984 there was robust trade in arms and oil between the two countries. In 1983 and 1984 in particular, Brazil delivered two large exports of small arms (specific models unknown) to Libya.[121] A CIA report from 1984 indicates that Brazil approved a mid-1984 export of 20,000 Taurus MT-12A sub-machine guns to Libya (CIA, 1984). Four years later, in 1988, Brazil received a delegation of Libyan military officers 'shopping for weapons' (Long, 1988).

Country	Make	Model	Weapon type	Calibre
Finland	Valmet	Rk 62 series	Self-loading rifles	7.62 × 39 mm

Photo B11 **A Valmet Rk 62M (M62P) self-loading rifle**

France	MAC	Model 1950 pistol	Self-loading pistol	9 × 19 mm

Photo B12 **A MAC 1950 self-loading pistol**

France	MAPF	Model Rr (variant of Model 17)	Self-loading pistol	.32 ACP (7.75 x 17 mm)

Photo B13 **MAPF Model Rr self-loading pistol**

Notes on weapon/s

The Valmet *Rynnäkkökivääri* 62 ('assault rifle 62', or Rk 62) is a Finnish derivative of the AK self-loading rifle made for both domestic and foreign military markets. The Model 62 was introduced in 1962 and is chambered for the common 7.62 × 39 mm cartridge. Several hundred thousand Rk 60 series rifles were manufactured in Finland (Johnston and Nelson, 2010). In 1976 the model was updated to make use of a lighter stamped steel receiver instead of the original milled receiver. These rifles are known by the designation M76 or M62/76.

One example of a Valmet M62 self-loading rifle appears in the dataset (see Photo B11).[122] The origin of this rifle is unclear, although several other examples have been documented in Libya (ARES, 2016a). Qatar is believed to have purchased Valmet M76 rifles in the 1970s, although these were apparently chambered for 5.56 × 45 mm (Walter, 2006). Interestingly, Finnish media have reported on allegations that a '7.62 mm assault rifle' factory existed in Libya, allegedly built in the 1980s with Finnish assistance (Rislakki, 1994; 2011).

In the aftermath of the Second World War the French military had in its inventory a large assortment of handguns of different calibres, origins, and designs. In an effort to standardize, the French adopted the Model 1950 semi-automatic pistol in 1950. It was only ever manufactured and used by the French military and security services, although some civilian sales took place. Between 1953 and 1963, 221,900 of these pistols were manufactured by the government factory (Manufacture d'Armes de Chatellerault; MAC). An additional 210,900 were made by the Saint Etienne (MAS) arsenal between 1961 and 1978 (Huon and Medlin, 1993).

Two examples of MAC 1950 pistols are included in the dataset (see Photo B12). One of these has a legible serial number that indicates it is the 151,997th pistol made by MAC, suggesting a production date of late 1959 (Huon and Medlin, 1993). While only French forces used these pistols, they would have been present in significant numbers in the MENA region as a result of French colonial and military activities there, including in Algeria, Chad, and Lebanon.

The Model Rr was a product of *Manufacture d'Armes des Pyrenees Francaises* (MAPF), a small handgun-manufacturing concern located near the Spanish–French border. Production of the Model 17 (of which the Rr is a variant) began in 1928 for the commercial market. The Rr is a simple unlocked-breech handgun chambered for the .32 ACP (7.65 × 17 mm) cartridge. Production was continued through the Second World War for use by the German armed forces, and after the war for commercial sales (Bastié and Casanova, 2013). The Model 17 series were inexpensive handguns, underpowered and heavy, but generally reliable.

One example of a Model Rr appears in the dataset (see Photo B13). The available photographs do not show a legible serial number. Based on the design features, however, the pistol was probably manufactured between 1945 and 1951 (Adair, 2014). The example in the dataset has been nickel-plated at some point in its history[123] and also has crude replacement grip panels and grip screws.

Country	Make	Model	Weapon type	Calibre
Germany	Heckler & Koch	MP5 pattern	Sub-machine gun	9 × 19 mm

Photo B14 **A Pakistan Ordnance Factory MP5P3 sub-machine gun**

Photo B15 **A Heckler & Koch MP5SD3 sub-machine gun**

Germany	Rheinmetall	MG3 pattern	Light machine gun	7.62 × 51 mm

Photo B16 **A Rheinmetall MG3-type light machine gun**

Germany	Walther	P38 pattern	Self-loading pistol	9 × 19 mm

Photo B17 **Example of a Walther P38 or P1 self-loading pistol**

Source: WarRelicsForu.eu/User:Stinkpotpete, 2012

Notes on weapon/s

The MP5 sub-machine gun was first introduced by German firm Heckler & Koch in the 1960s. It is chambered for the 9 × 19 mm cartridge and is one of the most commercially successful sub-machine guns ever developed.

In addition to being manufactured by HK in Germany, production of the MP5-type sub-machine gun has been licensed to Iran, Pakistan, Saudi Arabia, Sudan, and Turkey (among other nations). A large number of countries have also purchased the MP5 in one or more variations for their military or police forces, including Bahrain, Egypt, Lebanon, Iraq, Jordan, Kuwait, Morocco, Niger, Nigeria, Qatar, and the UAE. Given its wide geographic distribution of both manufacture and importation, it is almost impossible to identify specific sources for MP5-type sub-machine guns found today in Libya.

Two examples of the MP5-type sub-machine gun appear in the dataset. The first example is a typical MP5A3-type model with a collapsible stock (see Photo B14). The markings and general finish of this weapon point to its manufacture under licence in Pakistan rather than in Germany. This copy of the MP5A3 is known as the MP5P3 (POF, 2014). The second example is an MP5SD3 with a collapsible stock (see Photo B15). This version has an integrated sound suppressor, although the weapon in the dataset is missing its suppressor assembly.[124] The specific origin of this weapon is indeterminate, because the photograph available does not show any identifiable serial number or other markings.[125]

The MG3 is an adaptation of the Second World War-era German MG42 machine gun chambered for the 7.62 × 51 mm cartridge. It has a quick-change barrel and belt feed to facilitate its high rate of fire, but is light enough to be transported and operated by a single soldier. The weapon is generally regarded as one of the most successful machine gun designs of the 20th century, and has been widely used from the 1950s to the present.

In addition to German manufacture, production of the MG3 had been licensed to Spain, Indonesia, Turkey, Iran, and Italy. These machine guns have also been sold directly to Sudan and Nigeria, among other countries (Musgrave, 1992). They are also known to be in service with the Tunisian Army.

