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La production of firearms and ammunition for civil use in Italy: manufacturing companies, consumption for hunting and sport shooting, economic and employment impact

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CHAPTER 1:

THE ITALIAN PRODUCTION OF FIREARMS AND COMPANIES IN THE SECTOR

1.1 Introduction

In this chapter, a detailed overview of the firearms and ammunition industry in Italy is provided, including data on the number of manufacturing companies, the employment generated, and the production output. The analysis of production covers both the volume, measured by the annual quantity of units produced, and the value associated with this production. Additionally, import-export activities are considered to offer a comprehensive assessment of the sector's value.

To achieve these objectives, this analysis has relied on the following sources:

- *For the identification of the number of firearms manufacturing companies, employees, and turnover:* IEACS, Institut Européen des Armes de Chasse et de Sport (European Institute of Hunting and Sporting Arms), a non-profit association which was founded in 1976 by national associations of manufacturers of sport shooting firearms¹;
- *For the identification of the number of ammunition manufacturing companies, employees, and turnover:* AFEMS, which stands for “Association of European Manufacturers of Sporting Ammunition”. This organization represents the interests of European manufacturers of sporting ammunition, addressing various industry-related issues such as regulatory matters, safety standards, and the promotion of responsible manufacturing practices²;
- *For the identification of the import-export activities:* TradeMap website, an online platform that provides trade statistics and analysis. It offers access to a wide range of international trade data, including information on imports, exports, and trade balances for various countries and regions³.

1.2 The firearms manufacturing companies in Italy

Italy's sporting firearms industry is recognized as one of the country's flagship manufacturing sectors, enhancing the reputation of Italian craftsmanship worldwide. This success is attributed to several factors, including the products' exceptional quality, appealing design, and reliable performance. Moreover, Italian companies in this sector stand out for their remarkable capacity for innovation, seamlessly integrating traditional manufacturing techniques with cutting-edge technology. This fusion of heritage and innovation ensures the continued excellence of Italian sporting firearms and reinforces Italy's position as a leader in global markets (Musso, Cioppi, Francioni, 2012).

Based on Italian research from 2019, a total of 107 companies are involved in the production of Italian firearms.

1.3 Number of employees involved in the production of firearms

To quantify the number of employees in companies engaged in firearms production, data were collected from previous Italian research (2019). This data allowed for the estimation of a total of 2,199 employees involved in the civilian firearms production sector in Italy.

¹ <https://www.ieacs.eu/>

² <https://www.afems.org/>

³ <https://www.trademap.org/Index.aspx>

1.4. Number of firearms produced

According to the Banco Nazionale di Prova (BNP) (2023), the quantity of firearms produced in Italy has been categorized by distinguishing between long firearms, short firearms, and muzzle-loading firearms. The findings reveal that the annual production of long firearms by Italian companies amounts to 530,241 units, while short firearms total 243,068 units, and muzzle-loading firearms account for 137,647 units. In total, Italian production reaches 910,956 firearms annually.

1.5 The turnover of firearms manufacturing companies

The total estimated turnover generated by firearms manufacturing companies is 591,916,513 euros. This figure was derived by calculating a proportion using the turnover and export value of Italian firearms manufacturing companies identified in previous research from 2019, alongside their export value from 2023 (Trademap, 2023).

1.6 Firearms exports

The export analysis was conducted based on data sourced from the TradeMap website⁴. In particular, the following HS (Harmonized System) subcategories⁵ have been considered:

- 930200: Revolvers and pistols (excl. those of heading 9303 or 9304 and sub-machine guns for military purposes);
- 930310: Muzzle-loading firearms, neither designed nor suitable for projecting cartridges;
- 930320: Sporting, hunting or target-shooting shotguns, with at least one smooth barrel (excl. muzzle-loading firearms and spring, air or gas guns);
- 930330: Sporting, hunting and target-shooting shotguns with one or more rifled bores (other than spring, air or gas guns);
- 930390: Firearms and similar devices which operate by the firing of an explosive charge (excl. sporting, hunting or target-shooting rifles, revolvers and pistols of heading 9302 and military firearms).

Subsequently, data concerning both worldwide exports and the primary destination country were taken into account, with 2022 and 2023 as reference years. The data include values in euros and quantities in units. The following analysis is based on 2022 data, while 2023 data are estimated.

⁴ <https://www.trademap.org/Index.aspx>

⁵ The TradeMap platform adopts the Harmonized System (HS) categorization.

Tab. 1.IT – The export trend for 2022 and 2023 related to the firearms industry

CATEGORY	Exp. 2022 in quantities (Units)	Exp. 2023 in quantities (Estimation)		Exp. 2022 in Euro	Exp. 2023 in Euro (Estimation)
930200: Revolvers and pistols (excl. those of heading 9303 or 9304 and sub-machine guns for military purposes) <i>WORLD</i>	338,602	286,918		118,742,000	102,018,000
930200: Revolvers and pistols (excl. those of heading 9303 or 9304 and sub-machine guns for military purposes) <i>USA</i>	134,427	135,821		41,606,000	45,098,000
REVOLVERS AND PISTOLS	338,602	286,918		118,742,000	102,018,000
930310: Muzzle-loading firearms, neither designed nor suitable for projecting cartridges <i>WORLD</i>	69,766	55,277		13,743,000	12,321,000
930310: Muzzle-loading firearms, neither designed nor suitable for projecting cartridges <i>USA</i>	41,707	33,891		8,206,000	7,282,000
930320: Sporting, hunting or target-shooting shotguns, with at least one smooth barrel (excl. muzzle-loading firearms and spring, air or gas guns) – <i>WORLD</i>	428,629	372,502		344,107,000	329,978,000
930320: Sporting, hunting or target-shooting shotguns, with at least one smooth barrel (excl. muzzle-loading firearms and spring, air or gas guns) – <i>USA</i>	299,852	250,277		220,666,000	206,883,000
930330: Sporting, hunting and target-shooting shotguns with one or more rifled bores (other than spring, air or gas guns) <i>WORLD</i>	104,920	100,995		61,851,000	67,809,000
930330: Sporting, hunting and target-shooting shotguns with one or more rifled bores (other than spring, air or gas guns) <i>USA</i>	36,182	35,883		17,798,000	19,216,000
HUNTING AND SPORTING LONG WEAPONS; REPLICAS AND MUZZLELOADING	603,315	528,774		419,701,000	410,108,000
930390: Firearms and similar devices which operate by the firing of an explosive charge (excl. sporting, hunting or target-shooting rifles, revolvers and pistols of heading 9302 and military weapons) <i>WORLD</i>	50,913	38,055		2,093,000	1,733,000
930390: Firearms and similar devices which operate by the firing of an explosive charge (excl. sporting, hunting or target-shooting rifles, revolvers and pistols of heading 9302 and military weapons) <i>FRANCE</i>	24,597	23,385		1,076,000	1,057,000
OTHER WEAPONS	50,913	38,055		2,093,000	1,733,000
Total	992,830	853,747		540,536,000	513,859,000

For the category *Revolvers and pistols excluding those of heading 9303 or 9304 and sub-machine guns for military purposes (930200)*, worldwide exports totaled 338,602 units, valued at 118,742,000 euros, with an estimated decrease to 286,918 units and 102,018,000 euros in 2023. USA imports amounted to 134,427 units, totaling 41,606,000 euros in 2022.

The category *Muzzle-loading firearms, neither designed nor suitable for projecting cartridges (930310)* witnessed worldwide exports of 69,766 units, valued at 13,743,000 euros in 2022. USA imports were 41,707 units, worth 8,206,000 euros in 2022, decreasing to 33,891 units and 7,282,000 euros in 2023.

For the category *Sporting, hunting, or target-shooting shotguns, with at least one smooth barrel (930320)*, worldwide exports amounted to 428,629 units, valued at 344,107,000 euros in 2022, projected to decrease to 372,502 units and 329,978,000 euros in 2023. USA imports were 299,852 units, totaling 220,666,000 euros in 2022.

The category *Sporting, hunting, and target-shooting shotguns with one or more rifled bores (930330)* saw worldwide exports totaling 104,920 units, valued at 61,851,000 euros in 2022. These are estimated to reach 100,995 units and 67,809,000 euros in 2023. USA imports amounted to 36,182 units, worth 17,798,000 euros in 2022.

For the category *Firearms and similar devices operating by the firing of an explosive charge (930390)*, worldwide exports amounted to 50,913 units, valued at 2,093,000 euros in 2022, expected to decrease to 38,055 units and 1,733,000 euros in 2023. France's imports were 24,597 units, totaling 1,076,000 euros in 2022, projected to decrease to 23,385 units and 1,057,000 euros in 2023.

Overall, total exports across all categories in 2022 were 992,830 units, valued at 540,536,000 euros, and are estimated to decrease to 853,747 units and 513,859,000 euros in 2023.

1.7 Firearms imports

Similar to the export analysis, data for the following HS subcategories were extracted from the TradeMap database:

- 930200: Revolvers and pistols (excl. those of heading 9303 or 9304 and sub-machine guns for military purposes);
- 930310: Muzzle-loading firearms, neither designed nor suitable for projecting cartridges;
- 930320: Sporting, hunting or target-shooting shotguns, with at least one smooth barrel (excl. muzzle-loading firearms and spring, air or gas guns);
- 930330: Sporting, hunting and target-shooting shotguns with one or more rifled bores (other than spring, air or gas guns);
- 930390: Firearms and similar devices which operate by the firing of an explosive charge (excl. sporting, hunting or target-shooting rifles, revolvers and pistols of heading 9302 and military firearms).

Tab. 2.IT – The import trend for 2022 and 2023 (estimated) related to the firearms industry

CATEGORY	Imp. 2022 in quantities (Units)	Imp. 2023 in quantities (Estimation)		Imp. 2022 in Euro	Imp. 2023 in Euro (Estimation)
930200: Revolvers and pistols (excl. those of heading 9303 or 9304 and sub-machine guns for military purposes) <i>WORLD</i>	27,626	12,195		11,685,000	5,261,000
930200: Revolvers and pistols (excl. those of heading 9303 or 9304 and sub-machine guns for military purposes) <i>USA</i>	7,873	2,529		5,269,000	1,500,000
REVOLVERS AND PISTOLS	27,626	12,195		11,685,000	5,261,000
930310: Muzzle-loading firearms, neither designed nor suitable for projecting cartridges <i>WORLD</i>	70	22		18,000	34,000
930310: Muzzle-loading firearms, neither designed nor suitable for projecting cartridges <i>GERMANY</i>	/	13		/	30,000
930320: Sporting, hunting or target-shooting shotguns, with at least one smooth barrel (excl. muzzle-loading firearms and spring, air or gas guns) <i>WORLD</i>	9,446	5,310		4,334,000	2,653,000
930320: Sporting, hunting or target-shooting shotguns, with at least one smooth barrel (excl. muzzle-loading firearms and spring, air or gas guns) <i>TURKEY</i>	6,355	4,126		1,326,000	807,000
930330: Sporting, hunting and target-shooting shotguns with one or more rifled bores (other than spring, air or gas guns) <i>WORLD</i>	20,578	18,519		14,175,000	15,202,000
930330: Sporting, hunting and target-shooting shotguns with one or more rifled bores (other than spring, air or gas guns) <i>BELGIUM</i>	7,754	5,766		5,863,000	6,942,000
HUNTING AND SPORTING LONG WEAPONS; REPLICAS AND MUZZLELOADING	30,094	23,851		18,527,000	17,889,000
930390: Firearms and similar devices which operate by the firing of an explosive charge (excl. sporting, hunting or target-shooting rifles, revolvers and pistols of heading 9302 and military weapons) <i>WORLD</i>	2,110	2,324		179,000	509,000
930390: Firearms and similar devices which operate by the firing of an explosive charge (excl. sporting, hunting or target-shooting rifles, revolvers and pistols of heading 9302 and military weapons) <i>UK</i>	64	217		60,000	81,000
OTHER WEAPONS	2,110	2,324		179,000	509,000
Total	59,830	38,370		30,391,000	23,659,000

For the category *Revolvers and pistols excluding those of heading 9303 or 9304 and sub-machine guns for military purposes (930200)*, worldwide imports totaled 27,626 units, valued at 11,685,000 euros, with an estimated decrease to 12,195 units and 5,261,000 euros in 2023. U.S. exports were 7,873 units, totaling 5,269,000 euros in 2022, expected to decrease to 2,529 units and 1,500,000 euros in 2023.

The category *Muzzle-loading firearms, neither designed nor suitable for projecting cartridges (930310)* witnessed worldwide imports amounting to 18,000 euros in 2022, estimated to increase to 34,000 euros in 2023. Germany's exports were valued at 30,000 euros in 2023.

For the category *Sporting, hunting, or target-shooting shotguns, with at least one smooth barrel (930320)*, worldwide imports amounted to 9,446 units, valued at 4,334,000 euros in 2022, projected to decrease to 5,310 units and 2,653,000 euros in 2023. Exports from Turkey were 6,355 units, totaling 1,326,000 euros in 2022, expected to decrease to 4,126 units and 807,000 euros in 2023.

The category *Sporting, hunting, and target-shooting shotguns with one or more rifled bores (930330)* saw worldwide imports totaling 20,758 units, valued at 14,175,000 euros in 2022, estimated to increase to 15,202,000 euros in 2023. Belgium's exports were 7,754 units, totaling 5,863,000 euros in 2022, projected to increase to 6,942,000 euros in 2023.

For the category *Firearms and similar devices operating by the firing of an explosive charge (930390)*, worldwide imports amounted to 2,110 units, valued at 179,000 euros in 2022, projected to increase to 2,324 units and 509,000 euros in 2023. UK's exports were 64 units, totaling 60,000 euros in 2022, and are expected to rise to 217 units and 81,000 euros in 2023.

Overall, total imports across all categories in 2022 were 59,830 units, valued at 30,391,000 euros, and estimated to decrease to 38,370 units and 23,659,000 euros in 2023.

1.8 The trade balance surpluses/deficits

For the category *Revolvers and pistols excluding those of heading 9303 or 9304 and sub-machine guns for military purposes (930200)*, exports totaled 102,018,000 euros, while imports amounted to 5,261,000 euros, resulting in a trade surplus of 96,757,000 euros.

For the category *Muzzle-loading firearms, neither designed nor suitable for projecting cartridges (930310)*, exports amounted to 12,321,000 euros, with imports totaling 34,000 euros, resulting in a trade surplus of 12,287,000 euros.

For the category *Sporting, hunting, or target-shooting shotguns, with at least one smooth barrel excluding muzzle-loading firearms and spring, air or gas guns (930320)*, exports were 329,978,000 euros, while imports were 2,653,000 euros, resulting in a trade surplus of 327,325,000 euros.

For the category *Sporting, hunting, and target-shooting shotguns with one or more rifled bores other than spring, air or gas guns (930330)*, exports amounted to 67,809,000 euros, with imports totaling 15,202,000 euros, resulting in a trade surplus of 52,607,000 euros.

For the category *Firearms and similar devices which operate by the firing of an explosive charge excluding sporting, hunting or target-shooting rifles, revolvers and pistols of heading 9302 and military firearms (930390)*, exports were 1,733,000 euros, while imports totaled 509,000 euros, resulting in a trade surplus of 1,224,000 euros.

