



SMALL ARMS DATA OBSERVATORY

Working Paper Series  
ISSN 2334-0436

WP 201701-02  
17 January 2017

---

**ILLICIT SMALL ARMS PRICES—TRANSACTIONS DATASET: CODEBOOK V.  
2017-01**

NICHOLAS J. MARSH  
Peace Research Institute Oslo  
Hausmanns gate 3  
NO-0186 Oslo  
Norway  
Email: [nic@prio.org](mailto:nic@prio.org)

TOPHER L. MCDUGAL  
Kroc School of Peace Studies, University of San Diego  
Suite 113, 5998 Alcalá Park  
San Diego, CA 92110 USA  
Email: [tlm@sandiego.edu](mailto:tlm@sandiego.edu)

ISHTIAQ AHMED KHAN  
Email: [ishtiaq@somewherein.net](mailto:ishtiaq@somewherein.net)

JORGE LISON  
Email: [jorge@lison.us](mailto:jorge@lison.us)

---

*The SADO-WP Series is intended to disseminate works in progress on the scope, scale, causes, and consequences of the manufacture, trade, and use of small arms. The Series prioritizes timely publication over flawless presentation. Neither SADO nor its affiliates necessarily endorse the findings, interpretations, conclusions, or opinions expressed in this paper.*

**ILLICIT SMALL ARMS PRICES—TRANSACTIONS DATASET: CODEBOOK V.  
2017-01****1. Introduction**

This codebook documents variables in a dataset described in Marsh, McDougal, Khan, and Lison (2017) as the “Illicit Small Arms Prices—Transactions” dataset (iSAP-T). The dataset is one of two (the other being the “Illicit Small Arms Prices—Countries”, or iSAP-C, dataset, documented in SADO Working Paper 201604-03) to come out of a joint effort of the Norwegian Initiative on Small Arms Transfers (NISAT) and the Small Arms Data Observatory (SADO).

The iSAP-T has an observational unit of arm(s) sold in a single transaction, whilst the iSAP-C, which derives from the iSAP-T, has the more standard country-year observational unit. The iSAP-T has the advantage that its observations are all directly reported and documented; the data presented is gathered entirely on the basis of verifiable observation. On the other hand, the only way that it can be merged with other datasets is on a many-to-one basis, in which country-level data might be joined and related to transactional prices. Moreover, the iSAP-T does not permit many of the most useful longitudinal econometric analyses, which often require panel data. The pros and cons of iSAP-C dataset are the converse of those of the first: the country-year dataset is easily joined to other well-known datasets of economic, demographic, social, political, conflict, and other variables; and its panel structure permits time-series analysis. On the downside, the creation of this dataset, as detailed by Marsh et al. (2017), entailed the adjustment of original price data on the basis of weapons model, the loss of data richness through collapsing, as well as data manufacture via temporal interpolation and spatial lags. The resulting caveat is that observations are usually only indirect proxies for small arms prices in the country-year in question.

**2. Variables**

*id*

[Integer]

A unique numerical identifier for each record.

*date\_imp*

[MM/DD/YYYY]

Used for calculating exchange rates. The same as the ‘Date of Observation’ where the ‘Date of Observation’ is an exact date (eg 15.05.2003). If the ‘Date of Observation’ is not exact (eg January 2009, May-December 2013 or Spring 2001) the mid-point is chosen (eg the mid-point of May 2015 is 15.5.2015). Entered as dd.mm.yyyy format.

*year\_obs*

[Integer]

The year in which the illicit transaction took place. This may be different from the year that the source was published. If the source does not specify a year and it is very likely to be close to the date of publication of the source (eg a press article) then use the year of publication.

*date\_obs*

[MM/DD/YYYY]

The date that the illicit transaction took place. If not specified by the source use the date of publication if it is likely that the two are very close (eg in a news article). It is acceptable to include vague terms such as 'February' or 'Spring'. If the source only states that the transaction took place in a particular year, enter that year in the 'Date of observation' field.