The dataset contains one example of an MG3 (see Photo B16). Unfortunately, the available imagery does not reveal markings or identifiable features that might allow its specific origin or likely period of manufacture to be determined.

The Walther P38 was a standard German military pistol during the Second World War, and remained in production and in military and police service after the war under the designation P1 (for an example, see Photo B17). Both versions of the pistol are chambered for the common 9 × 19 mm cartridge. In addition to German use, many militaries and police forces worldwide adopted the P1.

The dataset contains one example of a P38-pattern self-loading pistol. The imagery is not sufficiently detailed to determine whether it is a P38 or P1, or what its serial number or other markings might indicate.

Country	Make	Model	Weapon type	Calibre
Germany	SIG Sauer	P230 self-loading pistol	Self-loading pistol	.32 ACP (7.65 × 17SR mm) or .380 ACP (9 × 17 mm)

Photo B18 **A SIG Sauer P230 self-loading pistol**

Italy	Beretta	Model 1934/1935 series	Self-loading pistol	.32 ACP

Photo B19 **A Beretta Model 1934 self-loading pistol with a suppressor**

Italy	Beretta	Model 950	Self-loading pistol	.25 ACP

Photo B20 **A Beretta Model 950 self-loading pistol**

Notes on weapon/s
The P230 was a joint project between the Swiss firm SIG and the German firm J.P. Sauer. Introduced in 1977 and manufactured until 1996, it is a compact pistol intended for police or civilian self-defence, and was available in the .32 ACP (7.65 × 17SR mm), .380 ACP (9 × 17 mm), and 9 x 18 mm Police cartridges (Popenker, n.d.).[126] These are high-quality pistols, and were well regarded around the world. The dataset contains one example of a P230 self-loading pistol (see Photo B18). Markings on the slide indicate it was manufactured in 1984, but its exact path to Libya is unknown.
The Model 1934 self-loading pistol was originally adopted by the Italian military in 1934, and it saw high-volume production and significant use during the Second World War. Pistols of this design were produced in both .32 ACP (7.65 × 17SR mm) and .380 ACP (9 × 17 mm), with the former designated the Model 1934 and the latter the Model 1935 (Wood, 1985). The two models are virtually indistinguishable apart from their markings. After the war, Beretta continued to manufacture and sell these pistols to both civilians and security organizations. Production continued until 1967 for the Model 1935 and until 1991 for the Model 1934 (Di Camarlinghi, 1986; Muffolini, 2009). Five examples of the Model 1934 or Model 1935 self-loading pistol are included in the dataset. Two examples can be confirmed as the .32 ACP Model 1934. The other three cannot be conclusively identified, however. Two of the five pistols were offered for sale with suppressors (see Photo B19).[127] All five examples in the dataset have grip panels indicative of commercial purchase, and not wartime or military production. These pistols may have entered Libya as direct individual purchases decades ago, or may have been used by Libyan security agencies at some point.
Introduced in 1950 for the civilian personal-protection market, the Model 950 was chambered for either the .25 ACP (6.35 × 16SR mm) or .22 Short (5.6 x 11RF mm) cartridges. Production in Italy ceased in 1968, although it resumed in the 1970s in the United States (Wood, 1985). The Model 950 was also produced in Brazil under licence. US-made versions are marked as such and no examples of this type are included in the dataset. It is possible that some Brazilian-made examples may be found in Libya and misidentified as Italian-production pistols, however (Wood, 1985). It should be noted that police or military organizations did not formally adopt these pistols. As such, they are likely to have entered Libya through commercial trade at some point in the past. The Model 950 was a popular pistol, and six of them are found in the dataset (see Photo B20). All identifiable examples are chambered for .25 ACP.

Country	Make	Model	Weapon type	Calibre
Italy	Beretta	Model 51 pattern	Self-loading pistol	9 × 19 mm

Photo B21 **A Beretta Model 51 self-loading pistol**

Photo B22 **Example of an Egyptian-made Helwan self-loading pistol**

Source: Reddit.com/User:MythicArmory, 2014

Italy	Beretta	Model 70 series	Self-loading pistols	.32 ACP

Photo B23 **A Beretta Model 70 self-loading pistol**

Italy	Beretta	Cheetah series	Self-loading pistols	.32 ACP and .380 ACP

Photo B24 **Example of a Beretta Cheetah self-loading pistol**

Source: Beretta.com, n.d.

Notes on weapon/s

The Model 51 (also known as the Model 951) was Beretta's first locked-breech military pistol design, chambered for the 9 × 19 mm cartridge. First entering production in 1956, the pistol was adopted by the Italian and Egyptian militaries as a sidearm. After an initial purchase from Beretta in Italy, the Egyptian government was licensed to produce the pistol under the designation 'Helwan' (Wood, 1985).

The dataset includes one Beretta-made Model 51 (see Photo B21) and two Egyptian-made 'Helwan' copies (for an example, see Photo B22). All three of these pistols could have come from either military or police sources in Egypt. Alternatively, the Beretta example may have originally entered Libya via a commercial route.

The Model 70 was an improved version of the Model 1934/1935, and was introduced to the commercial market in 1958. Variants of the Model 70 (including the 71 and 71S) were produced in various barrel lengths (90 mm and 150 mm) and chamberings (.22LR, .32 ACP, .380 ACP). Production ended between 1968 and 1985, depending on the specific model (Wood, 1985).

In 1980 Beretta sold tooling for the Model 70 to the Iraqi government, which put the gun into production under the designation 'Tariq' (Wood, 1985).[128] These Iraqi pistols can be distinguished by markings on the slide, and it is possible they may be present in Libya and misidentified as Beretta-production guns.

Seven examples of the Beretta Model 70 are present in the dataset (see Photo B23). Only two of the examples can be confirmed by cartridge type, both chambered for .32 ACP.[129]

The Cheetah was the commercial trade name for several models of Beretta self-loading pistols, including the Model 81 (.32 ACP) and Model 84 (.380 ACP), as well as other variants built on the same frame. The Cheetah models were first introduced in 1976 and intended for the police and civilian markets (Wood, 1985).

The dataset documents two examples, the exact model designations of which cannot be conclusively determined from the available imagery (see Photo B24).[130] Interestingly, both are missing critical components and neither is functional as pictured.