Overall, the total exports for all firearm categories amounted to 513,859,000 euros, while imports totaled 23,659,000 euros, leading to a total trade surplus of 490,200,000 euros.

Tab. 3.IT – Trade balance for 2023 (estimated) related to the firearms industry

CATEGORY	Exp. 2023 in Euros	Imp. 2023 in Euros	Trade balance 2023 in Euros
930200: Revolvers and pistols (excl. those of heading 9303 or 9304 and sub-machine guns for military purposes)	102,018,000	5,261,000	96,757,000
REVOLVERS AND PISTOLS	102,018,000	5,261,000	96,757,000
930310: Muzzle-loading firearms, neither designed nor suitable for projecting cartridges	12,321,000	34,000	12,287,000
930320: Sporting, hunting or target-shooting shotguns, with at least one smooth barrel (excl. muzzle-loading firearms and spring, air or gas guns)	329,978,000	2,653,000	327,325,000
930330: Sporting, hunting and target-shooting shotguns with one or more rifled bores (other than spring, air or gas guns)	67,809,000	15,202,000	52,607,000
HUNTING AND SPORTING LONG FIREARMS; REPLICAS AND MUZZLELOADING	410,108,000	17,889,000	392,219,000
930390: Firearms and similar devices which operate by the firing of an explosive charge (excl. sporting, hunting or target-shooting rifles, revolvers and pistols of heading 9302 and military firearms)	1,733,000	509,000	1,224,000
OTHER FIREARMS	1,733,000	509,000	1,224,000
TOTAL	513,859,000	23,659,000	490,200,000

1.9 Domestic market wholesale value

The relationship between production value data and import-export values allows for estimating the wholesale value of the domestic market. This involves subtracting the industry's turnover from the export value and adding the import value. In other words, it calculates the value at factory price and import prices for firearms manufactured by both domestic and foreign companies. For firearms, considering that i) the total turnover is 591,916,513 euros; ii) the export value is 513,859,000 euros; iii) the total import is 23,659,000 euros, the wholesale value of the domestic market (excluding importers' margins) stands at 101,716,513 euros.

CHAPTER 2: THE PRODUCTION OF AMMUNITION IN ITALY

2.1 Introduction

For the ammunition sector, the analysis was also conducted considering the number of companies, the employees involved, the production in terms of value and volume, and the import-export flows.

2.2 The ammunition manufacturing companies in Italy

In Italy, several ammunition manufacturing companies contribute to the country's reputation for excellence in the firearms industry. These companies are known for their high-quality production processes, innovative technologies, and adherence to strict safety standards.

Based on Italian research from 2019, it emerges that the production of Italian ammunitions is conducted by a total of 125 companies.

2.3 Number of employees involved in the production of ammunition

To quantify the number of employees in companies engaged in ammunition production, data were collected from Musso, Cioppi, Francioni (2012), updated to 2019. Overall, this data has allowed for the estimation of a total of 1,129 employees involved in the ammunition production sector in Italy.

2.4 Number of ammunition produced

According to previous Italian research from 2019, the total number of shotgun ammunition and their components produced annually in Italy is 819,642,867. The high volume suggests a robust industry with the capacity to meet demand.

2.5 The turnover of ammunition manufacturing companies

The total turnover is 361,228,588 euros and was calculated based on the data provided by ANPAM, starting from the turnover of their members, to which an additional 5% was added in order to account for other producers, such as CONARMI members⁶, small artisans, etc.

⁶ <https://www.conarmi.org/>

2.6 Ammunition exports

The analysis of exports and imports was conducted, as with firearms, using data obtained from the TradeMap platform. The categories used were specifically related to civilian ammunition and their parts, excluding military ammunition and merchandise categories unrelated to ammunition. In particular, the following categories were considered:

- 930621: Cartridges for smooth-barrelled shotguns;
- 930629: Parts of cartridges for smooth-barrelled shotguns; lead shot for air rifles and pistols;
- 930630: Cartridges for smooth-barrelled shotguns, revolvers and pistols and cartridges for riveting or similar tools or for captive-bolt humane killers, and parts thereof.

Tab. 4.IT – The export trend for 2022 and 2023 related to the ammunition industry

CATEGORY	Exp. 2022 in quantities (Tons)	Exp. 2023 in quantities (Estimation)		Exp. 2022 in Euro	Exp. 2023 in Euro (Estimation)
930621 : Cartridges for smooth-barrelled shotguns <i>WORLD</i>	24,369	23,380		142,248,000	150,570,000
930621: Cartridges for smooth-barrelled shotguns <i>USA</i>	8,041	6,693		48,018,000	41,605,000
930629 : Parts of cartridges for smooth-barrelled shotguns; lead shot for air rifles and pistols <i>WORLD</i>	9,562	9,776		49,168,000	55,131,000
930629: Parts of cartridges for smooth-barrelled shotguns; lead shot for air rifles and pistols <i>USA</i>	1,747	2,126		12,912,000	18,109,000
930630 : Cartridges for smooth-barrelled shotguns, revolvers and pistols and cartridges for riveting or similar tools or for captive-bolt humane killers, and parts thereof <i>WORLD</i>	390	475		7,923,000	11,158,000
930630: Cartridges for smooth-barrelled shotguns, revolvers and pistols and cartridges for riveting or similar tools or for captive-bolt humane killers, and parts thereof <i>AUSTRALIA</i>	26	12		601,000	353,000
Total	34,321	33,631		199,339,000	216,859,000

The category *Cartridges for smooth-barrelled shotguns (930621)* experienced worldwide exports of 24,369 tons, valued at 142,248,000 euros in 2022. The estimated exports for 2023 are 23,380 tons, with a projected value of 150,570,000 euros. In the USA, imports amounted to 8,041 tons in 2022, valued at 48,018,000 euros, and are estimated to be 6,693 tons in 2023, with a projected value of 41,605,000 euros.

The category *Parts of cartridges for smooth-barrelled shotguns; lead shot for air rifles and pistols (930629)* witnessed worldwide exports of 9,562 tons, valued at 49,168,000 euros in 2022. The estimated exports for

2023 are 9,776 tons, with a projected value of 55,131,000 euros. In the USA, imports amounted to 1,747 tons in 2022, valued at 12,912,000 euros, and are estimated to be 2,126 tons in 2023, with a projected value of 18,109,000 euros.

The category *Cartridges for smooth-barrelled shotguns, revolvers and pistols and cartridges for riveting or similar tools or for captive-bolt humane killers, and parts thereof (930630)* saw worldwide exports of 390 tons, valued at 7,923,000 euros in 2022. The estimated exports for 2023 are 475 tons, with a projected value of 11,158,000 euros. Australia imported 26 tons in 2022, valued at 601,000 euros, and is estimated to import 12 tons in 2023, with a projected value of 353,000 euros.

Overall, the total exports across all categories in 2022 were 34,321 tons, valued at 199,339,000 euros, and estimated to be 33,631 tons, with a projected value of 216,859,000 euros in 2023.

2.7 Ammunition imports

The same categories were also used for the importing analysis, covering both global imports and the first country of origin.

Tab. 5.IT – The import trend for 2022 and 2023 related to the ammunition industry

CATEGORY	Imp. 2022 in quantities (Tons)	Imp. 2023 in quantities (Estimation)		Imp. 2022 in Euro	Imp. 2023 in Euro (Estimation)
930621: Cartridges for smooth-barrelled shotguns <i>WORLD</i>	603	1,652		6,210,000	6,152,000
930621: Cartridges for smooth-barrelled shotguns <i>GERMANY</i>	477	48		4,850,000	118,000
930629: Parts of cartridges for smooth-barrelled shotguns; lead shot for air rifles and pistols <i>WORLD</i>	11,911	13,630		42,323,000	50,098,000
930629: Parts of cartridges for smooth-barrelled shotguns; lead shot for air rifles and pistols <i>FRANCE</i>	1,916	2,652		13,543,000	17,625,000
930630: Cartridges for smooth-barrelled shotguns, revolvers and pistols and cartridges for riveting or similar tools or for captive-bolt humane killers, and parts thereof <i>WORLD</i>	482	635		16,106,000	22,346,000
930630: Cartridges for smooth-barrelled shotguns, revolvers and pistols and cartridges for riveting or similar tools or for captive-bolt humane killers, and parts thereof <i>BELGIUM</i>	156	62		5,492,000	2,554,000
Total	12,996	15,917		64,639,000	78,596,000

The category *Cartridges for smooth-barrelled shotguns (930621)* witnessed worldwide imports of 603 tons, valued at 6,210,000 euros. The estimated imports for 2023 are 1,652 tons, with a projected value of 6,152,000 euros. In Germany, exports amounted to 477 tons in 2022, valued at 4,850,000 euros, and are estimated to be 48 tons in 2023, with a projected value of 118,000 euros.

The category *Parts of cartridges for smooth-barrelled shotguns; lead shot for air rifles and pistols (930629)* saw worldwide imports of 11,911 tons, valued at 42,323,000 euros in 2022. The estimated imports for 2023 are 13,630 tons, with a projected value of 50,098,000 euros. In France, exports were 1,916 tons in 2022, valued at 13,543,000 euros, and are estimated to be 2,652 tons in 2023, with a projected value of 17,625,000 euros.

The category *Cartridges for smooth-barrelled shotguns, revolvers and pistols and cartridges for riveting or similar tools or for captive-bolt humane killers, and parts thereof (930630)* experienced worldwide imports of 482 tons, valued at 16,106,000 euros in 2022. The estimated imports for 2023 are 635 tons, with a projected value of 22,346,000 euros. In Belgium, exports were 156 tons in 2022, valued at 5,492,000 euros, and are estimated to be 62 tons in 2023, with a projected value of 2,554,000 euros.

Overall, the total imports across all categories in 2022 were 12,966 tons, valued at 64,639,000 euros, and estimated to be 15,917 tons, with a projected value of 78,596,000 euros in 2023.

2.8 The trade balance surpluses/deficits

The category *Cartridges for smooth-barrelled shotguns (930621)* witnessed exports totaling 150,570,000 euros and imports amounting to 6,152,000 euros, resulting in a trade surplus of 144,418,000 euros.

The category *Parts of cartridges for smooth-barrelled shotguns; lead shot for air rifles and pistols (930629)* experienced exports totaling 55,131,000 euros and imports amounting to 50,098,000 euros, resulting in a trade surplus of 5,033,000 euros.

The category *Cartridges for smooth-barrelled shotguns, revolvers and pistols and cartridges for riveting or similar tools or for captive-bolt humane killers, and parts thereof (930630)* recorded exports totaling 11,158,000 euros and imports amounting to 22,346,000 euros, resulting in a trade deficit of 11,188,000 euros. Overall, the total exports across all categories amounted to 216,859,000 euros, while imports totaled 78,596,000 euros, leading to a total trade surplus of 138,263,000 euros.

Tab. 6.IT – Trade balance trend for 2023 (estimated) related to the ammunition industry

CATEGORY	Exp. 2023 in Euro	Imp. 2023 in Euro	Trade balance 2023 in Euro
930621: Cartridges for smooth-barrelled shotguns	150,570,000	6,152,000	144,418,000
930629: Parts of cartridges for smooth-barrelled shotguns; lead shot for air rifles and pistols	55,131,000	50,098,000	5,033,000
930630: Cartridges for smooth-barrelled shotguns, revolvers and pistols and cartridges for riveting or similar tools or for captive-bolt humane killers, and parts thereof	11,158,000	22,346,000	-11,188,000
Total	216,859,000	78,596,000	138,263,000

2.9 Domestic market wholesale value

Considering the turnover of companies producing ammunition (361,228,588 euros), by subtracting the exports (216,859,000 euros) and adding the value of imports (78,596,000 euros), it is possible to determine the wholesale value of the domestic market, which amounts to 222,965,588 euros.

CHAPTER 3: THE PRODUCTION OF COMPONENTS AND COMPANIES IN THE SECTOR

3.1 Introduction

This chapter examines companies supplying components and materials for firearms production, including both specialized and generic suppliers, excluding machinery suppliers covered in the subsequent chapter.

Specialized suppliers manufacture components such as recoil pads, choke tubes, and optics, contributing significantly to manufacturing processes within the sector and characterized by a high level of specialization.

Generic suppliers offer non-specialized products essential for production (e.g., raw materials, firearms fasteners, small parts) and for business management (ranging from stationery to administrative consultancy).

Both specialized and generic suppliers provide goods and services.

Similar to the analysis of firearms and ammunition manufacturers in Chapters 1 and 2, the number of Italian components manufacturing companies, their employees, and the values of imports and exports are measured.

It is important to note that for this analysis, the value of production hasn't been identified separately, as it is already included in the value of firearms production. Instead, the focus has been on the export value directed to firearms manufacturers in other countries, as it contributes to the value generated by sector companies.

Due to limited detailed data and statistics (except for import and export values), this part of the work employed a methodology based on information provided by Musso, Cioppi, Francioni (2012), updated to 2019, along with estimations.

3.2 Component manufacturers and number of employees

To determine the number of companies involved in manufacturing components for firearms, along with their respective employees and generated turnover, previous research from 2019 was used.

The total number of companies in the Italian market is 102, while the total number of employees for the component sector amounts to 1,212.

3.3 Components exports

Regarding the values of exports, the Trademap database has been utilized. Specifically, focusing on the Category 9305 "*Parts and accessories for weapons and the like of heading 9301 to 9304 n.e.s.⁷*", the following HS subcategories have been selected:

- 930510: parts and accessories for revolvers and pistols, n.e.s;
- 930520: parts and accessories of shotguns or rifles of heading 9303, n.e.s;
- 930521: Smooth barrels for sporting, hunting and target shooting rifles of heading 9303, n.e.s;
- 930529: parts and accessories for sporting, hunting and target shooting of heading 9303, n.e.s;
- 930590: parts and accessories for weapons and the like of heading no. 9301, 9303 or 9304, n.e.s;
- 930599: part and accessories for weapons and the like of heading 9303 or 9304, n.e.s (exclusion of shotguns or rifle of heading 9303).

Furthermore, for comprehensive coverage, the category 901310, "*Telescopic sights for fitting to arms; periscopes; telescopes designed to form parts of machines, appliances, instruments, or apparatus of chapter 90 or sections 16, chapters 84, and 85*", has been included.

⁷ N.e.s. stands for "not elsewhere specified".