*month*

[Integer]

Month of the transaction, per *date\_imp*.

*year*

[Integer]

Year of the transaction, per *date\_imp*. Years range from 1965 to 2015.

*yearmonth*

[YYYYmMM]

Concatenated year and month of the transaction per *date\_imp*.

*cow\_trans*

[Integer]

The Correlates of War code for the State or territory where the illicit transaction took place. Territory entries only apply to disputed areas. The entry is -1 if the transaction did not take place within a state (e.g., on the high seas).

*iso3c*

[String-3]

The International Standards Organization 3-character code corresponding to the country in which the transaction (sale) occurred.

*country\_trans*

[String]

The standard name of the country in which the transaction (sale) occurred. If the transaction did not take place within a State or territory, the name will reflect that (e.g., “Indian Ocean”).

*region*

[String]

United Nations-designated broad geographic regions in which the transaction (sale) occurred.<sup>1</sup> Regions include:

1. Africa
2. Americas
3. Asia
4. Europe
5. Oceania

*region\_detail*

[String]

United Nations-designated detailed geographic regions in which the transaction (sale) occurred.<sup>2</sup> Sub-regions include:

1. Australia and New Zealand
2. Caribbean
3. Central America
4. Central Asia
5. Eastern Africa
6. Eastern Asia
7. Eastern Europe
8. Melanesia
9. Middle Africa
10. Northern Africa

---

<sup>1</sup> These regions were generated from ISO3C codes by the STATA module KOUNTRY.

<sup>2</sup> These detailed regions were generated from ISO3C codes by the STATA module KOUNTRY.

Illicit Small Arms Prices—Transactions Dataset: Codebook v. 2017-01

11. Northern America
12. Northern Europe
13. South America
14. South-Eastern Asia
15. Southern Africa
16. Southern Asia
17. Southern Europe
18. Western Africa
19. Western Asia
20. Western Europe

*province\_trans*

[String]

The name of the sub-national province or district in which the transaction (sale) took place, if applicable and available. If the province or district is not available, the entry is -1.

*town\_trans*

[String]

The name of the city, town, or village in which the transaction (sale) took place, if applicable and available. If the the city, town, or village is not available, the entry is -1.

*lat\_trans*

[Double]

The inferred latitude at which the transaction (sale) took place. Coordinates will reflect the highest level of geographic detail available in the description: town, province, or country. The centroid of each governance unit is employed, with one exception: in the case of a country-level identification in which the country has multiple other observations, the geographic mean of the other observations is used. This method is chosen in order to shift observations closer to major population centers and transport routes.

*lng\_trans*

[Double]

The inferred longitude at which the transaction (sale) took place. Coordinates will reflect the highest level of geographic detail available in the description: town, province, or country. The centroid of each governance unit is employed, with one exception: in the case of a country-level identification in which the country has multiple other observations, the geographic mean of the other observations is used. This method is

## Illicit Small Arms Prices—Transactions Dataset: Codebook v. 2017-01

chosen in order to shift observations closer to major population centers and transport routes.

*loc\_code*

[Byte]

Specifies the locational precision of the geographic coordinates. The categories are:

0. Global (no regional or country indications)
1. Regional (e.g., “Western Europe”)
2. Country
3. Country and province
4. Country and city/ town/ village

*ex\_rate\_t*

[Double]

The exchange rate between the currency in which the transaction price was reported by media and US dollars on the date in question. Takes the form of source currency units per dollar.

*price\_usd*

[Double]

Price of the arm in current US dollars. This price may be derived from a price originally given in another currency and converted, or a price given originally in current US dollars. In cases in which a precise price is not given, but a range is, this variable takes a midpoint.

*defl2010*

[Float]

Price deflator for conversion of current US dollars to 2010 constant 2010 US dollars. Derived from the World Bank’s “GDP deflator” variable for the United States (see [here](#)).

*price\_cusd*

[Double]

Price of the arm in constant 2010 US dollars. It is derived from *price\_usd* using *defl2010*.