Country	Make	Model	Weapon type	Calibre
Italy	Beretta	PM12	Sub-machine guns	9 × 19 mm

Photo B25 **A Beretta PM12 sub-machine gun**

Italy	Carcano	Model 91 Cavalry Carbine	Bolt-action rifle	6.5 × 52 mm

Photo B26 **A Carcano Model 91 Cavalry Carbine bolt-action rifle**

Spain	Star	Model B and Model BM	Self-loading pistols	9 × 19 mm

Photo B27 **A Star Model BM self-loading pistol**

Notes on weapon/s

The PM12 (Model 12) sub-machine gun was designed by Beretta in the aftermath of the Second World War and introduced in 1959. It features stamped sheet metal construction and a telescoping bolt design to deliver a very compact and reliable firearm. In 1961 the gun was adopted by the Italian military and subsequently achieved significant export success. The PM12 is also produced under licence in Brazil and Indonesia. The gun was updated to the Model 12S designation in 1978, including a distinctive change from independent safety and fire-control push buttons to a single rotary selector lever. This change often allows examples of the two models to be easily distinguished in photographs, permitting broad estimates of the period of manufacture to be made.

Substantial international sales of the PM12 occurred in the 1960s and 1970s, including to the governments of Egypt, Libya, and Tunisia (Truby, 2003). All the examples in the dataset are pre-1978 models with the separate safety and fire-selector controls (see Photo B25). Other Model 12-type sub-machine guns documented in Libya are also of this earlier design. This suggests that most of the Model 12 sub-machine guns in Libya today were purchased prior to 1978, most likely by the Libyan government.

The dataset includes 19 Model 12 sub-machine guns, making it the most common of the sub-machine guns offered for sale. One of the examples in the dataset was nickel-plated at some point in its life. Several other examples in the dataset have cosmetic damage—broken or replaced front grips and missing rear-grip panels. This would seem to indicate extensive use.

The Model 91 Carcano bolt-action rifle was the primary service rifle for Italian troops during the Second World War, and was manufactured in several different chamberings and configurations. It was originally intended for the use of mounted troops or troops deployed on vehicles, who needed a more compact weapon than the much longer standard infantry rifle. The Model 91 can be recognized by its attached folding spike bayonet. The rifle is chambered for the 6.5 × 52 mm cartridge, as indicated by its adjustable rear sight (Riccio, 2013).[131]

One example of a Carcano Model 91 Cavalry Carbine appears in the dataset (see Photo B26). The rifle shows evidence of long-term use and poor maintenance, with little finish left on its metal parts and significant pitting. In addition, the extractor is missing. This would render the rifle slow to use—requiring the use of a cleaning rod to manually remove the cartridge case each time it was fired—although not totally inoperable.

The Star Model B was one in a long line of Spanish-made, simplified copies of the US Colt 1911 pistol. The first versions were developed in 1920, although some versions were in production as recently as 1989 (Antaris, 2001). Several models of Star pistols were adopted by Spanish military and police units chambered for the 9 × 23 mm cartridge. The 9 × 19 mm version proved substantially more popular for export, however. These pistols were popular because they offered affordable, high-quality alternatives to the US Model 1911, chambered for the more common 9 × 19 mm cartridge. In total, about 104,000 examples of the Model B pistol were manufactured between 1942 and 1968 (Antaris, 2001).

Two examples of Star pistols are included in the dataset. The first of these is a Model BM (or the visually identical Model BKM, which used a lighter alloy frame than the steel frame of the BM; see Photo B27). These models were purchased in large numbers by Spanish police units, as well as other security services and civilians worldwide. Production of the BM ran from 1972 to 1992, although the style of front sight on this particular example indicates a production date of no earlier than 1981 (Antaris, 2001).

Country	Make	Model	Weapon type	Calibre
 Photo B28 **A Star Model B self-loading pistol**				
United Kingdom	Unknown	Bren	Light machine gun	7.62 × 51 mm
 Photo B29 **A Bren L4 series light machine gun**				
United Kingdom	Royal Small Arms Factory Enfield	Lee-Enfield No.4	Bolt-action rifle	.303 British
 Photo B30 **Lee-Enfield No.4 bolt-action rifle**				

Notes on weapon/s

The second example is a Model B (see Photo B28). The photos of this handgun do not reveal a legible serial number, but its style of slide markings and magazine release indicate it was produced between 1944 and 1958 (Antaris, 2001).

The Bren gun was the standard British and Commonwealth light machine gun during the Second World War, and saw global use alongside the Lee-Enfield rifle. It has a well-deserved reputation as a rugged, durable, reliable, and accurate weapon, and was generally very well liked by users. It continued in British military service well into the 1980s, and was manufactured in Canada, India, and the United Kingdom. The Bren was originally chambered for the .303 British (7.7 × 56R mm) cartridge but—after the United Kingdom joined NATO in 1954—the guns were modified to fire the 7.62 × 51 mm cartridge under the designation L4A1 (Grant, 2013).[132]

There is one example of a Bren L4 series LMG in the dataset (see Photo B29). The exact model designation, year of manufacture, or path to Libya cannot be determined from the available photographs. In addition, the photos show that the weapon is missing its barrel.[133] The physical features indicate it is chambered for 7.62 × 51 mm and is an L4A2 or later model.[134] It was most likely part of a legitimate export of these weapons to Libya.

The Lee-Enfield No.4 bolt-action rifle was the standard infantry rifle for British and some Commonwealth forces during the Second World War, and was used extensively in North Africa.[135] It also saw service in (then) British colonial territories, including Pakistan, Palestine, and Egypt (Skennerton, 1982). The Lee-Enfield No.4 was manufactured in the United Kingdom, Canada, and the United States (Petrillo, 1992).

One example of a Lee-Enfield bolt-action rifle is included in the dataset. Given its widespread use in the region, the presence of limited numbers of such rifles in Libya today is not surprising. The rifle in the dataset is missing its magazine, although it can still be operated as a single-shot rifle, albeit with difficulty (see Photo B30). The exact model or country of manufacture of this rifle cannot be determined from the photographs available. The example in the dataset does appear to have a British military sling fitted to it, however. Originally, this rifle would have been chambered for .303 British. This cartridge is not in common usage today, and some Lee-Enfield rifles in military service were later converted to chamber 7.62 × 51 mm ammunition, increasing their useful lives. This rifle has no visible evidence of having been modified in this way, however.