Tab. 7.IT – The export trend for 2022 and 2023 (estimated) related to the components industry

CATEGORY	Exp. 2022 in quantities (Tons)	Exp. 2023 in quantities (Estimation)	Exp. 2022 in Euros	Exp. 2023 in Euros (Estimation)
930510: parts and accessories for revolvers and pistols, n.e.s <i>WORLD</i>	786	605	65,653,000	52,433,000
930510: parts and accessories for revolvers and pistols, n.e.s <i>USA</i>	408	355	32,540,000	28,508,000
930520: parts and accessories of shotguns or rifles of heading 9303, n.e.s <i>WORLD</i>	889	877	60,659,000	67,832,000
930520: parts and accessories of shotguns or rifles of heading 9303, n.e.s <i>USA</i>	570	579	32,026,000	36,449,000
930521: Smooth barrels for sporting, hunting and target shooting rifles of heading 9303, n.e.s <i>WORLD</i>	/	/	/	/
930529: parts and accessories for sporting, hunting and target shooting of heading 9303, n.e.s <i>WORLD</i>	/	/	/	/
930590: parts and accessories for weapons and the like of heading no. 9301, 9303 or 9304, n.e.s <i>WORLD</i>	/	/	/	/
930599: part and accessories for weapons and the like of heading 9303 or 9304, n.e.s (exclusion of shotguns or rifle of heading 9303) <i>WORLD</i>	79	71	9,717,000	2,419,000
930599: part and accessories for weapons and the like of heading 9303 or 9304, n.e.s (exclusion of shotguns or rifle of heading 9303) <i>PORTUGAL</i>	67	66	1,260,000	1,173,000
901310: Telescopic sights for fitting to arms; periscopes; telescopes designed to form parts of machines, appliances, instruments or apparatus of chapter 90 or sections 16, chapters 84 and 85 <i>WORLD</i>	38	88	2,702,000	3,662,000
901310: Telescopic sights for fitting to arms; periscopes; telescopes designed to form parts of machines, appliances, instruments or apparatus of chapter 90 or sections 16, chapters 84 and 85 <i>UKRAINE</i>	4	3	564,000	373,000
TOTAL	1,792	1,641	138,731,000	126,346,000

The category *Parts and accessories for revolvers and pistols, n.e.s (930510)* recorded exports to the world totaling 786 tons in 2022, valued at 65,653,000 euros. The estimated exports for 2023 are 605 tons, with a projected value of 52,433,000 euros. In the USA, imports amounted to 408 tons in 2022, valued at 32,540,000 euros, and are estimated to be 355 tons in 2023, with a projected value of 28,508,000 euros.

The category *Parts and accessories of shotguns or rifles of heading 9303, n.e.s (930520)* witnessed worldwide exports totaling 889 tons in 2022, valued at 60,659,000 euros. The estimated exports for 2023 are 877 tons, with a projected value of 67,832,000 euros. In the USA, imports were 570 tons in 2022, valued at 32,026,000 euros, and are estimated to be 579 tons in 2023, with a projected value of 36,449,000 euros.

The category *Parts and accessories for weapons and the like of heading 9303 or 9304, n.e.s (930599)* recorded worldwide exports of 79 tons in 2022, valued at 9,717,000 euros. The estimated exports for 2023 are 71 tons, with a projected value of 2,419,000 euros. Imports to the Portugal were valued at 1,260,000 euros for a total of 67 tons in 2022.

The category *Telescopic sights for fitting to arms; periscopes; telescopes designed to form parts of machines, appliances, instruments or apparatus of chapter 90 or sections 16, chapters 84 and 85 (901310)* recorded exports totaling 38 tons in 2022, valued at 2,702,000 euros. The estimated exports for 2023 are 88 tons, with a projected value of 3,662,000 euros. Ukraine imported 4 tons in 2022, valued at 564,000 euros, and is estimated to import 3 tons in 2023, with a projected value of 373,000 euros.

Overall, the total exports across all categories in 2022 were 1,792 tons, valued at 138,731,000 euros, and estimated to be 1,641 tons, with a projected value of 126,346,000 euros in 2023.

3.4 Components imports

The same categories were also used for the importing analysis, covering both global imports and the primary country of origin.

Tab. 8.IT – The import trend for 2022 and 2023 (estimated) related to the components industry

CATEGORY	Imp. 2022 in quantities (Tons)	Imp. 2023 in quantities (Estimation)		Imp. 2022 in Euros	Imp. 2023 in Euros (Estimation)
930510: parts and accessories for revolvers and pistols, n.e.s <i>WORLD</i>	40	20		5,154,000	2,767,000
930510: parts and accessories for revolvers and pistols, n.e.s <i>TURKEY</i>	12	5		1,864,000	644,000
930520: parts and accessories of shotguns or rifles of heading 9303, n.e.s <i>WORLD</i>	702	984		14,227,000	13,987,000
930520: parts and accessories of shotguns or rifles of heading 9303, n.e.s <i>TURKEY</i>	528	899		5,987,000	6,313,000
930521: Smooth barrels for sporting, hunting and target shooting rifles of heading 9303, n.e.s <i>WORLD</i>	/	/		/	/
930529: parts and accessories for sporting, hunting and target shooting of heading 9303, n.e.s <i>WORLD</i>	/	/		/	/

930590: parts and accessories for weapons and the like of heading no. 9301, 9303 or 9304, n.e.s <i>WORLD</i>	/	/	/	/
930599: part and accessories for weapons and the like of heading 9303 or 9304, n.e.s (exclusion of shotguns or rifle of heading 9303) <i>WORLD</i>	311	339	7,082,000	4,922,000
930599: part and accessories for weapons and the like of heading 9303 or 9304, n.e.s (exclusion of shotguns or rifle of heading 9303) <i>GERMANY</i>	210	112	5,487,000	2,722,000
901310: Telescopic sights for fitting to arms; periscopes; telescopes designed to form parts of machines, appliances, instruments or apparatus of chapter 90 or sections 16, chapters 84 and 85 <i>WORLD</i>	95	76	18,474,000	24,273,000
901310: Telescopic sights for fitting to arms; periscopes; telescopes designed to form parts of machines, appliances, instruments or apparatus of chapter 90 or sections 16, chapters 84 and 85 <i>CHINA</i>	61	33	5,788,000	6,312,000
TOTAL	1,148	1,419	44,937,000	45,949,000

For the category *Parts and accessories for revolvers and pistols, n.e.s (930510)*, worldwide imports totaled 40 tons, valued at 5,154,000 euros in 2022. The estimated imports for 2023 are 20 tons, with a projected value of 2,767,000 euros. Turkey exported 12 tons in 2022, valued at 1,864,000 euros, and is estimated to export 5 tons in 2023, with a projected value of 644,000 euros.

The category *Parts and accessories of shotguns or rifles of heading 9303, n.e.s (930520)* recorded worldwide imports totaling 702 tons in 2022, valued at 14,227,000 euros. The estimated imports for 2023 are 984 tons, with a projected value of 13,987,000 euros. Turkey exported 528 tons in 2022, valued at 5,987,000 euros, and is estimated to import 899 tons in 2023, with a projected value of 6,313,000 euros.

The category *Parts and accessories for weapons and the like of heading 9303 or 9304, n.e.s (930599)* experienced worldwide imports of 311 tons in 2022, valued at 7,082,000 euros. The estimated imports for 2023 are 339 tons, with a projected value of 4,922,000 euros. Germany exported 210 tons in 2022, valued at 5,487,000 euros, and is estimated to export 112 tons in 2023, with a projected value of 2,722,000 euros.

The category *Telescopic sights for fitting to arms; periscopes; telescopes designed to form parts of machines, appliances, instruments, or apparatus of chapter 90 or sections 16, chapters 84 and 85 (901310)* recorded worldwide imports totaling 95 tons in 2022, valued at 18,474,000 euros. The estimated imports for 2023 are 76 tons, with a projected value of 24,273,000 euros. China exported 61 tons in 2022, valued at 5,788,000 euros, and is estimated to export 33 tons in 2023, with a projected value of 6,312,000 euros.

Overall, the total imports across all categories in 2022 were 1,148 tons, valued at 44,937,000 euros, and estimated to be 1,419 tons, with a projected value of 45,949,000 euros in 2023.

3.5 The trade balance surpluses/deficits

The category *Parts and accessories for revolvers and pistols, n.e.s (930510)* recorded exports amounting to 52,433,000 euros and imports worth 2,767,000 euros, resulting in a trade surplus of 49,666,000 euros.

For category *Parts and accessories of shotguns or rifles of heading 9303, n.e.s (930520)*, exports amounted to 67,832,000 euros while imports totaled 13,987,000 euros, leading to a trade surplus of 53,845,000 euros.

There were no exports or imports recorded for categories 930521, 930529, and 930590.

The category *Parts and accessories for weapons and the like of heading 9303 or 9304, n.e.s, excluding shotguns or rifles of heading 9303 (930599)* had exports worth 2,419,000 euros and imports amounting to 4,922,000 euros, resulting in a trade deficit of 2,503,000 euros.

For the category *Telescopic sights for fitting to arms; periscopes; telescopes designed to form parts of machines, appliances, instruments, or apparatus of chapter 90 or sections 16, chapters 84 and 85 (901310)*, exports were valued at 3,662,000 euros and imports at 24,273,000 euros, leading to a trade deficit of 20,611,000 euros.

Overall, the total exports across all categories in 2023 were 126,346,000 euros, while imports totaled 45,949,000 euros, resulting in a total trade surplus of 80,397,000 euros.

Tab. 9.IT – Trade balance trend for 2023 (estimated) related to the components industry

CATEGORY	Exp. 2023 in Euro	Imp. 2023 in Euro	Trade balance 2023 in Euro
930510: parts and accessories for revolvers and pistols, n.e.s	52,433,000	2,767,000	49,666,000
930520: parts and accessories of shotguns or rifles of heading 9303, n.e.s	67,832,000	13,987,000	53,845,000
930521: Smooth barrels for sporting, hunting and target shooting rifles of heading 9303, n.e.s	/	/	/
930529: parts and accessories for sporting, hunting and target shooting of heading 9303, n.e.s	/	/	/
930590: parts and accessories for weapons and the like of heading no. 9301, 9303 or 9304, n.e.s	/	/	/
930599: part and accessories for weapons and the like of heading 9303 or 9304, n.e.s (exclusion of shotguns or rifle of heading 9303)	2,419,000	4,922,000	-2,503,000
901310: Telescopic sights for fitting to arms; periscopes; telescopes designed to form parts of machines, appliances, instruments or apparatus of chapter 90 or sections 16, chapters 84 and 85	3,662,000	24,273,000	-20,611,000
TOTAL	126,346,000	45,949,000	80,397,000

In addition to firearms component producers, Italy has a unique feature related to the specialized work of *engravers*, who also carry out work for foreign manufacturers. Similar to the approach used for component manufacturers, the value of work performed for foreign entities has been calculated separately, as it is not incorporated into the value of firearms production within Italy. It is estimated that the Italian market includes 25 engravers, with a total of 82 employees.

The combined total of components producers and engravers, along with their respective employees, results in 127 companies and 1,294 employees. To address potential underestimations, these data were adjusted by a corrective factor of 20%. Applying this adjustment, the final number of companies is 152, and the number of employees is 1,553.

To estimate the production value by engravers for foreign markets, the turnover was analyzed, yielding a total of 4,100,000 euros. This result was calculated by i) estimating a per-capita revenue of 50,000 euros; ii) multiplying this value by the number of employees. The proportion of work performed for foreign manufacturers is estimated at 15% of the total turnover, equating to a value of 615,000 euros.

3.6 Generic suppliers

This paragraph examines generic suppliers, those providing non-specialized products and services used in both the production process and business management.

According to previous Italian research (2019), the count of generic suppliers amounts to a total of 422 companies, with 1,353 employees.

Table 10.IT presents a comprehensive overview of all the data described in Paragraphs 3.5 and 3.6.

Tab. 10.IT – Number of companies, employees, and export values of: components manufacturers, engravers, and generic suppliers

	Number of companies	Total number of employees	Total turnover just for the Italian Market	Export (values)
Firearms components	102	1,212		126,346,000
Engravers	25	82	4,100,000	615,000
Total firearms components and engravers	127	1,294		126,961,000
Total firearms components and engravers (+20%)	152	1,553		
Generic suppliers	422	1,353		
TOTAL	574	2,906		

CHAPTER 4:

AUXILIARY SECTORS: MACHINERY PRODUCTION AND SUPPORT SERVICES

4.1 The production of machinery for the firearms sector

Machinery manufacturers can be divided into two main subcategories:

1. Manufacturers of specialized machinery, meaning those who produce machinery exclusively dedicated to the production of firearms or ammunition;
2. Manufacturers of general-purpose machinery, namely those who produce machinery that can be used for different types of production, including the firearms and ammunition sector, with potential adaptations and customizations.

Focusing on the production of machinery for the firearms and ammunition sectors, according to previous Italian research (2019), there are 4 companies producing specialized machinery, with a total of 40 employees. Concerning the generic manufacturers, the employees operating in this sector amount to 378.

Overall, the turnover generated by this industry amounts to 95,642,407 euros.

The export value of this industry for the Italian market is estimated at 86,078,166 euros. Therefore, the turnover for the Italian market is 9,564,241 euros.

4.2 Pre and post-sales services supporting the sector

Pre and post-sales services involve activities carried out by the National Proof House, logistics and transportation providers, importers, sales agents, retail distributors (gun shops), and firms engaged in the maintenance and repair of firearms.

National Proof House

Italy has a National Proof House, called Banco Nazionale di Prova per le Armi da Fuoco⁸, which employs a staff of 70 and has a total turnover of 5,573,906 euros.

Logistics and transportation services

To calculate the value of transport and warehousing activities, the percentage of annual expenditure incurred by firearms and ammunition manufacturers for external transport and warehousing services was identified at 2% of turnover. By applying this percentage to the total turnover of Italian firearms and ammunition manufacturing companies (881,234,005 euros), a value of 19,062,902 euros is derived.

The number of employees in the transport sector totals 70 from transport and warehousing companies (not specialized for the sector) virtually activated by the firearms sector.

Importers

A total of 23 importers have been identified, with 179 employees (Italian Research, 2019). The margin generated by import activities (used for calculating the overall value of the sector) was estimated at 18,045,000 euros. This estimation was derived by assuming a 15% margin on the resale of imported firearms and ammunition to retail distributors.

⁸ <https://www.bancoprova.it/>

Gun shops

According to previous Italian research (2019), there are 900 gun shops in Italy, collectively employing a total of 2,700 staff members. Similar to the methodology applied for importers, the margin for gun shops was calculated as a percentage of the wholesale value of the domestic market (comprising national production for the domestic market plus imports), equal to 342,727,101 euros. Subsequently, an average margin of 20% was calculated, resulting in an overall margin of 85,681,775 euros.

Agents

The number of sales agents employed by firearms and ammunition manufacturers has been estimated at a total of 260 individuals (Italian Research, 2019).

Moreover, the turnover achieved by sales agents is estimated at 27,418,168 euros, calculated based on an average commission rate of 8%. However, this value is already incorporated in the total value of wholesale sales for the national market.

Maintenance and repairs

For operators involved in the maintenance and repair of firearms, according to previous Italian research (2019), there are 100 companies in the Italian market. Regarding employees, an assumption of an average size of 1.5 employees per company and an average turnover of 40,000 euros was used. Consequently, a total of 150 employees involved and a turnover of 4,000,000 euros have been calculated.

4.3 Conclusions

The auxiliary sectors supporting the firearms industry, encompassing both manufacturing and services, employ a total of 3,847 employees.

Tab. 11.IT - Employees employed in the auxiliary sectors

Auxiliary sectors	Employees
Specialized machinery	40
Generic machinery	378
National Proof House	70
Logistics and transport service	70
Importers	179
Gun shops	2,700
Agents	260
Maintenance and repairs	150
TOTAL	3,847

The total turnover generated (Table 12.IT) amounts to 708,406,259 euros. However, to measure the overall value of the sector, it is crucial to account for and separately calculate the margins of importers, gun shops, and maintenance companies, totaling 107,726,775 euros. Additionally, the export of machinery should be considered. For the Italian market, this export share amounts to 7,200,000 for the specialized sector, and 86,078,166 euros for generic manufacturers/service providers.