*lnprice\_cusd*

[Float]

Natural log of the price of the arm in constant 2010 US dollars (*price\_cusd*).

*price\_cusd\_wa*

[Float]

Weapon-adjusted price of the arm in constant 2010 US dollars. This “converts” all prices to estimates for PRIO weapons code 233, denoting assault-type rifles such as the AK-47 and AR-15. “Weapons-adjustment” is much like “seasonal adjustment” in the retail sales or tourist industries. This variable represents a best pick from additive, multiplicative, and exponential methods of adjustment. (See Marsh et al. (2017, pp. 4-5) for details.)

*lnprice\_cusd\_wa*

[Float]

Natural log of the weapon-adjusted price (*price\_cusd\_wa*) of the arm in constant 2010 US dollars.

*usd\_price\_source*

[Double]

Price of the arm in US dollars as given in the media report (if applicable). This may apply to reports detailing a transaction in US dollars, or reports that make an effort to convert the currency into US dollars. If the price was originally expressed as a range, then this field will be blank. If the price expressed in the report was given in both a local currency and US dollars, this field will take the local currency figure. Prices in non-monetary units (e.g., “one cow”) have been expunged from this dataset to keep the field type as double.

*price\_usd\_high*

[Double]

High end of a range of prices for the arm in current US dollars as given in the media report (if applicable). For example, if the source states that “an M-16 costs between USD 400-600,” this field will read “600.”

*price\_usd\_low*

[Double]

Low end of a range of prices for the arm in current US dollars as given in the media report (if applicable). For example, if the source states that “an M-16 costs between USD 400-600,” this field will read “400.”

*src\_currency*

[String-4]

3-character code of the currency of the transaction. “-1” designates no formally accepted currency (as in cases in which arms are traded for livestock, e.g.).

*src\_currency\_amount*

[Double]

Price of the arm in the original source currency specified by *src\_currency*.

*src\_currency\_amount\_high*

[Double]

High end of a range of prices for the arm in the source currency as given in the media report (if applicable).

*src\_currency\_amount\_low*

[Double]

Low end of a range of prices for the arm in the source currency as given in the media report (if applicable).

*rental\_price*

[Long]

The price of renting the arm(s) as given in the media report (if applicable). These are rare and are conditioned by the rental time involved, which may be found within the source’s text (*source\_text*).

*arms\_quantity*

[Integer]

The number of units of the arm(s) sold in this transaction.

*arms\_quality*

[Byte]

The quality of the arm(s) sold in this transaction, coded as follows:

1. New
2. Used
3. In need of repair
4. Not specified



*production\_type*

[Byte]

The type of production of the arm(s) sold in this transaction, coded as follows:

1. Factory produced
2. Craft produced (e.g., in a small-scale workshop)
3. Illicit craft produced (only used if the source states that production was illicit)
4. Not specified
5. Converted, modified, or reactivated

*cow\_production*

[Integer]

The Correlates of War (COW) numeric code for the State or territory where the illicit transaction took place. Territory entries only apply to disputed areas. The entry is -1 if the transaction did not take place within a state.

*country\_production*

[String]

The name of the state or territory in which the arm(s) was(were) produced. Left blank if unknown.

*province\_production*

[String]

The name of the subnational province in which the arm(s) was(were) produced. Left blank if unknown.

*province\_production*

[String]

The name of the city/town/village in which the arm(s) was(were) produced. Left blank if unknown.

*lat\_production*

[Double]

The latitude designating the place of production (if enough information is provided). *lat\_production* is calculated in the same fashion as *lat\_trans*, described above.

*lng\_production*

[Double]

The longitude designating the place of production (if enough information is provided). *lng\_production* is calculated in the same fashion as *lng\_trans*, described above.

*cow\_trafficking*

[Integer]

The Correlates of War (COW) numeric code for the State or territory where the trafficking originated. Territory entries only apply to disputed areas. Left blank if unknown.