Country	Make	Model	Weapon type	Calibre
India	Indian Ordnance Factories	1A1	Sub-machine gun	9 × 19 mm

Photo B31 **Example of an IOF 1A1 sub-machine gun**

Source: Aermech.in, 2016

United Kingdom	Various	Webley MkIV and Enfield No.2 Mk.I*	Revolvers	

Photo B32 **A Webley MkIV revolver**

Photo B33 **A Webley MkIV 'pocket' model**

Notes on weapon/s

India has been a long-standing user of the British Sterling sub-machine gun, domestically produced by Indian Ordnance Factories (IOF) under the designation 1A1 or SAF Carbine 1A. The Sterling's development dates back to 1942, when it was known as the Patchett Machine Carbine and designed for British use in the Second World War, although the United Kingdom did not ultimately adopt it until 1953 (Ezell, 1977). The 1A1 remains in service with Indian police forces.

Thirteen examples of the 1A1 (Sterling-pattern) sub-machine gun appear in the dataset (see Photo B31). All the examples can be positively identified by their selector markings and general finish as being of Indian manufacture.[136] This represents a substantial number of sub-machine guns of this type to be found in a conflict or post-conflict zone—further research into how these weapons reached Libya could prove illuminating.

One example in the dataset is pictured with a British Sten sub-machine gun magazine instead of the correct Sterling-type magazine. The Sterling in British service was designed to use Sten magazines in addition to its own, however, so this substitution does not hinder the weapon's usability. Another example has been wrapped in a camouflage-pattern adhesive cloth tape.

The Enfield No.2 Mk.1*, a revolver closely based on the Webley MkIV design, was adopted as the standard British military sidearm in 1932 in .38 calibre. It replaced the earlier .455 calibre Webley revolvers in that role. These revolvers were manufactured in military configuration in large numbers throughout the Second World War. Webley also offered a variety of equivalent civilian models from 1929 until the closing of the firm in 1979 (Ezell, 1977).

The 'pocket'-style Webley, in both .38 calibre and .32 calibre, was a popular pistol for self-protection. It was sold to many British subjects travelling to parts of the (then) British Empire outside Western Europe. The 'pocket' style is recognizable by having a 3 inch (74 mm) barrel and a shorter grip than the standard military and police patterns. The military and police model of the Webley has a 5 inch (123 mm) barrel and a full-length grip. These were sold on military contract, exported to foreign police agencies, and also sold on the civilian market.

A total of 20 Webley revolvers were found in the dataset. These are split between 14 military and police pattern examples (see Photo B32) and six compact civilian examples (see Photo B33).

Of the Webley revolvers in the dataset, four have legible serial numbers, all of which have 'B' prefixes, placing the date of their manufacture between 1957 and 1970 (Arms Research, 2014). There is also one example of an Enfield No.2 Mk.I* revolver in the dataset (see Photo B34). This version is a contemporary near-copy of the Webley produced by the British Royal Small Arms Factory at Enfield. Its markings indicate it was produced in 1939, suggesting that it may have been a military-issued sidearm during the Second World War.[137]

The revolvers in the dataset do not show the sort of evidence that would indicate they originated from a large batch purchase. Instead, they are likely the result of British civilian sales over previous decades. It is worth noting that the ammunition used by these weapons (.38-145 and .38-200) is no longer in common use. They may also chamber .38 S&W without modification, however.[138] In addition, several of the documented examples show signs of damage and basic repairs, suggesting an extended period of use in areas where the services of high-quality gunsmiths were unavailable. The repairs and damage that are visible include replacement grip panels, heavy exterior finish wear, pitting, replacement trigger guards, and missing safety catches.

Country	Make	Model	Weapon type	Calibre
 Photo B34 **Example of an Enfield No. 2 Mk.I* revolver** **Source:** WarRelics.eu/User:ph3s, 2012				
United States	Colt	M1911A1	Self-loading pistol	.45 ACP
 Photo B35 **A Colt Model 1911A1 self-loading pistol**				
United States	Colt	Snub-nosed Detective Special types	Revolvers	.38 Special
 Photo B36 **A Colt Detective Special chambered for .38 Special**				
United States	Smith & Wesson	Model 686	Revolver	.357 Magnum
United States	Smith & Wesson	Model 28-2 Highway Patrolman	Revolver	.357 Magnum
 Photo B37 **A Colt Model 28-2 Highway Patrolman chambered for .357 Magnum. The Colt is pictured with a Czech vz.50 series self-loading pistol (below), and an M67-pattern hand grenade (left)**				

Notes on weapon/s

The Colt M1911A1 is an iconic self-loading pistol chambered for the .45 ACP (11.25 × 23 mm) cartridge. The 'A1' designation refers to a set of minor technical changes made to the design in 1924, most noticeably a set of scalloped cuts in the frame behind the trigger. The Model 1911A1 was the standard service handgun of US armed forces from 1911 to 1985. It was also available on the commercial market for many decades and was purchased by a wide range of customers, including military, law enforcement, security, and civilians (Meadows, 2013).

One example of a Colt 1911A1 appears in the dataset (Photo B35). The serial number is not legible in the photographs, but it appears to be a commercial-production pistol made by the Colt Company. Without further information, the precise date of manufacture cannot be determined.

The Colt Detective Special was first introduced in 1927 as a shortened version of Colt's popular 'Police Positive' revolver chambered for the .38 Special (9 × 29R mm) cartridge. The Detective Special became an immensely popular pistol for both law enforcement and civilian buyers, because it is a very concealable self-defence weapon. In total, more than 1.5 million were produced by the time manufacture ended in 1986. Smith & Wesson produced a similar model of revolver chambered for the same cartridge, but in a slightly smaller frame holding only five rounds, instead of six like the Colt. Over many decades of production these revolvers were manufactured in several versions and designations.

Six examples of Colt Detective Special-type pistols appear in the dataset (see Photo B36). All are chambered for .38 Special. One of them shows signs of poor maintenance, with extensive surface rust and damaged grips, although this damage does not appear to affect its functionality.

One example of this snub-nosed revolver appears in the dataset, chambered for .357 Magnum (9.1 × 33R mm).

The Model 28-2 Highway Patrolman revolver is a full-size service revolver chambered for .357 Magnum (9.1 × 33R mm). It features a full-length barrel, as intended originally for police forces.

One example of this weapon appears in the dataset (see Photo B37).