Tab. 12.IT - Turnover and margins of auxiliary sector

Auxiliary sectors	Turnover	Margin	Export
Specialized machinery	8,000,000		7,200,000
Generic machinery	95,642,407		86,078,166
National Proof House	5,573,906		
Logistics and transport service	19,062,902		
Importers	120,300,000	18,045,000	
Gun shops	428,408,876	85,681,775	
Agents	27,418,168		
Maintenance and repairs	4,000,000	4,000,000	
TOTAL	708,406,259	107,726,775	

CHAPTER 5:

ECONOMIC AND EMPLOYMENT IMPACT OF COMPANIES IN THE CORE AND AUXILIARY SECTORS

5.1 Sector value

To measure the sector's value, the final production of firearms (591,916,513 euros - Paragraph 1.5) and ammunition (361,228,588 euros - Paragraph 2.5) should be used as a reference, calculated on the basis of the turnover of manufacturing companies. This value includes all components and instrumental goods purchased from suppliers. To this, which equates to the wholesale value of the national production of finished products, other items contributing to completing the sectorial overview need to be added, as described below. An initial additional value to consider is related to component exports (126,346,000 euros - Paragraph 3.3)⁹.

As these exports are not included in the value of firearms and ammunition production, they must be added to the overall calculation. In calculating the export of machinery, the export of general machinery directed to foreign firearms and ammunition manufacturers should also be included (86,078,166 euros - Paragraph 4.1). Indeed, manufacturers of such machinery, while creating solutions for various sectors, have gained specific expertise in the firearms industry, enabling them to supply customized solutions to foreign companies in the same sector.

Additional items to be added are: the work carried out by engravers on behalf of foreign firearms manufacturers (615,000 euros - Paragraph 3.6) and the margin gained by firearms and ammunition importers (refer to Paragraph 4.2). This margin, calculated as a percentage of the import value, has been estimated at 18,045,000 euros. Similarly, the margin of retailers (gun shops), as a percentage of the national production value, and that of imports (the latter increased by the importers' margin) has been calculated. The margin of gun shops amounted to 85,681,775 euros. Finally, an additional accounted value is that of turnover of companies conducting maintenance and repairs for end users (4,000,000 euros - Paragraph 4.2).

The measurement of the sector's value is completed by the Value Added Tax (VAT), which in Italy is at 22%¹⁰. For its calculation, the wholesale value of the domestic market increased by the importers' margin, that of retail distributors, and the turnover of maintainers/repairers have been considered as the taxable base.

Therefore, the total value of the sector is the sum of the following items (Fig. 1.IT):

1. Value related to the production of firearms (591,916,513 euros) and ammunition + ammunition components (361,228,588 euros), for a total of 953,145,101 euros;
2. Export of: firearms components (126,346,000 euros), engravers (615,000 euros) specific machineries (7,200,000), and generic machineries (86,078,166 euros), for a total of 220,239,166 euros;
3. Import margin: 18,045,000 euros;
4. Distribution (gun shops) margin: 85,681,775 euros;
5. Turnover maintenance and repair: 4,000,000 euros;
6. VAT: 95,129,953.

The total value of the sector is equal to 1,376,240,995 euros.

⁹ The export value of specific machinery is not included because it amounts to 0.

¹⁰ <https://www.asd-int.com/it/aliquote-iva-nellunione-europea-nel-2023/#:~:text=I%20tassi%20sono%20soggetti%20a,%25%20sar%C3%A0%20ridotta%20al%207%25.>

Fig. 1.IT – Total value of the sector

PRODUCTION VALUE

	PRODUCTION VALUE	EXPORT
FIREARMS		
Total	591,916,513	INCLUDED IN THE PRODUCTION VALUE

AMMUNITIONS

Total	361,228,588	INCLUDED IN THE PRODUCTION VALUE
TOTAL PRODUCTION	953,145,101	

FIREARMS COMPONENTS, SERVICES AND MACHINERIES

Firearms components	MARKET SHARE IN ITALY INCLUDED IN THE VALUE OF FIREARMS AND AMMUNITIONS PRODUCTION	126,346,000
Engravers		615,000
Machinery - specialized		7,200,000
Machinery - generic		86,078,166
TOTAL EXPORT		220,239,166

IMPORT MARGIN	18,045,000
GUN SHOPS MARGIN	85,681,775
TURNOVER MAINTENANCE AND REPAIR	4,000,000
TOTAL	107,726,775

VAT IN THE ITALIAN MARKET (PRODUCTION - EXPORT + IMPORT)	95,129,953
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FINAL VALUE	1,376,240,995
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The added value

Finally, the added value has been calculated to ensure completeness in the analysis. In particular, the following process has been adopted:

1. *Added value of the total turnover of firearms and ammunition:* Based on Italian Research (2019), the added value has been estimated at 33.9% of the total turnover of firearms and ammunition. By relating this percentage to the turnover of firearms and ammunition for civilian use previously calculated, it was possible to derive the value added, resulting from the following components: the turnover of the industry and component exports calculated by summing (i) the turnover of the firearms and ammunition industry (953,145,101 euros) with (ii) the export turnover of component and machinery providers (126,346,000 euros) and (iii) applying the sector's added value percentage (33.9%). Lastly, the engravers' export value has been added (615,000 euros), resulting in a total value of 366,562,483 euros;
2. *Added value of importers:* The added value of importers, namely the markup on sales of imported firearms and ammunition, is estimated at 15%, totaling 18,045,000 euros;
3. *Added value of distribution:* The added value of distribution, calculated as the markup on sales of firearms and ammunition, is estimated at 20%, totaling 85,681,775 euros. To this value, the turnover

of maintenance and repair companies, amounting to 4,000,000 euros (all added value), should be added.

Overall, the total added value amounts to 474,289,258 euros.

5.2 Employment

To calculate the number of employees operating within the sector, consideration has been given not only to those directly involved in the production of firearms and ammunition but also to those working within the supply system (components, equipment, both specific and generic instrumental goods, and services).

Specifically, the calculation initially included employees engaged in the production of firearms (2,199) and ammunition (1,129), totaling 3,328 employees in the production of firearms and ammunition (including components for ammunition). To this result, employees involved in the production of specific components for the sector (such as stocks and grips, springs, chokes and reducers, barrels and bushings, magazines) and subcontracting companies have been added, estimated at a total of 1,553. The calculation also encompasses employees engaged in companies providing generic supplies (refer to Chapter 3), estimated at 1,353.

Finally, employees operating in auxiliary sector companies (both specific and generic machinery, proof house, and downstream service providers) have been considered, totaling 3,847 (refer to Chapter 4).

Summarizing, the sector employs a total of 3,328 workers in the production of firearms and ammunition, 2,906 employees in the sector's supply system companies, and 3,847 employees in auxiliary sector companies, totaling 10,081 employees (Fig. IT.2).

Fig. IT.2 – Number of employees employed in companies within the sector and their suppliers

EMPLOYMENT

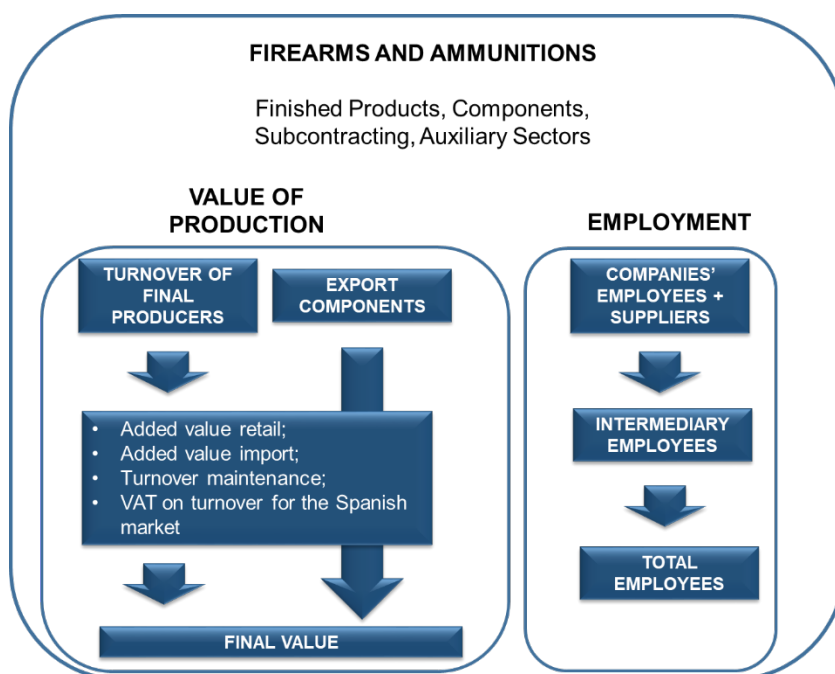
FIREARMS	COMPANIES	EMPLOYEES
Total	107	2,199
AMMUNITIONS		
Total	125	1,129
	232	3,328
COMPONENTS		
Firearms components	102	1,212
Engravers	25	82
Total firearms components and engravers	127	1,294
Total firearms components and engravers (+20%)	152	1,553
Generic suppliers	422	1,353
	574	2,906
AUXILIARY SECTOR		
Machinery – specialized	4	40
Machinery – generic	19	378
Banco Nazionale di Prova per le Armi da Fuoco	1	70
Logistics and transport services	4	70
Importers	23	179
Gun shops	900	2,700
Sales agents		260
Maintenance and repairs	100	150
	1,051	3,847
TOTAL EMPLOYEES		10,081
TOTAL COMPANIES		1,857

5.3 Conclusions

In this paragraph, the method adopted to calculate the economic and employment impact of the sector concerning the production of firearms and ammunition, along with the corresponding supply system, is explained.

Specifically, to determine the sector's value, the starting point was the turnover of manufacturing companies (incorporating the value of intermediate and instrumental goods), to which the margin of commercial intermediaries, turnover of maintainers and repairers, and the value of indirect taxes (VAT) were added. Additionally, the value of component exports, not included in the finished product's value, was also included. For employment calculation, the number of employees involved in firearms production was considered, along with those from raw material, intermediate and instrumental goods suppliers (proportionally considering the specific part absorbed by the sector). The count also included the number of intermediary-level employees (Fig. IT.3).

Fig. IT.3 – Calculation method for the value of production and the number of employees in the firearms and ammunition sector



CHAPTER 6: THE VALUE OF SECTORS CONNECTED TO SPORTS SHOOTING AND HUNTING ACTIVITIES

6.1 Introduction

In this chapter, different disciplines in sports shooting and hunting practices have been examined with the aim of estimating the value of economic sectors linked to these activities, which include the use of firearms. Indeed, for practicing these sports and hunting activities, a wide variety of products and services are used. These products and services are produced by several companies, which contribute to the turnover and employment of the sector.

Based on the above, the starting point was the estimation of expenses incurred by hunters and shooters. In both cases, the value for final consumers encompasses the value of sectors involved in providing products/services, taxes, and the added value of intermediaries, if present.

6.2 Hunters and hunting activities

According to FIDC (Federazione Italiana Della Caccia), the total number of hunters in Italy is 533,000.

In Table 13.IT, the estimated annual expenditure items¹¹ for each hunter and the total value of spending, taking into account the number of active hunters, are shown.

- **Firearms and ammunition:** The annual expense is equal to 315.10 euros;
- **Hunting clothing and accessories:** The average expense of a hunter for the purchase of hunting clothing and accessories is 412.86 euros;
- **Dogs** (i.e., purchase of a dog; feeding the dog; veterinary in a year; drugs and pharmaceutical supplements; accessories; insurance): The total expense for all the described items is equal to 1,264.75 euros;
- **Firearm cleaning kit:** The annual expense is equal to 12.76 euros;
- **Licenses, insurance, and renting hunting:** The total expense for hunting licenses, gun licenses, hunting insurance, and renting hunting is 665.67 euros per year;
- **Travelling and accommodation within the country:** The average expense of a hunter for travelling within the country in a year (to hunt) is 584.51 euros;
- **Travelling abroad:** The total amounts to 395.63 euros;
- **Trivial consumptions:** The total expense for trivial consumptions is equal to 618.97 euros.

¹¹ In particular, for the estimation of all items, the sources used were: the results of the previous Italian research from 2019 and analysis of inflation data (2023).

Tab. 13.IT - Overall annual expenditure incurred by hunters divided into categories

Item	Average unit cost	Total cost	Percentage
Firearms and ammunition	315.10	167,948,300	7.4%
Clothing and accessories	412.86	220,054,380	9.7%
Dogs (purchase, feeding, drugs, etc.)	1,264.75	674,111,750	29.6%
Firearms cleaning kit	12.76	6,801,080	0.3%
Taxes, licenses and renting hunting	665.67	354,802,110	15.6%
Travelling and accommodations in Italy	584.51	311,543,830	13.7%
Overnight stay and travel abroad	395.63	210,870,790	9.3%
Trivial consumptions	618.97	329,911,010	14.5%
Annual expense per capita	4,270.25	2,276,043,250	100.0%

Non-shooting hunters

In addition to active hunters, calculations have also been made for those defined as “non-shooting hunters” (Astra Ricerche, 2011), meaning enthusiasts who, even without using firearms, share a passion for nature and wildlife, often accompanying hunters in their activities. In particular, we have estimated a total of 815,176 Italian non-shooting hunters based on proportional data from Italian research (2019).

Regarding the yearly expense, a total of 427 euros has been estimated, amounting to about one-tenth of what each hunter spends annually.

6.3 Clay target, target shooting, sport shooting, practical shooting, and other specialties

Clay Target shooters

According to the European Shooting Confederation¹² (ESC) and Federation Internationale De Tir Aux Armes Sportives De Chasse (FITASC)¹³, there is only one Italian member organization, namely the Federazione Italiana di Tiro a Volo (FITAV)¹⁴, with a total of 20,983 members.

Concerning the yearly expense of a clay target shooter, while the firearm expenditure has been calculated based on ESC data, other items have been calculated by adding the inflation rate (2023) to the data estimated in the previous Italian research (2019).

In Table 14.IT, the estimated annual expenditure items for each shooter are reported:

- **Firearms:** To estimate the annual expenditure related to the firearm, the average expense for a shotgun, equal to 3,000 euros (according to ESC), has been divided by the average number of years corresponding to the firearm’s life cycle (i.e., 11.5); in total, the annual expense is 291 euros;
- **Ammunitions:** The annual expense for this item is equal to 1,723 euros;
- **Clothing:** The annual expenditure for clothing is equal to 241 euros;
- **Accessories:** The annual cost is equal to 66 euros;
- **Firearm cleaning kit:** The annual expense is equal to 13 euros;
- **Tax and licenses:** The annual expenditure for tax and licenses is equal to 86 euros;
- **Association and club memberships:** For association and club membership, there is an annual cost equals to 115 euros;
- **Training:** The annual expenditure for training is equal to 796 euros;
- **Competition:** The annual expenditure for competitions is 477 euros;

¹² <https://esc-shooting.org/>

¹³ <https://www.fitasc.com/it/home/view>

¹⁴ <https://www.fitav.it/>

- **Travelling and accommodation in Italy:** The annual expenditure for national travelling and accommodation is equal to 1,576 euros;
- **Travelling and accommodation abroad:** The annual expenditure for overseas travelling and accommodation is equal to 510 euros;
- **Trivial consumptions:** The annual expenditure for trivial consumptions is equal to 1,110 euros.