*country\_trafficking*

[String]

The name of the state or territory in which the trafficking originated. Left blank if unknown.

*province\_trafficking*

[String]

The name of the province or district in which the trafficking originated. Left blank if unknown.

*town\_trafficking*

[String]

The name of the city / town / village in which the trafficking originated. Left blank if unknown.

*lat\_trafficking*

[Double]

The latitude designating the place the trafficking originated (if enough information is provided). *lat\_trafficking* is calculated in the same fashion as *lat\_trans*, described above.

*lng\_trafficking*

[Double]

The longitude designating the place the trafficking originated (if enough information is provided). *lng\_trafficking* is calculated in the same fashion as *lng\_trans*, described above.

*lawful*

[Byte]

Dummy variable designating whether (1) or no (0) an arm(s) was(were) transferred legally into the country of sale (if known).

*diverted\_where*

[String]

Textual description of where, how, or by whom the arm(s) was(were) diverted onto the illicit market.

*PRIO\_type\_code*

[Integer]

3-digit code designating type of arm(s) sold. Categories include:

<b>PRIO_Weapons_Code</b>	<b>PRIO_Weapons_Type</b>
100	Small Arms, Light Weapons, Ammunition, Explosives, Missiles, Parts & Accessories
150	Small Arms & Light Weapons
200	Small Arms
210	Pistols & Revolvers
220	Rifles/Shotguns - Sport
223	Sporting shotguns
227	Sporting rifles
230	Rifles/Shotguns - Military
233	Assault rifles
234	Carbines
235	Sniper rifles
237	Semi-automatic rifles (military)
239	Military shotguns
240	Machine Guns - Sub, Light & General Purpose
243	Sub machine guns
245	Light machine guns
247	General purpose machine guns
250	Military Weapons
260	Military firearms
270	Machine guns all types
300	Light Weapons
310	Heavy machine guns <= 12.7mm
320	Cannon >12.7mm
330	Mortars < =120mm
340	Missile & Rocket Launchers - Man Portable

Illicit Small Arms Prices—Transactions Dataset: Codebook v. 2017-01

<b>PRIO_Weapons_Code</b>	<b>PRIO_Weapons_Type</b>
343	Guided missile launchers
345	Unguided rocket launchers
350	Grenade Launchers
360	Recoilless guns
400	Ammunition, Explosives & Missiles
405	Ammunition - all categories
410	Small Arms and Cannon Ammunition
415	Small Arms Ammunition
417	Small calibre ammunition <= 12.7mm
418	Shotgun cartridges
419	Cannon ammunition > 12.7mm
420	Grenades and bombs
423	Grenades
425	Mortar bombs
430	Missiles & Rockets
433	Guided missiles
435	Unguided rockets
440	Landmines
443	Anti-personnel landmines
445	Anti-vehicle landmines
450	Military Explosives
460	Pyrotechnics
500	Parts & Accessories
505	Parts of small arms and light weapons
510	Parts of small arms
511	Parts of pistols and revolvers
513	Parts of military rifles
514	Parts of military shotguns
515	Parts of sub machine guns
516	Parts of light machine guns
517	Parts of sporting shotguns
518	Parts of sporting rifles
520	Parts of light weapons
521	Parts of heavy machine guns <= 12.7mm
522	Parts of cannon > 12.7mm
523	Parts of guided missile launchers
524	Parts of unguided rocket launchers
525	Parts of mortars <= 120mm
526	Parts of grenade launchers
530	Parts of ammunition
531	Parts of small calibre ammunition <= 12.7mm
532	Parts of cannon ammunition >12.7mm
533	Parts of shotgun cartridges
534	Parts of grenades