Endnotes

1 Author interviews with confidential sources.

2 European Union (EU) sanctions prohibited arms exports to Libya by member states from 1986 to 2004 (SIPRI, 2012b).

3 Entries in the proprietary CONMAT database are drawn primarily from conflict and post-conflict zones around the world. The information originates from a combination of open source images, video, and reporting taken from both mainstream and new media sources. It is supplemented by material provided by a network of on-the-ground sources. CONMAT database entries are most commonly based on images or video; however, they may also include other intelligence material, including written accounts and audio data. Each CONMAT database entry represents either a single item, where such an item can be meaningfully distinguished from other similar items in the source material, or multiple items when the distinction is not useful (for example, in the case of several hundred cartridges of the same type, appearance, and headstamp).

4 A more detailed discussion of items contained in the dataset can be found in the Annexe.

5 As well as materiel originating in the former East Germany, Soviet Union, and Yugoslavia.

6 The authors note that this report does not cover online trading taking place on Tor-enabled or 'hidden' sites of the kind often referred to as the 'dark web.' ARES has assessed and continues to assess this type of online trade, as it does with the trade facilitated by closed online groups like those discussed in this report.

7 The ARES team that contributed directly to the data collection, verification, and analysis for this paper included Jonathan Ferguson, N.R. Jenzen-Jones, James Luttrull, Ian McCollum, Hassan Morajea, Graeme Rice, Michael Smallwood, and Sami Tarhuni.

8 The authors selected these groups as representative examples, although they comprise only a small number of those monitored by ARES.

9 The authors note that ARES continues to monitor these and other groups, and new data is collected daily from Libya, Syria, Yemen, Iraq, and elsewhere.

10 In some cases the data goes back further; however, a 12-month period was selected to ensure the timeliness of the paper, while accounting for potential seasonal variations in trade volumes.

11 Additional information recorded in the ARES CONMAT database but falling outside the scope of this paper included a number of heavier weapon systems; ammunition, including artillery; ordnance, including air-delivered munitions, and artillery rockets and projectiles; vehicles, including civilian vehicles and some armoured fighting vehicles; other military materiel such as night vision and thermal imaging systems; a variety of monetary instruments, including cash; and passports and other identity documents.

12 This Working Paper primarily uses the Libyan dinar (LYD) in describing pricing data. The reasons for this usage are twofold: (1) most of the data forming the basis of this paper was

originally collected using dinar prices; and (2) the value of the dinar can be very difficult to accurately calculate in terms of more recognized and comparatively stable currencies such as the US dollar or euros. It should be noted that the street value of the US dollar has fluctuated significantly, particularly since 2014. While the bank rate may be LYD 1.3 to USD 1, for example, the street rate is often as high as LYD 4.5 or 5. Further, the value of Libyan dinars on the unofficial market can vary significantly over short periods of time, making prices quoted in January, for example, significantly different from those quoted in June for the same item. For current information on the variance between bank and black market exchange rates, see *Libya Observer* (2016). These fluctuations in the street value of the currency also go some way towards explaining the seemingly high cost of arms and munitions in an environment where such items remain reasonably commonplace.

13 Posts from parties seeking to buy, sell, or trade (swap) arms and munitions.

14 The material was graded and assessed according to the Open Source Plus (OS+) intelligence fusion methodology developed by ARES. The OS+ methodology includes a grading system adapted from the Admiralty Grading System, which assigns an alphanumeric rating to each item of intelligence. This code reflects an assessment of both the reliability of the source and the credibility of the information. The issues of reliability and credibility are considered independently to ensure that each does not influence the other. Depending on the project parameters, entries that score below a certain threshold may be cut from the dataset. Confidence intervals are used in conjunction with explanatory notes to express specific concerns, queries, or required action.

15 The image quality of some posts was low, likely due to the use of cheaper mobile phones with low-quality cameras. While some could be verified by the content and nature of the photographs and contextual information, some had to be excluded from the dataset as unverifiable.

16 While in other intelligence contexts 'staging' may denote a more nefarious or intentionally misleading intent, the main consideration for this paper was the presence of advertising material or promotional imagery being substituted in a post or listing. Special care had to be taken so that these items were not listed among examples in the final dataset.

17 Meta-information is especially useful and is typically abundant in social media sources, allowing the analyst an opportunity to quickly review direct information about the source (generally their profile).

18 This process is often conducted periodically when a discrete output is not scheduled.

19 Such items may be identified during the collection, analysis, or review phases.

20 These may include Google Images, TinEye, ImageBrief, Yandex, Baidu, Image Raider, and specialized software tools.

21 This was conducted in accordance with a risk reduction strategy.

22 Items are marked as 'unverified' at this stage, before being reviewed by one or more appropriate ARES subject matter specialists. As necessary, the technical specialists will make adjustments or additions to the entries. In rare cases, an item may be removed from the database if it is found to be suspect. All available data, including manufacturer, country of manufacture, year of production, serial number, and other technical details, is added where possible. Following this process, entries are marked as 'verified' and unique identifying codes for each reviewer are permanently attached to the entry.

23 For further discussion, see Jenzen-Jones and McDonald, forthcoming.

24 Several multilateral arms embargoes have targeted Libya, including: UN Security Council Resolution 748 (31 March 1992–12 September 2003; no longer in force); European Political Cooperation Presidency Statement (14 April 1986–11 October 2004; no longer in force); UN Security Council Resolution 1970 (26 February 2011; remains in force); and Council Common Position 2011/137/CFSP (28 February 2011; remains in force). See Jenzen-Jones (2016a).

25 See UNSC (2011a; 2011b).

26 See note 24, above.

27 Information derived from interviews conducted in April 2015. See 'Online traders in Libya', at pp. 28–31.

28 While the illicit sale of arms via social media platforms is often strictly prohibited in the terms of service, the detection, moderation, and deletion of these pages are commonly undertaken only if staff become aware of their existence—which typically requires that the page be reported (see, for example, Facebook, 2015; 2016b; Kibrisli, 2013).

29 It is noted that while the demographic similarity of sources (all young men between 20 and 35 years of age) is likely to reflect the reality of those engaged in the online trade of arms and munitions in Libya, cultural factors and the use of male Libyan collections specialists may have introduced some limited selection bias. For example, women have been reported to buy limited quantities of materiel from Al Rashid Street.

30 Except where otherwise noted, users of the groups monitored provided the photos. Given the precarious security situation in Libya, the original sources are being treated as confidential.