Tab. 14.IT - Overall annual expenditure incurred by FITAV Clay target shooters divided into categories

Item	Average unit cost	Percentage
Firearms	291	4.1%
Ammunition	1,723	24.6%
Clothing	241	3.4%
Accessories	66	0.9%
Firearm cleaning kit	13	0.2%
Tax and licenses	86	1.2%
Association and club memberships	115	1.6%
Training	796	11.4%
Competition	477	6.9%
Travelling and accommodations in Italy	1,576	22.5%
Travelling and accommodations abroad	510	7.3%
Trivial consumption	1,110	15.9%
Annual expense per capita	7,004	100.0%

Clay target shooters-hunters

The registered clay target shooters using shotguns are not the exclusive participants in this discipline. Indeed, there are numerous hunters who, aside from being hunters and likely associated with hunting federations, also engage in Clay Target shooting. To derive this data, the Italian research (Musso, Cioppi, Francioni, 2012) has been used, highlighting that the number of hunting shooters using shotguns is equal to 25.2% of the total hunters.

Based on this estimate, 134,316 individuals have been calculated, who should be included in the total number of registered shooters.

However, for these practitioners, the estimated average per capita spending is lower, both because they do not have to purchase the firearm and because their activity is less intense, as they are also involved in hunting.

In particular, Table 15.IT synthesizes the specific categories¹⁵ that constitute the overall annual expenditure incurred by Clay target shooters-hunters.

Tab. 15.IT - Overall annual expenditure incurred by Clay target shooters-hunters divided into categories

Item	Average unit cost	Percentage
Ammunition	183	13.2%
Clothing	180	13.0%
Accessories	66	4.8%
Training	170	12.3%
Competition	102	7.4%
Travelling and accommodations in Italy	337	24.3%
Travelling and accommodations abroad	110	7.9%
Trivial consumption	237	17.1%
Annual expense per capita	1,385	100.0%

¹⁵ Calculated by adding the inflation rate (2023) to the data estimated in the previous Italian research (2019).

Target shooters

About target shooters, according to previous Italian research (2019) and the Unione Italiana Tiro a Segno (UITS), there are a total of 60,543 members¹⁶.

For target shooters, the yearly expense for all items was calculated by adding the inflation rate (2023) to the data estimated in previous Italian research (2019).

In Table 16.IT, the estimated annual expenditure items for each shooter are presented.

- **Firearms:** The annual expense is 336 euros;
- **Ammunitions:** The annual expense for this item is equal to 766 euros;
- **Clothing:** The annual expenditure for clothing is equal to 532 euros;
- **Accessories:** The annual cost is equal to 106 euros;
- **Firearm cleaning kit:** The annual expense is equal to 13 euros;
- **Tax and licenses:** The annual expenditure for tax and licenses is equal to 90 euros;
- **Association and club memberships:** For association and club membership, the cost is equal to 83 euros;
- **Training:** The total training expenditure of Italian rifle shooters is equal to 2,389 euros;
- **Competition:** The annual expenditure for competitions is 88 euros;
- **Travelling and accommodation in Italy:** The annual expenditure for national travelling and accommodation is equal to 1,312 euros;
- **Travelling and accommodation abroad:** The annual expenditure for overseas travelling and accommodation is equal to 61 euros;
- **Trivial consumptions:** The annual expenditure for trivial consumptions is equal to 255 euros.

Tab. 16.IT - Overall annual expenditure incurred by Target shooters divided into categories

Item	Average unit cost	Percentage
Firearms	336	5.6%
Ammunition	766	12.7%
Clothing	532	8.8%
Accessories	106	1.7%
Firearm cleaning kit	13	0.2%
Tax and licenses	90	1.5%
Association and club memberships	83	1.4%
Training	2,389	39.6%
Competition	88	1.5%
Travelling and accommodations in Italy	1,312	21.8%
Travelling and accommodations abroad	61	1.0%
Trivial consumption	255	4.2%
Annual expense per capita	6,031	100.0%

Target shooters-hunters

The target shooters are not the exclusive participants in this discipline. Indeed, there are numerous hunters who, aside from being hunters and likely associated with hunting federations, also engage in Target shooting. To derive this data, Italian research (Musso, Cioppi, Francioni, 2012) has been utilized, highlighting that the number of target shooters-hunters is equal to 13.9% of the total hunters.

Based on this estimate, 74,087 individuals have been calculated, who should be included in the total number of registered shooters. However, for these practitioners, the estimated average per capita spending is lower, both because they do not have to purchase the firearm and because their activity is less intense, as they are also involved in hunting.

¹⁶ UITS has not provided the distinction between members using rifle and pistols. Therefore, we have considered a unique category.

In particular, Table 17.IT synthesizes the specific categories¹⁷ that constitute the overall annual expenditure incurred by Target shooters-hunters.

Tab. 17.IT - Overall annual expenditure incurred by Target shooters-hunters divided into categories

Item	Average unit cost	Percentage
Firearms	19	1.2%
Ammunition	82	5.2%
Clothing	398	25.5%
Training	510	32.6%
Competition	19	1.2%
Travelling and accommodations in Italy	281	17.9%
Trivial consumption	255	16.3%
Annual expense per capita	1,564	100.0%

Sport shooters (FIDASC)

About sport shooters, according to the Federazione italiana discipline armi sportive da caccia (FIDASC), there is a total of 7,130 members.

Table 18.IT shows the total annual expenses for each shooter divided into categories¹⁸.

It is important to emphasize that, according to Italian data, FIDASC shooters, in general, are either hunters or FITASC shooters. For this reason, the expenses for 1) firearms; 2) accessories; 3) firearm cleaning kits are incorporated into the previous estimates.

Tab. 18.IT - Overall annual expenditure incurred by FIDASC shooters divided into categories

Item	Average unit cost	Percentage
Firearms	0	0%
Ammunition	2,297	29.5%
Clothing	128	1.6%
Accessories	0	0%
Firearm cleaning kit	0	0%
Association and club memberships	32	0.4%
Training	3,318	42.6%
Competition	230	3.0%
Travelling and accommodations in Italy	766	9.8%
Travelling and accommodations abroad	766	9.8%
Trivial consumption	255	3.3%
Annual expense per capita	7,792	100.0%

Practical shooters

About Practical shooters, there are 3,675 members affiliated with the Federazione Italiana Tiro Dinamico Sportivo (FITDS). For practical shooters, the yearly expense for all items was calculated by adding the inflation rate (2023) to the data estimated in previous Italian research (2019).

In Table 19.IT, the estimated annual expenditure items for each shooter are shown.

- **Firearms:** The annual expense is 1,234 euros;
- **Ammunitions:** The annual expense for this item is equal to 2,563 euros;
- **Clothing:** The annual expenditure for clothing is equal to 314 euros;
- **Accessories:** The annual cost is equal to 208 euros;
- **Cartridge refill kit:** The annual expense is equal to 64 euros;
- **Firearm cleaning kit:** The annual expense is equal to 13 euros;

¹⁷ Calculated by adding the inflation rate (2023) to the data estimated in the previous Italian research (2019).

¹⁸ Calculated by adding the inflation rate (2023) to the data estimated in the previous Italian research (2019).

- **Tax and licenses:** The annual expenditure for tax and licenses is equal to 86 euros;
- **Preparatory course:** The annual expense is equal to 32 euros;
- **Association and club memberships:** For association and club membership, the cost is equal to 176 euros;
- **Training:** The total training expenditure is equal to 995 euros.
- **Competition:** The annual expenditure for competitions is 194 euros;
- **Travelling and accommodation in Italy:** The annual expenditure for national travelling and accommodation is equal to 842 euros;
- **Travelling and accommodation abroad:** The annual expenditure for overseas travelling and accommodation is equal to 309 euros;
- **Trivial consumptions:** The annual expenditure for trivial consumptions is equal to 255 euros.

Tab. 19.IT - Overall annual expenditure incurred by Practical shooters divided into categories

Item	Average unit cost	Percentage
Firearms	1,234	16.9%
Ammunition	2,563	35.2%
Clothing	314	4.3%
Accessories	208	2.8%
Cartridge refill kit	64	0.9%
Firearm cleaning kit	13	0.2%
Tax and licenses	86	1.2%
Preparatory course	32	0.4%
Association and club memberships	176	2.4%
Training	995	13.7%
Competition	194	2.7%
Travelling and accommodations in Italy	842	11.6%
Travelling and accommodations abroad	309	4.2%
Trivial consumption	255	3.5%
Annual expense per capita	7,285	100.0%

Practical shooters-hunters

The registered Practical shooters are not the exclusive participants in this discipline. Indeed, there are numerous hunters who, aside from being hunters and likely associated with hunting federations, also engage in practical shooting. To derive this data, Italian research (Musso, Cioppi, Francioni, 2012) has been utilized, calculating based on the overall number of hunters at a percentage of 7.4%. Based on this estimate, 39,442 individuals have been calculated, who should be included in the total number of registered shooters. However, for these practitioners, the estimated average per capita spending is lower because their activity is less intense, as they are also involved in hunting.

In particular, Table 20.IT synthesizes the specific categories¹⁹ that constitute the overall annual expenditure incurred by practical shooters-hunters.

¹⁹ Calculated by adding the inflation rate (2023) to the data estimated in the previous Italian research (2019).

Tab. 20.IT - Overall annual expenditure incurred by Practical shooters-hunters divided into categories

Item	Average unit cost	Percentage
Firearm	463	29.4%
Ammunition	274	17.4%
Clothing	235	14.9%
Accessories	45	2.8%
Cartridge refill kit	68	4.3%
Training	213	13.5%
Competition	42	2.8%
Travelling and accommodations in Italy	180	11.4%
Trivial consumption	55	3.5%
Annual expense per capita	1,575	100.0%

Other shooting specialties

Based on the overall number of shooters (given by the sum of Clay target shooters, Target shooters, Sport Shooter, and Practical shooters, amounting to 92,331), it has been calculated that the number of practitioners in all other disciplines (i.e. Defensive shooting; Field Target; “Five at 200” and Long range; Old West Shooting; Soft air; other specialties) is equal to 15% of the total number of shooters (Cioppi, Musso, Francioni, 2012). Overall, the total number of other practitioners in Italy is equal to 13,850. To estimate the annual expenditure of Italian shooters belonging to these other disciplines, we divided the total spend by the number of shooters from other disciplines. Overall, the total annual expenditure of Italian shooters in other disciplines is equal to 4,250 euros.

6.4 Conclusions

In this chapter, all the expenses incurred by hunters and shooters have been described. For each discipline, the number of participants has been estimated, and the annual per capita expenditure for various expense items has been calculated.

In total, the annual expenditure by hunters, including those who hunt without shooting and excluding the cost of firearms and ammunition, amounts to 2,456,175,102 euros.

For other shooting disciplines, the total expenditure by shooters (excluding the cost of firearms and ammunition) is 811,239,161 euros.

By adding the total expenditure by hunters (2,456,175,102 euros) to that of shooters (811,239,161 euros), we obtain a total of 3,267,414,263 euros, which represents the estimated value of the sectors driven by the final demand from hunters and shooters.

Tab. 21.IT – Total hunters and shooters' expenses excluding firearms and ammunition

	Number	Annual expense per capita	Total expense	Total expense excluding firearm and ammunition
Hunters and non-shooting hunters				
Hunters	533,000	4,270.25	2,276,043,250	2,108,094,950
Non-shooting hunters	815,176	427	348,080,152	348,080,152
TOTAL HUNTERS AND NON-SHOOTING HUNTERS	1.348.176	4,697.25	2,624,123,402	2,456,175,102
Shooters				
Clay target shooters (FITAV)	20,983	7,004	146,964,932	104,707,478
Clay target shooters (Hunters)	134,316	1,385	186,027,660	161,447,832
Target shooters (UITs)	60,543	6,031	365,134,833	298,453,378
Target shooters (Hunters)	74,087	1,564	115,872,068	108,402,617
Sport shooters (FIDASC)	7,130	7,792	55,556,960	39,177,781
Practical shooters (FITDS)	3,675	7,285	26,772,375	12,819,135
Practical shooters (Hunters)	39,442	1,575	62,121,150	33,026,364
Other shooting specialities (Defensive shooting; Field Target; "Five at 200" and Long range; Old West Shooting; Soft air; other specialities)	13,850	4,250	58,862,500	53,204,576
TOTAL SHOOTERS	354,026	36,886	1,017,312,478	811,239,161
TOTAL HUNTERS + SHOOTERS	1.702.202		3,641,435,880	3,267,414,263

CHAPTER 7: THE EMPLOYMENT OF SECTORS CONNECTED TO THE FINAL DEMAND OF HUNTERS AND SHOOTERS: PRODUCTS

7.1 Introduction

This chapter assesses the occupational impact of sectors involved in producing goods related to the final demand for firearms used in sports and hunting activities. Specifically, it considers the production of clothing and footwear, various accessories for firearms, hunting, and shooting equipment, items for dogs and games, and materials used in shooting ranges and shooting grounds.

7.2 Clothing and Footwear

Data on the expenditure incurred by hunters and shooters for clothing were used as a starting point to determine the employment generated in clothing and footwear manufacturing companies. Based on the estimates provided in Chapter 6, this expenditure amounts to 208,932,824 euros for hunters and 104,619,245 euros for shooters, totaling 313,552,069 euros (Table 22.IT).

Tab. 22.IT – Final demand value for clothing and footwear divided based on activity typology

	Number	Annual expense for clothing and footwear	Total expense
Hunters	533,000	259.7	138,420,100
Non-shooting hunters	815,176	86.5 ²⁰	70,512,724
Total hunters			208,932,824
Clay target shooters (FITAV)	20,983	241	5,056,903
Clay target shooters (Hunters)	134,316	180	24,176,880
Target shooters (UITs)	60,543	532	32,208,876
Target shooters (Hunters)	74,087	398	29,486,626
Sport shooters (FIDASC)	7,130	128	912,640
Practical shooters (FITDS)	3,675	314	1,153,950
Practical shooters (Hunters)	39,442	235	9,268,870
Other shooting specialties (Defensive shooting; Field Target; "Five at 200" and Long range; Old West Shooting; Soft air; other specialties)	13,850	170 ²¹	2,354,500
Total shooters			104,619,245
Total hunters and shooters			313,552,069

²⁰ For non-shooting hunters, spending has been estimated at one-third of that of shooting hunters.

²¹ For other shooting specialties, in the previous paragraph, we estimated the total expenditure without specific information regarding clothing and footwear expenses. Therefore, to finalize this table, we calculated the average percentage of expenditure for clothing and footwear among other shooters, resulting in 4%.