Illicit Small Arms Prices—Transactions Dataset: Codebook v. 2017-01

<b>PRIO_Weapons_Code</b>	<b>PRIO_Weapons_Type</b>
535	Parts of guided missiles
536	Parts of unguided rockets
537	Parts of mortar bombs
550	Parts of Militray Weapons
560	Accessories
563	Noise suppressers (silencers)
570	Sights and aiming devices
573	Sights for small arms
575	Sights for light weapons
577	Laser or optical pointers
590	Parts of replica arms
593	Parts of replica small arms
597	Parts of replica light weapons
600	Technical data
610	Technical data concerning small arms
620	Technical data concerning light weapons
630	Technical data concerning ammunition
700	Production equipment and licensing agreements
710	Production licensing agreements - small arms
720	Production licensing agreements - light weapons
730	Production licensing agreements - ammunition
740	Production equipment for small arms and light weapons
743	Production equipment for small arms
745	Production equipment for light weapons
747	Production equipment for ammunition
790	Services for small arms or light weapons
793	Services for small arms
795	Services for light weapons
797	Services for ammunition
900	Replicas
910	Replica small arms
920	Replica light weapons
1000	Air guns
1100	Less lethal arms

*PRIO\_cat*

[Integer]

1- to 1-2-digit code designating broad category of arm(s) sold. Categories include:

PRIO code	Description
1	Unspecified SALW
2	Small arms
3	Light weapons
4	Ammunition, Explosives & Missiles
5	Parts & accessories
6	SALW data
7	SALW services
9	Replicas
10	Air guns
11	Less lethal arms

*PRIO\_weapon\_type\_text*

[String]

The textual descriptions of type of arms sold per the table for *PRIO\_type\_code*.

*model\_description*

[String]

Textual description of the arm(s) as it appears in the report text.

*purchaser*

[String]

A short description of the nature of the purchaser (e.g., drug trafficker, citizen, farmer, rebel). If a purchaser is not stated in the source, this field is left blank. Groups may be identified, but all personal information (including names) on individuals or companies is omitted.

*vendor*

[String]

A short description of the nature of the vendor (e.g., arms dealer, smuggler, rebel, drug trafficker, citizen). If a purchaser is not stated in the source, this field is left blank. Groups may be identified, but all personal information (including names) on individuals or companies is omitted.

*other\_goods*

[String]

A short description of any other goods described in the source as being illicitly trafficked with the arms and ammunition. This may include other contraband (such as drugs), equipment (such as uniforms), or trafficked people.

*provenance\_information*

[Byte]

Source of the information (e.g., price, location, type, date, etc.) used by the author of the publication. Coded as:

1. Hearsay, where there is no specific source of the information mentioned in the report (e.g. “in Somalia rifles can be purchased for USD 100”)
2. Person with indirect knowledge of illicit prices (e.g., this code might append to an interview with a police officer or member of a community in which illicit arms are present)
3. Person with direct knowledge of illicit prices (e.g., this code might append to an interview with someone who had purchased or sold illicit arms)
4. Report author who participated in an illicit arms transaction (e.g., a memoir by a former rebel or an undercover reporter)
5. Documents (e.g., a price list)
6. Fieldwork, several sources (e.g., a book that used sources 2, 3 and 4 above), or an anonymous source. Information is likely to be from an anonymous source (i.e., coded as 6) if an author has visited the location where the price has been observed and spoken to people there about weapons, even if the exact source of the price information is not explicitly stated.
7. Official gun buy-back scheme with prices available.

*source\_text*

[String]

A text extract of the relevant sentence or sentences from the original source.

*source*

[String]

Full bibliographic reference for the source, with URL where possible.

*source\_no*

[Integer]

Unique ID for the media source.

*year\_of\_publication*

[Integer]

Publication year of the source.

*notes*

[String]

Add any additional relevant contextual information which can't be coded.

*checked\_date*

[Float]

Date the observation was last checked.

*checked\_by*

[String]

Researcher who last checked the observation.

*entered\_date*

[Float]

Date the observation was first entered.

*entered\_by*

[String]

Researcher who first entered the observation.

## **References**

Marsh, N., McDougal, T. L., Khan, I. A., & Lison, J. (2017). Illicit Small Arms Prices: Introducing Two New Datasets. *SADO Working Paper Series*(201701-01).