31 For example, all of the confidential sources described in this Working Paper were between 20 and 35 years of age (ARES, 2016b). See note 29, above.

32 Of course, the urban concentration of illicit firearms is not a uniquely Libyan phenomenon.

33 Fewer than 20 items offered for sale or trade per month.

34 Figures given in Libyan dinars. The 'official' LYD–USD exchange rate as at 23 April 2016 was approximately LYD 1.38 to USD 1, although the black-market rate was substantially higher: LYD 3.10 to USD 1. As of 15 November 2016 the black-market rate had increased to LYD 5.57 to USD 1. Given the often-volatile black-market exchange rates for Libyan dinars, prices are reported here in their original dinar denominations.

35 The Small Arms Survey's definition of 'small arms' includes 'revolvers and self-loading pistols, rifles and carbines, sub-machine guns, assault rifles, and light machine guns'. 'Light weapons' are defined as 'heavy machine guns, grenade launchers, portable anti-tank and anti-aircraft guns, recoilless rifles, portable anti-tank missile and rocket launchers, portable anti-aircraft missile launchers, and mortars of less than 100 mm calibre' (Small Arms Survey, 2015, p. 3). This Working Paper relies on a slightly broader definition that also covers mortars up to and including 120 mm calibre, and uses the terms 'small arms' or 'small arms and light weapons' to refer to small arms, light weapons, and their ammunition unless the context indicates otherwise.

36 For more detailed information, see the Annexe.

37 This category also includes some self-loading rifles employed in the 'designated marksman role', such as the Romanian PSL.

38 It is interesting to note that many Western European and North American nations (including France, Spain, the United Kingdom, and the United States) did not account for any self-loading rifles in the dataset.

39 These include F2000, FNC, G36, Cx4, and PSL types.

40 Those types no longer in regular service among regional or global armed forces. These include, for example, the Walther P38 and Beretta Model 1934 self-loading pistols, Carcano Model 91 and Lee-Enfield No.4 bolt-action rifles, and the Bren light machine gun. Depending on the metrics used, a larger portion of the small arms in the dataset could be considered obsolescent. The availability of commercially produced ammunition may be considered a key indicator of obsolescence: it is interesting to note how many firearms for which ammunition was not readily available were actively traded in Libya during the monitoring period. For example, Webley MkIV and Enfield No.2 Mk.I* revolvers remained in high demand, and posts requesting .38-200 calibre cartridges appeared with some regularity. However, it is important to note these revolvers may also chamber .38 S&W without modification.

41 Approximately USD 4,000 at the bank exchange rate in November 2014 (Morajea and Smallwood, 2014).

42 Throughout the dataset, .38 S&W includes .38-200 (.380 inch revolver).

43 And representing some 93 per cent of all blank-firing firearms in the dataset that could be conclusively identified, with those that could not be identified believed to be almost overwhelmingly of unknown Turkish designs.

44 Sometimes referred to as 'forward-venting'.

45 It should also be noted that some front-venting blank-firing handguns are also capable of discharging certain less-lethal ammunition without modification, including low-velocity rubber ball loads or irritant loads such as CS powder. Those weapons firing low-velocity kinetic-impact projectiles are sometimes referred to as 'traumatic' pistols.

46 For revolvers, gasses are vented simply through the cylinder gap.

47 As noted, the private nature of these sales obscures whether listings were successfully traded and the value at which they were traded. Nonetheless, for those items where public bidding did occur, it can be estimated whether the item falls within the 'market-clearance range', and hence whether it is more likely to have been sold. The market-clearance range includes offers that were at least 75 per cent of the asking price, but less than 300 per cent of the asking price. With a minimum of 75 per cent, it can be established that the item was priced within the range of market value. The maximum of 300 per cent allowed offers in competitive bidding to be included, but excluded offers that were clearly intended to be humorous or insincere in nature.

48 For the purposes of this Working Paper, 'southern Libya' is the region surrounding Sabha and all areas south of it.

49 Note that an EU arms embargo was in force from January 1986 to October 2004 (SIPRI, 2012b).

50 Libya was the subject of a UN arms embargo from 1992 to 2003. From 2003 to 2011 no embargo was in place. The UN imposed a new arms embargo in 2011, although discussions in the spring of 2016 set the stage for this embargo to be lifted, at least in part.

51 For example, several EU states exported arms to Libya in this period, including Austria, Belgium, France, Germany, Italy, Latvia, Slovenia, and the United Kingdom (Rogers, 2011).

These exports have received varying degrees of media attention. In one case, arms exported from Italy worth EUR 8 million received a transit export licence from Malta listing their value as EUR 80 million. The 'typing error' resulted in significant news coverage (Stagno-Navarra, 2011).

52 See the Annexe for a more exhaustive list of weapons offered for sale online, including photographs and more detailed information on the weapons themselves.

53 Interview took place in February, 2016. See also UNSC, 2016.

54 The serial number of the DM 92 in the dataset is 246002. The four serial numbers referred to in the Bundestag report are 212377, 225064, 225084, and 231176.

55 Benelli is a wholly owned subsidiary of Beretta Holdings.

56 The relationship has stretched from the 1970s (with large sales of FAL rifles and MAG machine guns; see Ezell, 1977) to recent times. Muammar Qaddafi was known to carry a gold-plated 'Renaissance' model FN Herstal Browning Hi-Power pistol, one of which was widely displayed after his death (Gatehouse, 2016).

57 The 32nd Brigade was popularly known as the 'Khamis Brigade', after its commanding officer, Khamis Qaddafi (Muammar Qaddafi's youngest son).

58 One source familiar with the deal claims that the inclusion of significant quantities of FN 303 less-lethal launchers was critical to having the export licence approved (Jenzen-Jones, 2016a). The Walloon regional government approved the contract the day after the regional elections in 2009. According to some sources, this contract was a precursor to a much larger EUR 111 million deal (Duquet, 2014).

59 In this instance, the term 'diversion' is used to refer to those weapons diverted from a state recipient other than Libya. It does not refer to the general diversion of arms intended for use by Libyan security forces into the local black market whether before, during, or following the revolution.

60 It should be noted that FAL rifles in Libya have been documented with features and estimated years of production that indicate they were most likely originally exported to Libya (Jenzen-Jones and Spleeters, 2015; Spleeters, 2013).

61 The available images are not detailed enough to conclusively identify the rifles as the G36KV variant; however, this is likely on the balance of evidence.