Based on this, to determine the industry turnover, the following calculations were necessary:

- For hunters, VAT and distributor margins (estimated, for all the analyzed countries, at a total of 40%) were subtracted from the final demand value. Specifically, the 208,932,824 euros generated by hunters was considered only 60%. The resulting amount (125,359,694 euros) was further reduced by 10% because it was estimated that a portion of clothing consumption pertains to foreign products. These calculations yielded an industry turnover of 112,823,725 euros.
- For shooters, since the clothing used is more specialized and Italian companies also target foreign markets, it seemed reasonable to consider turnover fueled by foreign demand, as it stems from a specialization that still originates and is driven by the domestic market. For this reason, it was estimated that the portion of purchases of foreign products is offset by sales abroad by national manufacturers, thus generating a neutral effect. Similarly to hunting clothing, in this case too, VAT and distributor margins, totaling 40%, were deducted from the final demand value (104,619,245 euros). This results in an industry turnover of 62,771,547 euros.

For the employee's calculation in the clothing and footwear manufacturing sector activated by demand for hunting and shooting, data provided by the statistical archive of Eurostat (2021) were adopted, pertaining to:

- Turnover generated by the clothing industry (32,214,480,000 euros)²² and the footwear industry (12,236,320,000 euros)²³, totaling 44,450,800,000 euros;
- Number of employees engaged in the clothing industry (197,856)²⁴ and footwear manufacturing (71,410)²⁵, totaling 269,266 employees.

At this point, it was possible to determine the number of employees activated by hunting and shooting demand using the following formula:

$$E_{hs} = \left[\left(\frac{D_h}{\frac{T_{ind}}{E_{ind}}} \right) + \left(\frac{D_s}{\frac{T_{ind}}{E_{ind}}} \right) \right]$$

Where

E_{hs} = Employees activated by hunting and shooting

D_h = Final demand value for hunters' clothing/footwear (208,932,824 euros)

D_s = Final demand value for shooters' clothing/footwear (104,619,245 euros)

T_{ind} = Turnover of clothing and footwear industry (44,450,800,000 euros)

E_{ind} = Employees in the clothing and footwear industry (269,266)

In detail, the turnover generated by each employee involved in the clothing and footwear sector was calculated by comparing the total industry turnover (T_{ind} – 44,450,800,000 euros) with the total number of employees (E_{ind} – 269,266), resulting in an amount of 165,081 euros. Dividing the value of the final demand for hunters (D_h – 208,932,824 euros) and shooters (D_s – 104,619,245 euros) by the turnover per employee (165,081 euros) yielded an employment impact of 1,900 employees, with 1,266 activated by hunters' demand and 634 employees activated by shooters' demand (Table 23.IT).

²² https://ec.europa.eu/eurostat/databrowser/view/sbs_ovw_act_custom_12835633/default/table?lang=en

²³ https://ec.europa.eu/eurostat/databrowser/view/sbs_ovw_act_custom_12835633/default/table?lang=en

²⁴ <https://ec.europa.eu/eurostat/documents/3217494/5706863/KS-BW-09-001-EN.PDF.pdf/b6e57fad-f0f8-42ae-b617-6183c6e8e5f0?t=1414774191000> (p. 133).

²⁵ https://ec.europa.eu/eurostat/databrowser/view/sbs_ovw_act_custom_12835633/default/table?lang=en

Tab. 23.IT - Number of employees, and turnover generated through the production of clothing and footwear for hunters and shooters

<i>Clothing and footwear Item</i>	<i>Employees</i>	<i>Turnover</i>
Clothing and footwear – Hunters	1,266	112,823,725
Clothing and footwear – Shooters	634	62,771,547
Total	1,900	175,595,272

7.3 Accessories for firearms, hunting, and shooting

To determine the value and employment generated by companies producing accessories used by hunters, shooters, or even by those who own firearms for collecting purposes, we started with Italian research (2019). In particular, this study enabled us to identify the number of producers and employees involved, based on the weight of the turnover driven by the sports-hunting demand within the sector, and the industry turnover, including exports, of the following product categories:

- Cleaning accessories and lubricants;
- Reloading accessories (equipment, scales);
- Miscellaneous accessories (covers, cartridge belts, straps, cartridge bags, shell pouches, choke holders, bags, backpacks, etc.);
- Cases and gun cases;
- Calls, attractants (liquids, sprays, powder), molds, silhouettes, decoys, cages;
- Tents, camouflage nets, thermal bags, canvas hides, folding chairs, stools, cushions, high seats, shooting stations;
- Transceivers, passage detectors, photographic traps, heat detectors, acoustic detectors, GPS;
- Torches, headlights, night lighting kits;
- Binoculars, scopes;
- Hearing protection;
- Water bottles;
- Cabinets, showcases;
- Artistic productions (prints, posters, ornaments, souvenirs, keychains);
- Cups and plaques;
- Cutlery;
- Cars.

Overall, in 2019, across all the aforementioned categories, a total of 305 companies, 2,503 employees, and a turnover of 289,628,966 euros were identified. These data were updated by tracking the evolution of the number of active companies in Italy from 2010 to 2019.

Using a similar methodology and gathering information on the number of active companies in Italy in 2021 (Eurostat, 2022)²⁶, we identified a total of 294 companies, 2,415 employees, and a turnover of 279,435,173 euros.

²⁶ Overall, in Italy, there is a total of 359,200 active companies in 2021.

7.4 Accessories for dogs and games

This paragraph analyzes the production of accessories exclusively used by hunters, such as products for hunting dogs, tools to attract game during hunting activities, and equipment for handling game after the kill. Different estimation methods were adopted to calculate the number of companies, employees, and generated turnover in the following categories:

- Enclosures, cages, crates, kennels, mats, and carriers;
- Trailers for transporting small and medium-sized animals;
- Accessories for dog care (e.g., clippers);
- Straps, pulleys, containers, scales, hoists, and pluckers;
- Traditional and electronic collars, leashes, and locators;
- Dog training accessories (e.g., bird launchers, scent substances);
- Dog protections for wild boar hunting drives.

Similarly to the previous paragraph, data were updated by tracking the evolution of the number of active companies in Italy from 2010 to 2021 (Eurostat, 2022). As a result, we identified a total of 71 companies, 515 employees, and a turnover of 99,374,808 euros.

Feed for hunting dogs

For the production of feeds for hunting dogs, a different estimation method has been adopted. The calculation is based on the value of “*Production of products for the feeding of domestic animals*”²⁷, amounting to 820,400,000 euros; the number of employees engaged in this production, totaling 1,556²⁸; and the total number of domestic animals in Italy, which is 64,950,000 (Euromonitor, 2022).

Out of the total domestic animals, the number of dogs is 8,755,000²⁹, and among these, 906,100³⁰ are hunting dogs.

Furthermore, it has been estimated that 60% of pet feed is destined for dogs. Based on this data, the estimation of employees in the production of feed for hunting dogs has been carried out using turnover values, according to the following formula:

$$Tfhd = \left[(Tf \times 60\%) \times \left(\frac{Hd}{Td} \right) \right]$$

Where:

- Tfhd = Turnover of feed produced for hunting dogs
- Tf = Turnover from “Production of products for the feeding of domestic animals” (820,400,000 euros)
- Hd = Number of hunting dogs in Italy (906,100)
- Td = Total number of dogs in Italy (both hunting and non-hunting) (8,755,000)

²⁷ <https://www.nationmaster.com/nmx/ranking/prepared-pet-food-turnover>

²⁸ <https://www.nationmaster.com/nmx/ranking/prepared-pet-food-number-of-persons-employed>

²⁹ https://europeanpetfood.org/wp-content/uploads/2023/07/FEDIAF_Annual-Report_2023.pdf

³⁰ This value is derived from an average of 1.7 dogs owned by each hunter for the number of hunters (533,000). The number of dogs owned per hunter was estimated based on previous studies conducted (Eurispes, 2002) and taking into account the information gathered during interviews with industry experts.

The resulting value is equal to 50,944,450 euros. Given this revenue generated by the consumption of feed for hunting dogs, it is possible to calculate the corresponding number of employees involved in production by applying the same ratio between revenue from feed for hunting dogs and revenue from feed for domestic animals to the number of employees, according to the following formula:

$$Efhd = \left[(Ef) \times \left(\frac{Tfhd}{Tf} \right) \right]$$

Where:

- Efhd = Employees activated by the production of feed for hunting dogs
- Ef = Employees engaged in the "Production of products for the feeding of animals" (1,556)
- Tfhd = Turnover of feed generated by hunting dogs (50,944,450 euros)
- Tf = Turnover from "Production of products for the feeding of domestic animals" (820,400,000 euros)

The number of employees resulting from this calculation is 97.

Medicines and supplements for hunting dogs

For the analysis concerning the production of medicines and supplements for hunting dogs, an estimation method based on general sector data was adopted. Specifically, data regarding the industry's turnover and employees were considered:

- Turnover of the pharmaceutical industry in Italy: 26,531,930,000 euros³¹;
- Number of employees involved in the pharmaceutical industry: 65,490³².

Additionally, the annual expenditure on dogs by hunters was taken into account (1,265 euros), within which the expenditure on medicines and supplements was estimated at 65 euros per hunter, equivalent to 38 euros³³ per dog, based on an average of 1.7 dogs per hunter. Multiplying the estimated expenditure on medicines and supplements per dog (38 euros) by the number of hunting dogs (906,100) results in a turnover for the sector fueled by hunting of 20,254,000 euros. The following formula summarizes the calculation performed:

$$Tm = \left[\left(\frac{Aem}{Dh} \right) \times Di \right]$$

Where:

- Tm = Turnover of medicines and supplements realized thanks to hunting dogs
- Aem= Annual expenditure incurred by an average hunter for medicines and supplements (38 euros)
- Dh = Number of dogs owned on average by a hunter (1.7)
- Di = Number of hunting dogs in Italy (906,100)

³¹ https://ec.europa.eu/eurostat/databrowser/view/sbs_ovw_act__custom_12836816/default/table?lang=en

³² https://ec.europa.eu/eurostat/databrowser/view/sbs_ovw_act__custom_12836816/default/table?lang=en

³³ Starting from the data of the 2019 Italian research (equal to 33 euros), the 2023 value has been calculated on the basis of the Italian inflection.

Based on the turnover of the sector fueled by hunting, it is possible to identify the corresponding number of employees by applying to the total number of employees in the pharmaceutical industry (65,490) the same ratio between turnover generated by hunting dogs (20,254,000 euros) and the total turnover of the pharmaceutical industry (26,531,930,000 euros), which is equal to 0.00076. This calculation results in 50 employees in the pharmaceutical industry activated by the demand for medicines and supplements for hunting dogs. The following formula highlights the steps of the calculation:

$$Em = \left[\left(\frac{Tm}{Tpi} \right) \times Epi \right]$$

Where:

- Em = Employees activated by the demand for medicines and supplements for hunting dogs
- Tm = Turnover of medicines and supplements generated by hunting dogs (20,254,000 euros)
- Tpi = Turnover of the pharmaceutical industry (26,531,930,000 euros)
- Epi = Employees of the pharmaceutical industry (65,490)

Table 24.IT presents the summary results of the estimates regarding employment generated in sectors related to the production of accessories for dogs and game, amounting to a total of 662 employees. The corresponding production value totals 170,573,258 euros.

Tab. 24.IT - Number of companies, employees, and turnover generated by the production of accessories for dogs and game

Items	Number of firms	Employees	Turnover
Fences, cages, boxes, kennels, mats, and carriers; Transport carts; Dog care accessories: clippers, hygiene; Straps, pulleys, containers, scales, winches, and pluckers; Collars, leashes, electronic collars, and locators; Dog training accessories: collars, bird launchers, scents; Dog protections during hunts	71	515	99,374,808
Feed		97	50,944,450
Medicines and supplements		50	20,254,000
Total		662	170,573,258

7.5 Equipment and Materials for Shooting Ranges

Sports shooting activities usually take place within a Clay Pigeon Shooting Range (CPSR), a National Target Shooting Range (NTSR), or a private shooting range. Within these ranges, a variety of equipment and materials are required, ranging from clay target throwers to brass casing disposal machines, from containers for the ranges to control panels for scoreboards, and finally to clay targets and targets.

Also in this case, although the aim is to estimate employment in sectors related to the production of equipment and materials for shooting ranges, the number of manufacturers and the turnover generated have also been identified.

In particular, the following categories have been considered:

- Clay pigeon throwing machines and brass case disposal machines;
- Clay pigeons;
- Containers;
- Electronic Scoreboards;
- Targets;
- Metal Silhouettes.

Overall, in 2019, across all the aforementioned categories, a total of 52 companies, 276 employees, and a turnover of 34,092,150 euros were identified. These data were updated by tracking the evolution of the number of active companies in Italy from 2010 to 2019.

By employing a similar methodology and gathering information on the number of active companies in Italy in 2021 (Eurostat, 2022), we identified a total of 50 companies, 266 employees, and a turnover of 32,892,241 euros.

7.6 Conclusions

This chapter provided a descriptive overview of the sectors involved in the production of products used in the context of sports shooting and hunting activities. Although the primary objective was to estimate the employment generated by these activities, the turnover for each product category was also identified.

The research led to an estimated total turnover of 658,495,944 euros, with a total of number of 5,243 employees.

While turnover is not included in the calculation of the economic impact of sectors related to the final demand for firearms and ammunition (see Chapter 9) – as this value is already accounted for in the expenditure incurred by hunters and shooters (calculated in Chapter 6) – counting the employees involved in the production of products aimed at the hunting and shooting market allows for the calculation of the employment impact in sectors related to final demand, along with the calculation of employment in companies providing services, as conducted in Chapter 8.

However, similar to the methodology adopted in previous Italian research (2019), a corrective measure of 5% was necessary for the companies examined in this chapter to adjust for underestimated employment data.

This corrective measure corresponds to 262 employees, bringing the total number of employees engaged in the production of products for hunters and shooters to 5,505 units (Table 25.IT).

Tab. 25.IT – Employment and Turnover in Sectors Related to Final Demand – Products

Category	Employees	Turnover
Hunters' and Shooters' Clothing and Footwear	1,900	175,595,272
Accessories for firearms, Hunting, and Shooting	2,415	279,435,173
Animal Accessories	662	170,573,258
Equipment and Materials for Shooting Ranges and Shooting Fields	266	32,892,241
Total without Correction	5,243	658,495,944
Correction (+ 5%)	262	
Total with Correction	5,505	

CHAPTER 8: EMPLOYMENT IN SECTORS CONNECTED TO THE FINAL DEMAND OF HUNTERS AND SHOOTERS: SERVICES

8.1 Introduction

In this chapter, employment within the organizations that provide services used for hunting and sport-shooting practices is calculated, concerning the following sectors: associations and federations (Par. 8.2), shooting ranges (Par. 8.3), hunting areas (Par. 8.4), communication channels (Par. 8.5), and other services (Par. 8.6).

To determine the employment impact, an estimation of the number of employees engaged was calculated for each activity, using different methods based on the available data and the level of specialization of the companies involved (whether they are specialized only in the hunting and shooting market or cater to a broader one).

For calculating the number of employees in other types of services, the following estimation methods were used:

- the estimation of employees involved in the management of associations and federations, shooting ranges, hunting areas, and communication channels, as well as for the estimation of taxidermists, was obtained through desk research;
- the estimation of the number of employees in sectors that cater to broader markets than hunting and shooting, such as travel agencies and tour operators, food and beverage, distribution of sporting goods, and insurance, was determined by proportionally applying the turnover absorbed by the demand for hunting and shooting with the total sector turnover, and applying the same ratio to the total number of employees.

8.2 Associations and Federations

In this paragraph, the number of employees related to the (i) associations of firearms and ammunition producers and gun shops; (ii) hunting federations; and (iii) shooting associations has been estimated.

Regarding *associations of firearms and ammunition producers and gun shops*, according to the previous Italian research (2019), Table 26.IT indicates a total of 15 employees.

Tab. 26.IT – Number of employees in Associations of Firearms and Ammunition Producers and gun shops

Associations of producers and gun shops	Number of employees
ANPAM (Associazione Nazionale Produttori Armi e Munizioni) ³⁴	7
Consorzio Armaioli Italiani ³⁵	1
CNCN ³⁶	1
ASSOARMIERI ³⁷	6
Total	15

³⁴ <https://www.anpam.it/>

³⁵ <https://www.conarmi.org/>

³⁶ <https://www.cncn.it/>

³⁷ <https://www.assoarmieri.it/>

According to Italian research (2019), the number of employees associated with *hunting federations*, as shown in Table 27.IT, totals 311.

Tab. 27.IT - Number of employees in hunting federations

Hunting federations	Number of employees
Federaccia ³⁸	82
ANLC (Associazione Nazionale Libera Caccia) ³⁹	113
ENALCACCIA ⁴⁰	10
ITALCACCIA ⁴¹	4
ANUU Migratoristi ⁴²	3
ARCICACCIA ⁴³	7
EPS (Ente Produttori Selvaggina) ⁴⁴	5
ISPRA (ex INFS) (quota caccia) ⁴⁵	79
Others (e.g., CONFAVI, CPA, CPAD, CST, Segugi e segugisti, ACMA)	8
Total	311

About *shooting associations*, the total number of employees in 2019 was 168 (Tab. 28.IT). Additionally, an estimated total of 224 competition judges and 889 trainers have been reported.

Tab. 28.IT – Number of employees in shooting associations

Shooting associations	Number of employees	Competition judges	Trainers
FITAV (Federazione Italiana Tiro a Volo) ⁴⁶	22	1,000	260
FIDASC (Federazione Italiana Disciplina con armi sportive e da caccia) ⁴⁷	13	428	114
UITS (Unione Italiana Tiro a Segno) ⁴⁸	19	709	2,976
FITDS (Federazione Italiana Tiro Dinamico Sportivo) ⁴⁹	113	0	165
IDPA (International Defensive Shooting Association) ⁵⁰	Volunteers	100	1
FIAS (Federazione Italiana Action Shooting) ⁵¹	-	0	34
CNDA (Consociazione Nazionale degli Archibugieri) ⁵²	Volunteers	0	0
CANNE TONANTI ⁵³	-	0	0
Old West Shooting Society ⁵⁴	1	0	0
Other 2 associations		0	0
Long Shooting Range Italia	Volunteers	0	0
ASNWG (Associazione Sportiva Nazionale Wargames) ⁵⁵	Nd	0	0

³⁸ <https://www.federaccia.org/>

³⁹ <https://www.anlc.it/>

⁴⁰ <https://www.enalcaccianazionale.it/>

⁴¹ <https://www.italcaccia.net/>

⁴² https://www.anuu.org/home_25_0_0_ita.html

⁴³ <https://www.arcicaccianazionale.it/>

⁴⁴ <https://epsitalia.org/direzione/>

⁴⁵ <https://www.isprambiente.gov.it/it>

⁴⁶ <https://www.fitav.it/>

⁴⁷ <https://www.fidasc.it/it/>

⁴⁸ <https://www.uits.it/>

⁴⁹ <https://fitds.it/>

⁵⁰ <https://www.idpa.com/>

⁵¹ <https://www.fias.it/>

⁵² <https://cnda.it/>

⁵³ <http://www.westernclubct.com/>

⁵⁴ <https://www.owss.it/>

⁵⁵ <https://www.softairmania.it/forums/251-ASNWG-Associazione-Sportiva-Nazionale-War-Games>

FTI (Federazione Field Target Italia) ⁵⁶	Volunteers	0	0
IFTA (International Federation of Field Target Association) ⁵⁷	Volunteers	0	0
Circuito Armi e tiro	-	0	0
FISI (Federazione Italiana Sport Invernali) ⁵⁸	-	0	6
Total	168	2,237	3,556
Total number of employees for the final estimation	168	224*	889**

* Estimated compensation corresponding to a commitment of 10% relative to full-time equivalent.

** Estimated part-time commitment for 25% of the time.

8.3 Shooting ranges

In this paragraph, according to Italian data (2019), there is a total of 859 *shooting ranges* used for practicing clay target shooting, target shooting, and other disciplines. Regarding the number of employees, we considered an average of two paid employees per shooting range. Therefore, a total of 1,718 employees was calculated (Tab. 29.IT).

Tab. 29.IT – Number of employees in shooting ranges

Typology of shooting range	Number of shooting ranges	Number of employees
TAV (Tiro a Volo)	366	732
TSN (Tiro a Segno Nazionale)	399	798
Private ranges and other shooting fields	94	188
Total	859	1,718

8.4 Hunting areas

With specific regard to *hunting areas*, according to the previous Italian research (2019), it is necessary to consider the number of employees related to different categories: (i) ATC (Ambiti Territoriali di Caccia); (ii) CA (Comprensori Alpini); (iii) Game and hunting farm business; (iv) Wildlife protection and refuge oases; (v) Game re-population and capture areas; (vi) Areas for dog training, breeding, and dog competitions; (vii) Hunting agents. In total, the number of employees in these hunting areas amounts to 16,297.

Tab. 30.IT – Number of employees in hunting areas

Hunting areas	Number of Employees
ATC (Ambiti Territoriali di Caccia)	270
CA (Comprensori Alpini)	52
Game and hunting farm business	2,600
Wildlife protection and refuge oases	2,442
Game re-population and capture areas	3,315
Areas for dog training, breeding, and dog competitions	4,515
Hunting agents	3,103
Total	16,297

⁵⁶ <http://www.fieldtarget.it/portale/>

⁵⁷ <https://www.world-field-target-federation.org/>

⁵⁸ <https://fisi.org/>

8.5 Communicational channels

This paragraph examines the employment generated by activities focused on promoting products and services related to hunting and sport shooting, differentiated by type of media.

In particular, given that one of the most widely used communication channels is the trade show, Table 31.IT highlights the most relevant ones in the Italian hunting and shooting sector.

Tab. 31.IT - National trade shows related to the hunting and shooting sector

Trade show	Website
Hit Show – Vicenza (cancelled in 2023)	https://www.armietiro.it/cancellata-hit-show-2023-a-vicenza
Expo del cacciatore passione naturale - Riva del Garda	https://labusa.info/nel-2022-a-riva-del-garda-arriva-la-fiera-della-caccia/
Exa - Brescia	https://www.cacciapassione.com/dopo-6-anni-torna-a-brescia-exa-la-fiera-delle-armi-sportive-e-da-caccia/
Caccia pesca e natura – Longarone	https://www.longaronefiere.it/caccia-pesca-e-natura
EOS (European Outdoor Show)	https://www.eos-show.com/
Caccia Village - Bastia Umbra	https://cacciavillage.it/
Sagra della Caccia Bereguardo	https://sagradellacaccia.it/
Game fair Italia – Grosseto	https://www.gamefairitalia.it/

Moreover, in addition to trade shows, the following communication channels have also been considered: (i) websites; (ii) specialized hunting and shooting press; (iii) television channels; and (iv) specialized publishing through books and digital devices. Overall, according to previous Italian research (2019), the total number of employees engaged in the hunting and shooting sector amounts to 706.

Tab. 32.IT – Number of employees in communication activities by media typology

Communicational channel	Employees activated by hunting and shooting
Trade shows	206
Websites	50
Magazines	250
TV	100
Books and digital devices	100
Total	706

8.6 Other services

To complete the analysis, it is also necessary to consider all the services that hunters and shooters typically use during their activities. These services range from organizing trips to providing insurance for hunting, veterinary services for dogs, and food and beverage. The main services considered are: (i) travel agencies and tour operators; (ii) food and beverage services; (iii) distribution of related products; (iv) taxidermists; (v) veterinarians; and (vi) insurance for hunters and dogs.

Travel agencies and tour operators

To estimate the number of employees in the travel brokerage sector activated by the demand of hunters and shooters, a calculation has been realized based on the expenses they incurred for accommodations, travel, and trips in Italy and abroad. As seen in Chapter 6, this expenditure totals 360,028,819 euros annually (Tab. 33.IT)⁵⁹.

Tab. 33.IT – Expenditure incurred by hunters and shooters for accommodations, travel, and trips abroad

	Number of hunters/shooters	Annual expenditure for accommodations, travel, and trips abroad
Hunters	533,000	210,870,790
Non-shooting hunters	815,176	107,505,411
Clay target shooters (FITAV)	20,983	10,701,330
Clay target shooters (Hunters)	134,316	14,774,760
Target shooters (UITs)	60,543	3,693,123
Target shooters (Hunters)	74,087	-
Sport shooters (FIDASC)	7,130	5,461,580
Practical shooters (FITDS)	3,675	1,135,575
Practical shooters (Hunters)	39,442	-
Other shooting specialties (Defensive shooting; Field Target; "Five at 200" and Long range; Old West Shooting; Soft air; other specialties)	13,850	5,886,250 ⁶⁰
Total		360,028,819

Considering that the turnover of travel agencies from holiday package sales to Italians is 4,155,690,000 euros (Eurostat, 2021)⁶¹, and that the number of employees in travel agencies and tour operators is 34,168 (Eurostat, 2021)⁶², it is possible, by proportioning, to calculate the number of employees virtually engaged in meeting the demand of hunters and shooters, which amounts to 2,960. This value was obtained using the following formula:

$$E_{hs} = \left(\frac{Ex_{hs}}{T_t} \right) \times E_i$$

Where:

- E_{hs} = Number of travel agency and tour operator employees activated by hunting and shooting.
- Ex_{hs} = Expenditure by hunters and shooters on travel and trips abroad (360,028,819 euros)
- T_t = Total turnover of travel agencies in Italy (4,155,690,000 euros)
- E_i = Number of travel agency and tour operator employees in Italy (34,168)

⁵⁹ The calculation has been realized by multiplying the per capita expenditure (calculated separately for hunting and for each type of sport shooting) by the number of practitioners of the respective disciplines in Italy.

⁶⁰ Since this data was unavailable, we calculated the percentage of expenditure for these specific items, starting from the expenses of other categories of shooters, relative to the total expenditure. This analysis showed that the expenditure on accommodations, travel, and trips abroad constituted about 10% of the total expenditure.

⁶¹ https://ec.europa.eu/eurostat/databrowser/view/sbs_ovw_act_custom_12837403/default/table?lang=en

⁶² https://ec.europa.eu/eurostat/databrowser/view/sbs_ovw_act_custom_12837403/default/table?lang=en

Food and beverage

Also in this case, for calculating the number of employees in the food and beverage sector, the expenditure on restaurants and bars incurred by hunters and shooters was used as a reference, which, as illustrated in Chapter 6, amounts to 295,481,590 euros (Tab. 34.IT). This value was calculated by considering an average annual expenditure per capita of 255 euros⁶³ for hunters and shooters, and 85 euros for hunters without shooting (one third of the expenditure of hunters). These values were then multiplied by the number of (i) hunters; (ii) hunters without shooting; (iii) shooters.

Tab. 34.IT – Expenditure incurred by hunters and shooters on food and beverage

Hunters and shooters	Annual expenditure
Annual expenditure (hunters)	135,915,000
Annual expenditure (non-shooting hunters)	69,289,960
Annual expenditure (shooters)	90,276,630
Total	295,481,590

Considering that the turnover of the national food and beverage sector is 50,892,130,000⁶⁴ and that there are a total of 1,187,208 employees (Eurostat, 2021)⁶⁵, it is possible, by proportion, to calculate the number of employees virtually engaged in meeting the demand of hunters and shooters, which amounts to 6,893. In detail, this value was obtained by applying the following formula:

$$Efb = \left(\frac{Exfb}{Tfb} \right) \times Efb$$

Where:

- Efb = Food and beverage employees activated by hunting and shooting
- Exfb = Expenditure of shooters and hunters on food and beverage (295,481,590 euros)
- Tfb = Turnover of the food and beverage sector (50,892,130,000 euros)
- Efb = Total employees in the food and beverage sector (1,187,208)

Distribution of related products (excluding hunting and fishing gear stores)

Chapter 4 presented data regarding gun shops as commercial establishments primarily engaged in the retail distribution of firearms and ammunition. Their number was found to be 900, involving a total of 2,700 employees with an estimated total turnover of 444,532,653 euros. Alongside this distribution structure, which is an integral part of the firearms sector as it is necessary for distributing firearms and ammunition, there is another related to firearms users, particularly hunters, focused on the sale of accessories used for hunting. These are the “Hunting and Fishing” stores that sell clothing, knives, camping gear, etc., and derive a significant part of their turnover by targeting hunters. These stores have been estimated at one tenth of the retail stores dealing in “Retail sale of sporting equipment, bicycles, firearms and ammunition, leisure articles” and, according to Eurostat (2021), total 8,091 with 33,656 employees. Consequently, this corresponds to 809 stores with 3,366 employees serving the hunter market.

⁶³ In the Italian research of 2012, the average annual expenditure per capita was 200 euros; however, by considering the inflation value, the current considered value in 2023 is equal to 255 euros.

⁶⁴ https://ec.europa.eu/eurostat/databrowser/view/sbs_ovw_act_custom_12837403/default/table?lang=en

⁶⁵ https://ec.europa.eu/eurostat/databrowser/view/sbs_ovw_act_custom_12837403/default/table?lang=en

Taxidermists

Among the services related to hunting, taxidermy must also be considered, which involves a set of techniques aimed at preserving an animal body from decomposition. According to previous Italian research, a total of 60 taxidermists are estimated to be present in Italy.