62 Including 'A-231' and 'B-252'.

63 The authors note that ARES has documented more than 6,000 trades to date, with many more yet to be subjected to an analysis of collection practices (see 'Methodology and sources' section, above; ARES, n.d.).

64 Except where otherwise noted, all photos in this Annexe are sourced from ARES' CONMAT database, via Facebook. It should be noted that the photos represent only a part of the material present in the dataset informing this Working Paper

65 Widely used weapons- and ammunition-related abbreviations used in this Annexe appear in the 'List of abbreviations and acronyms'.

66 Author interview with confidential source, February 2016.

67 Italian firearms make up a significant proportion of the weapons listed in the dataset. This is likely due in part to Libya's history as an Italian colony. Older Italian arms would have

found their way into Libya easily during the colonial period between 1911 and 1947, and in more recent years Italy was unusual in maintaining economic and diplomatic ties with the Qaddafi government in Libya. These ties included small arms exports to Libya, most notably those produced by Beretta.

68 Several models of recent-production Beretta firearms, including the Px4, were listed in the dataset. These include both Beretta-manufactured weapons and shotguns from Benelli, a Beretta subsidiary. It would ordinarily be unusual to see the presence of Beretta weapons in significant quantities in Libya, but they are explained by a 2009 purchase of nearly EUR 8 million worth of Beretta firearms allegedly for the Gumhouria Bank in Tripoli ('the Gumhouria contract'). See the sub-section entitled 'Possible and confirmed examples of overt sales', 'Beretta Holdings (Italy)' in the Working Paper.

69 With adapters, the Cx4 is able to accept magazines from the 92/96/98 or 8000/8040/8045 series handguns. These adapters have not been observed in Libya.

70 The M4 Super 90 was developed in response to a US military 'request for proposals' in 1998.

71 Caracal no longer offers the sub-compact model.

72 A series of increasingly wide-ranging recalls were issued by Caracal in October 2012, March 2013, and September 2013—ultimately including all Model C pistols (Caracal, 2013). The problems included drop safety failures and slides cracking in half, as explained in a company notice in April 2015 (Caracal, 2015).

73 The Panel report stated: 'The end-user certificate signed on 12 January 2013 mentions 15,000 Caracal F pistols and 5 million rounds of 9mm ammunition. The end-user certificate was sent to the Libyan embassy in the United Arab Emirates for approval. The embassy contacted Caracal on 6 February 2014 to request the company to terminate the deal, as the Ministry of the Interior was unaware of it. A first batch of 1,500 pistols had already been transferred to the Supreme Security Committee in Mitiga …. The Panel is endeavouring to establish the status of the remainder of the materiel' (UNSC, 2015).

74 The purchaser, it should be noted, considered the inflated price 'about 1,000 LYD below the going rate' (Morajea and Smallwood, 2014; Smallwood, 2015).

75 The Belgian firm of FN Herstal has been a long-standing supplier of arms to the Libyan government, including sales of large numbers of FAL rifles and MAG machine guns (Ezell, 1977). Muammar Qaddafi was himself known to carry an FN Herstal Browning Hi-Power pistol on occasion, a claimed example of which was widely displayed after his death (Gatehouse, 2016). Arms sales included a May 2008 order by the Libyan government for more than EUR 12 million in small arms, light weapons, and small-calibre ammunition (the 'Khamis Brigade contract'; Spleeters, 2012). For a discussion of this order, see the sub-section entitled 'Possible and confirmed examples of overt sales', 'FN Herstal (Belgium)' in the Working Paper. Documents recovered by Human Rights Watch from a military base in the Salahaddin district, Tripoli, shortly after it fell to rebel forces in August 2011 shed some light on the 2008 order. The documents, which were shared with the authors, contain serial numbers, packing information, and order quantities for a number of the items in question, and add more detail to what is available in official Belgian government records.

76 These were largely 'smaller' militaries and included those of Peru, Estonia, Lithuania, and Belgium (Stevens, 2014).

77 The 'Base B' designation refers to a bayonet lug that is pinned onto the barrel (Jenzen-Jones, 2016a).

78 The LG1 module replaces the curved fore-end on F2000 Standard models and is chambered for 40 × 46SR mm low-velocity cartridges (FN Herstal, n.d.c).

79 Some F2000 rifles exported to Libya have been documented with sound suppressors attached.

80 Examples of the F2000—likely originating from Libya—have also been seen in the hands of militant groups in the Gaza Strip and Egypt (Jenzen-Jones, 2016a).

81 Austria recently exported arms to Libya in 2005, 2006, 2007, and 2010 (SIPRI, n.d.b).

82 These were formerly known as the G36E and G36KE.

83 The 'V' stands for Variante ('variant') and indicates a version primarily intended for export, featuring pictographic fire-selector markings (author correspondence with HK USA staff member, 2013).

84 Including 'A-231' and 'B-252'.

85 Author correspondence with Heckler & Koch GMbH, February 2012.

86 Now Kalashnikov Concern.

87 The so-called AK-100 series is generally considered to comprise the AK-74M, AK-101, AK-102, AK-103, AK-104, and AK-105. There is no rifle designated the 'AK-100' (Ferguson and Jenzen-Jones, 2014). Further developments include rifles such as the AK-9, chambered for 9 × 39 mm (Jenzen-Jones, 2012a).

88 A number of AK-103 rifles offered for sale appear to have suffered extensive cosmetic damage and feature replacement handguards, no stock, etc. This appears to have lowered the average price.

89 This may also be a copy of the genuine article. Such counterfeit sights are common in Libya, primarily manufactured in China and imported from Turkey.

90 This may be a result of fire damage, as described below.

91 Formerly Euromissile, before a series of acquisitions.

92 Serial numbers 212377, 225064, 225084, and 231176.

93 The NZ75 has seemingly been replaced by the NZ85B (and its .40 S&W equivalent, the NP40), a much closer CZ 75 copy with the frame-mounted 'ambidextrous' safety of its near-namesake, the CZ 85B.

94 Note that the manufacturer's name of the rifle—CMS 7,62×51mm—is inconsistent with the cartridge designations used for this Working Paper, which would make it 7.62 × 51 mm.

95 Review of confidential contractual document in authors' possession.

96 Images from 2011 show that Truvelo also supplied the Qaddafi government with at least two CMS 12,7x99mm model anti-materiel rifles, chambered for the .50 BMG (12.7 × 99 mm) cartridge (ARES, 2016a).