Veterinarians

For calculating the manpower effort of veterinarians absorbed by the demand for hunting dogs, data provided by Federation of Veterinarians of Europe (FVE, 2023) regarding the number of veterinarians in Italy (i.e., 30,100) was used⁶⁶. According to the same source, the average income per veterinarian is about 31,200 euros annually⁶⁷. The annual turnover generated by all veterinarians, obtained by multiplying the average individual turnover by the number of veterinarians, is 939,120,000 euros. Assuming that 50% of the veterinarians' turnover (469,560,000 euros) comes from dogs, and considering that there are 8,755,000 dogs in Italy⁶⁸, this results in an average turnover per veterinarian per dog of 54 euros. Since hunting dogs have been estimated at 906,100, by multiplying the turnover per dog by the number of hunting dogs, a total turnover of 48,929,400 euros derived from hunting dogs is obtained. Relating this value to the total turnover generated by veterinarians (939,120,000 euros) and applying the same proportion to the total number of veterinarians (30,100), a number of veterinarians equivalent to a full-time commitment absorbed by hunting dogs is calculated to be 1,558. The formula below summarizes the calculation performed:

$$Vh = \left\{ \left[\left(\frac{Tv \times 50\%}{Td} \right) \times Hd \right] \times Vi \right\} / Tv$$

Where:

- Vh = Veterinarians virtually engaged full-time by hunting dogs.
- Tv = Annual turnover generated by veterinarians (939,120,000 euros)
- Td = Total dogs (8,755,000)
- Hd = Hunting dogs (906,100)
- Vi = Number of veterinarians in Italy (30,100)

Insurance for hunters and dogs

To calculate the number of insurance sector employees activated by the demand from hunters and for dogs, we started with the total expenditure annually paid by hunters (40,811,810 euros), which was calculated by assuming that each hunter spends 76.57 euros⁶⁹ on insurance (usually included in the cost of affiliation with a Federation, or, in the case of non-affiliation, individually purchased). Considering that the turnover of the insurance sector is 145,040,330,000 euros (Eurostat, 2021)⁷⁰ and that the employees are 40,452 (Eurostat, 2021)⁷¹, we related the turnover generated by hunters (40,811,810 euros) with that of the entire insurance sector (145,040,330,000 euros), and subsequently multiplied this result by the total number employees in insurance companies, intermediaries, and agencies (40,452). Overall, the total number of insurance sector employees virtually engaged full-time by the demand from hunters is 11.

⁶⁶ https://fve.org/cms/wp-content/uploads/FVE-Survey-2023_updated-v3.pdf (p. 155)

⁶⁷ https://fve.org/cms/wp-content/uploads/FVE-Survey-2023_updated-v3.pdf (p. 74)

⁶⁸ https://europeanpetfood.org/wp-content/uploads/2023/07/FEDIAF_Annual-Report_2023.pdf

⁶⁹ In the Italian research of 2012, the average annual expenditure per capita was 60 euros; however, by considering the inflation value, the current considered value in 2023 is equal to 76,57 euros.

⁷⁰ https://ec.europa.eu/eurostat/databrowser/view/sbs_ovw_act_custom_12838096/default/table?lang=en

⁷¹ https://ec.europa.eu/eurostat/databrowser/view/sbs_ovw_act_custom_12838096/default/table?lang=en

In detail, this value was obtained by applying the following formula:

$$Eh = \left(\frac{Ei}{Ti} \right) \times TeI$$

Where:

- Eh = Insurance employees activated by hunting
- Ei = Hunters' expenditure on insurance (40,811,810 euros)
- Ti = Turnover of the insurance sector (145,040,330,000 euros)
- TeI = Total employees of insurance companies, intermediaries, and agencies (40,452)

Table 35.IT summarizes the number of employees involved in providing auxiliary services that hunters and shooters typically use during their activities. Specifically, the number of employees amounts to 14,848.

Tab. 35.IT - Number of operators and employees activated by hunting and shooting under the "Other Services" category

Other services	Number of employees
Travel agencies and tour operators	2,960
Catering	6,893
Distribution of related products	3,366
Taxidermists	60
Veterinarians	1,558
Insurance	11
Total	14,848

8.7 Conclusions

The chapter described the different sectors related to providing services aimed at hunters and sport shooters for conducting their activities. As seen, this scope included the associative bodies that support industry businesses and those that bring together practitioners of various sports and hunting disciplines. It also included all operators who contribute in different capacities to the conduction of sporting events, organizations responsible for managing hunting areas, and all those activities that contribute to completing the framework of services that hunters and shooters use, from publishing to trade and promotional events to insurance services, veterinary services, and even including travel brokerage activities and the food and beverage sector.

Since the goal was to detect the employment impact generated by hunting and sport shooting activities, the number of employees involved in all these services was calculated. In the case of services aimed at a broader market than that consisting of hunters and shooters, such as in food and beverage or insurance services, the share of employees attributable to the hunting and shooting market was calculated based on the ratio between the demand driven by hunters and shooters and the total demand that each sector addresses.

Overall, the number of employees involved in providing services related to the final demand amounts to 35,176 (Tab. 36.IT). This estimate, combined with the number of employees identified in sectors producing goods aimed at the final demand of hunters and shooters, enables the calculation of the indirect employment impact generated by the sector (see Chap. 9).

Tab. 36.IT - Number of employees due to the provision of services for hunting and shooting

Services	Number of employees
Associations of firearms and ammunitions producers and gun shops	15
Hunting federations	311
Shooting associations	168
Competition judges	224
Trainers	889
Shooting ranges	1,718
Hunting areas	16,297
Communication channels	706
Other services	14,848
Total	35,176

CHAPTER 9: THE OVERALL VALUE OF THE CORE SECTOR AND RELATED SECTORS

9.1 Introduction

Overall, the conducted analysis has allowed to identify the economic and employment impact of the firearms sector, taking into account not only the companies producing firearms and ammunition but also those belonging to the upstream (supply chain) and downstream (distribution structure) sectors, as well as companies in other sectors that provide products and services for users of firearms for sporting and hunting purposes, such as sport shooters and hunters.

In this chapter, we present the methodology used to estimate the induced economic and employment effects related to the demand for all kinds of consumer products and services, generated by the employees within the sectors considered. This demand generates corresponding production in other sectors of the economy, based on shares calculated using sectoral interdependence tables (input-output matrices). This approach has been adopted since the value generated by one sector spreads to other sectors, creating a multiplier effect on both the value and employment across all sectors that contribute to the national economy.

9.2 The economic impact

Regarding the economic impact, it is necessary to start from the impact of companies in the firearms and ammunition sector and auxiliary ones, which is equal to 1,376,240,995 euros (See Chapter 5 – Paragraph 5.2). To this initial data, we must add the value of the sectors linked to the final demand of hunters and shooters (see Table 37.IT).

Tab. 37.IT - The value of sectors linked to the final demand of hunters and shooters

	Number	Annual expense per capita	Total expense	Total expense excluding firearm and ammunition
Hunters and non-shooting hunters				
Hunters	533,000	4,270.25	2,276,043,250	2,108,094,950
Non-shooting hunters	815,176	427	348,080,152	348,080,152
TOTAL HUNTERS AND NON-SHOOTING HUNTERS	1,348,176	4,697.25	2,624,123,402	2,456,175,102
Shooters				
Clay target shooters (FITAV)	20,983	7,004	146,964,932	104,707,478
Clay target shooters (Hunters)	134,316	1,385	186,027,660	161,447,832
Target shooters (UITs)	60,543	6,031	365,134,833	298,453,378
Target shooters (Hunters)	74,087	1,564	115,872,068	108,402,617
Sport shooters (FIDASC)	7,130	7,792	55,556,960	39,177,781
Practical shooters (FITDS)	3,675	7,285	26,772,375	12,819,135
Practical shooters (Hunters)	39,442	1,575	62,121,150	33,026,364
Other shooting specialities (Defensive shooting; Field Target; "Five at 200" and Long range; Old West Shooting; Soft air; other specialities)	13,850	4,250	58,862,500	53,204,576
TOTAL SHOOTERS	354,026	36,886	1,017,312,478	811,239,161
TOTAL HUNTERS + SHOOTERS	1,702,202		3,641,435,880	3,267,414,263

9.3 The employment impact

With regard to the employment impact, in this case as well, we proceed by considering the impact of companies in the firearms and ammunition sector and auxiliary ones, which is equal to 10,081 (See Chapter 5 – Paragraph 5.3). Moreover, the estimate of employees was made by dividing products and services into the following main categories:

1) Products:

- Clothing and footwear for hunters and shooters;
- Accessories for firearms, hunting, and shooting;
- Accessories for dogs and game;
- Equipment for shooting ranges.

2) Services:

- Associations of firearms and ammunition manufacturers;
- Associations of firearms and hunting product retailers;
- Hunting federations;
- Shooting associations;
- Shooting ranges;
- Hunting areas;
- Communication channels;
- Other services (travel agencies and tour operators, catering, taxidermists, veterinarians, insurance).

In particular, Table 38.IT shows the total number of employees for the final demand for both products and services.

Tab. 38.IT – Employment in Sectors Related to Final Demand – Products and services

CATEGORY - PRODUCTS	Employees
Hunters' and Shooters' Clothing and Footwear	1,900
Accessories for firearms, Hunting, and Shooting	2,415
Animal Accessories	662
Equipment and Materials for Shooting Ranges and Shooting Fields	266
Total without Correction	5,243
Correction (+ 5%)	262
Total with Correction	5,505
CATEGORY - SERVICES	Number of employees
Associations of firearms and ammunitions producers and gun shops	15
Hunting federations	311
Shooting associations	168
Competition judges	224
Trainers	889
Shooting ranges	1,718
Hunting areas	16,297
Communication channels	706
Other services	14,848
Total	35,176
TOTAL PRODUCTS + SERVICES	40,681

9.4 The induced effects

The methodology adopted for estimating the induced effects is based on the use of a model known as “Input/Output”, which in turn employs Input-Output (I-O)⁷² tables. These tables serve as the primary tool for analyzing the sectoral interdependencies between the quantities demanded and the quantities supplied.

In particular, the analysis of the induced effect was carried out using the inverse matrix of the I-O system, defined by the following equation:

$$X=(I-A)^{-1}d$$

where A represents the matrix of technical coefficients and d the final demand. The *inverse*, which allows the identification of row or column multipliers through the sum of the coefficients, is the main tool for impact analysis. By summing the *inverse* in the direction of the columns, the total effects on the production of various sectors resulting from a unitary variation in the final demand of a particular purchasing sector can be observed. Therefore, it was possible to measure how a demand of 1 euro in the firearms sector translates into an increase in the production of the entire economy and its respective branches: this coefficient is called the production multiplier (Di Carlo and Santarelli, 2011).

According to previous Italian research (2019), by applying prudent criteria, the identified value of the multiplier was found to be 0.835. This coefficient is consistent with the impact of imports on the total resources (domestic plus imports) of the examined sector.

Since the economic value of the sector (production of arms and ammunition, including the supply system and distributors) amounts to 1,376,240,995 euros, the induced effect calculated by applying the above-identified coefficient results in 1,149,161,231 euros, leading to a total economic impact of 2,525,402,226 euros.

In total, considering the value of the sector and the related induced effect, plus the value of sectors connected to the final demand of hunters and shooters (3,267,414,263 euros), the total value amounts to 5,792,816,489 euros, equivalent to 0.27% of Gross Domestic Product (GDP) (Tab. 39.IT).

For observing the induced economic effect for the sectors connected to the final demand (hunting and shooting), it is possible to follow the same approach. In this case, the greater dependency on imports that characterizes these sectors was considered, leading to a lower multiplier effect, estimated at a coefficient of 0.7. Given that the value of the sectors connected to the final demand for products and services by hunters and sport shooters amounts to 3,267,414,263 euros, the induced effect of the connected sectors is 2,287,189,984 euros.

Following the estimate of the induced effect for the connected sectors, the total value of the sector reaches 8,080,006,473 euros, resulting from the sum of 5,792,816,489 euros (value of the sector and related induced effect + value of connected sectors) with 2,287,189,984 euros (value of the induced effect for connected sectors). In this case, the impact on national GDP rises to 0.38%.

⁷² The Input-Output (I-O) table is a tool proposed by Nobel Prize-winning economist Wassily Leontief (1936) and represents an evolution/formalization of the so-called “*tableau économique*” proposed in 1758 by the French physiocratic economist François Quesnay (Romano, 2011). The I-O table is composed of three parts: (1) **Table of intermediate uses**: the first part of the table is of greatest interest as it describes all intermediate flows between various production branches before the final product is available for the consumer or investment markets. It appears as a square matrix where each row and column corresponds to a homogeneous production branch. The columns record the flows of goods and services that each sector receives (purchases) from all others, while the rows record the flows that each sector provides (sells) to all others; (2) **Table or matrix of final uses**: the second part of the table provides a breakdown of the components of final demand (consumption, gross fixed investments, changes in inventories, and exports). It shows the goods and services that flow from the originating branches to the final demand. This is also a double-entry table, where the rows again represent the branches, and the columns represent the final uses of the products; (3) **Table or matrix of primary uses and resources**: the third part reports the value added and its components (wages, social charges, other income, and depreciation), taxes, production, imports, and the total resources of the production branches. Here, the rows list costs and resources (primary inputs—the remuneration of production factors), while the columns represent the branches. Reading the table by columns shows the process of resource formation and the cost structure of production for each productive branch. Reading by rows provides the distribution of uses and resources within a country’s economy (University of Calabria, 1999).

Tab. 39.IT - Total economic value of the firearms and ammunition sector and sectors connected to final demand

	Value	Impact on GDP
Value of production to the final user + exports (direct and indirect economic impact)	1,376,240,995	0.06%
Induced economic impact	1,149,161,231	0.05%
Total economic impact	2,525,402,226	0.12%
Value of sectors connected to final demand (hunting and shooting)	3,267,414,263	0.15%
TOTAL	5,792,816,489	0.27%
Induced effect of connected sectors	2,287,189,984	0.11%
TOTAL	8,080,006,473	0.38%

A similar calculation to that used for the induced economic effect was conducted to estimate the employment multiplier (Tab. 40.IT), which corresponds to the induced effect on employment.

For estimating the employment effect, two different multipliers were identified. The first multiplier, equal to 0.88, is related to employment generated by the production of firearms, ammunition, and their associated upstream and downstream supply chains. This multiplier is higher than the one calculated for the economic effect (0.045) because the resources purchased outside the reference system (i.e., abroad) have a lower labor content, resulting in a smaller share of employment generated abroad. Therefore, considering that the number of employees in the sector (including the production of firearms and ammunition, as well as the supply and distribution systems) is 10,081, the induced employment effect is estimated at 8,872 units, leading to a total of 18,953 employees.

Taking into account the employees in the sector and the corresponding induced effect, along with the employees in sectors connected to the final demand of hunters and shooters, which amount to 40,681, the total reaches 59,634 employees. This figure is equivalent to 0.45% of the total workforce in the manufacturing and service sectors (excluding public services) in Italy.

Tab. 40.IT - Total employment of the firearms and ammunition sector and sectors connected to final demand

	Employees	% of total employment in Italy	% of total employment in manufacturing and services (excluding public services)
Sector employees + Suppliers	10,081	0.06%	0.08%
Induced employment impact	8,872	0.05%	0.07%
Total employment impact	18,953	0.11%	0.14%
Employees of the sectors connected to final demand (hunting and shooting)	40,681	0.23%	0.31%
TOTAL	59,634	0.34%	0.45%
Induced effect of connected sectors	28,477	0.16%	0.21%
TOTAL	88,111	0.50%	0.66%

Similarly to the approach used for estimating the sector's economic value, the induced employment effect in sectors connected to the final demand (hunting and shooting) can be analyzed using the same methodology. The multiplier coefficient identified is 0.7, accounting for the greater dependence on imports that characterizes these sectors, analogous to the calculation of the economic impact. Based on this multiplier, the additional estimated employment is 28,477 positions.

Therefore, including both the sector's multiplier and that for the sectors connected to the final demand of hunters and shooters, the total estimated employment impact is 88,111 positions. This data represents 0.50% of the total workforce in Italy and 0.66% of those employed in the manufacturing and service sectors.