97 It was not possible to determine the specific manufacturer of all these weapons based on the information in the dataset.

98 Those weapons firing low-velocity kinetic-impact projectiles are sometimes referred to as 'traumatic' pistols.

99 Note that some Turkish 'manufacturers' contract the production of blank-firing handguns to other companies in Turkey. This is commonplace in the Turkish firearms industry and merits further investigation. For this reason, this paper uses the term 'manufacturer' to refer to the company known to offer the given brand for sale, while using the term 'brand' to indicate the description carried on the weapon itself. This rule is true for both this Annexe and Table 10.

100 Interview was with CS6, April 2015.

101 Note that some handguns are sold with varying amounts of blank ammunition, and prices can reflect this. See Table 11 for the average prices of selected blank-firing handguns in the dataset.

102 It is not always possible to determine whether a blank-firing weapon offered for sale has been converted or not. This also appears to have been an issue for potential buyers. In some cases, comments on sales posts ask for clarification, which is not always forthcoming.

103 Interviews were with CS7, April 2015, and CS6, April 2015.

104 The company does operate a Facebook page, however, although it does not appear to be regularly updated.

105 A very similar pump-action gun in the dataset was marked 'Sa-ka Pointer'. Confusingly, this name is also applied to Turkish blank-firing pistols. See 'Converted blank-firing handguns' and 'Blank-firing handguns' entries in this Annexe.

106 In the dataset, the most popular counterfeit brand is Beretta, with more than a dozen examples featuring fake Beretta markings or logos.

107 Licences authorizing the export of a range of arms and munitions to Libya are included in Serbian national reports for each year from 2008 to 2013 (excluding 2011); see <http://www.seesac.org/Serbia-2/>. While most items are named only in generic terms—including 'rifles', 'automatic rifles', 'pistols', and 'machine guns'—all are likely to refer entirely or primarily to weapons produced by Zastava Arms of Kragujevac. The quantities listed often refer to a mix of arms and munitions (as well as other items), and the level of detail included cannot be meaningfully disaggregated in most cases. The only weapon mentioned by name in these reports is the M92.

108 The figures associated with this contract are difficult to disaggregate, making the total number of M92 rifles difficult to determine. See Serbia (2010).

109 Because the only difference between the two rifles is the calibre of the cartridge used, it impossible to tell which model is pictured from the images available. See Photo A30 for an example of the two rifles.

110 Confirmed by Browning USA via telephone interview with author.

111 For a full discussion on the requirements and methodology for estimating the year of production for FN Herstal FAL rifles, see Jenzen-Jones and Elliott (2015).

112 Note that Belgian export licences prior to 1969 are not detailed enough to determine the specific materiel transferred. Belgian export licences for the period 1975–79 were accidentally destroyed and are thus unavailable (Jenzen-Jones and Spleeters, 2015).

113 It should be noted that FAL rifles proliferating from Libya have been identified in several countries in the region, including Algeria, Chad, Egypt, Lebanon, Niger, Syria, and Tunisia (ARES, 2016a; Tunisian MoI, 2013; UNSC, 2012; 2013b).

114 It is possible that some of these could be 50.64 models, which are visually indistinguishable from the 50.61. The 50.61 is the more common model. The only difference between the two is the 'hiduminium' alloy lower receiver (Jenzen-Jones and Spleeters, 2015).

115 Interview was with CS6, April 2015.

116 This factory configuration was not available from FN and must have been done subsequent to leaving the factory.

117 The FNC followed the even less-successful *Carabine Automatique Légèr* ('light automatic carbine', or CAL).

118 Military, law enforcement, and armed groups often apply rack numbers to issued weapons as a basic form of registration (Jenzen-Jones, 2015).

119 The vehicle-mounted MAG variant was configured in this way because it was designed to be integrated into turrets or other fixtures with sighting and firing systems.

120 The Model 92 was introduced together with the Cheetah family of pistols (Beretta, n.d.).

121 Author interview with arms trade researcher in Brazil.

122 This model, with a fixed plastic buttstock, is sometimes referred to in Finnish literature as the Rk 62M (for '*muovipera*', or 'plastic buttstock') or in English literature as the M62P (for 'plastic').

123 A nickel finish was not a factory option for the Unique Model Rr, so this was done after manufacture.

124 Only the tubular heatshield handguard and the ported barrel beneath the heatshield are present on the weapon in question. It appears to be in otherwise good condition and functional as shown.

125 As noted above, Heckler & Koch has stated that, to its knowledge, none of the weapons it manufactured was legally transferred to Libya at any time (HK, 2011).

126 Note that this is a different calibre to 9 × 18 mm Makarov.

127 Several other Model 1934/1935 pistols with suppressors were documented during and immediately following the 2011 revolution (ARES, 2016a).

128 The Model 70 'Tariq' should not be confused with the Iraqi copy of the Beretta Model 51, which was also known as the 'Tariq' (Wood, 1985).

129 The Model 70 was also made in .380 calibre.

130 Indeed, it is also possible that one or both of the Cheetah pistols in the dataset are blank-firing replicas.

131 The dataset contains one entry for 6.5 × 52 mm ammunition. Although it is impossible to make a definitive determination from the images available, the cartridges match the profile of 6.5 × 52 mm rather than other cartridges that would be expected in the region.

132 The conversion of Bren guns to L4A1 specifications took place in 1955–56; L4A2 and L4A3 in 1958; and L4A4 in 1961 (Grant, 2013).

133 It should be noted that the barrels on this model are easily detachable and are intended to be changed in the field.

134 This can be determined by the disc present on the left side of the receiver, which indicates that the gun has been converted to the 7.62 × 51 mm cartridge in British arsenals.

135 Properly, this rifle is referred to as 'Rifle, No.4' in British military service.

136 The provenance for the examples that cannot be conclusively identified may also be of Indian origin. There is no conclusive evidence to either positively identify or affirmatively rule out such an origin.

137 This alone does not mean that its presence in Libya dates from that conflict. It may equally have found its way into the commercial market during or after the war.

138 Several other examples have been modified to chamber other rimmed .38 calibre cartridges. One appeared to have been modified to chamber .380 ACP, and another to chamber 9 × 19 mm. Nonetheless, prospective buyers posted images of .38-200 available on Wikipedia and 'wanted' advertisements seeking this calibre.

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