RESPONSE TO CONSULTATION ON THE RESTRICTION REPORT FOR LEAD AND IT COMPOUNDS

Impact assessment of the restriction on European firearms manufacturers

Submitter: **IEACS / ESFAM**
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Executive summary

AFEMS together with IEACS and ESFAM launched a survey to collect input from firearm manufacturer companies on the current production of firearms using lead containing and lead-free ammunition and their views on substitution. This study reports the findings of the survey and an impact assessment related to the survey results. The key learnings from the impact assessment undertaken was the large size and the complex characteristics of the industry, and that the proposed restriction would have severe negative socio-economic impacts on the firearms manufacturers and the related European society.

60 % of the industry are likely to continue exporting their current firearm portfolio for lead containing ammunition in case of the restriction. In terms of transition to lead-free ammunition, the industry is quite divided. Half of the industry will face issues for the majority of their portfolio. This is likely due to firearms categories they are producing. For some categories, lead-free ammo has already been developed. However, 65 % are not in a good position concerning substitution. For the entire portfolio, it typically takes more than five years to fully switch the firearm portfolio that is impacted by the scope of the restriction to discharge lead free ammunition. To avoid negative impacts firearms manufacturers need an extension of more than five years to the entry into force.

Restriction on the consumers' end-use affects critically to the firearms manufacturers. The magnitude is different between the companies who are exporting and the companies who are focusing on the internal markets. Manufacturers who mainly produce for the European market face the severest difficulties. One fifth of the industry will stop producing firearms categories impacted by the restriction. One third will keep exporting the impacted firearms categories. European market is open for the companies who can adapt their portfolio to lead-free. One third can adapt their portfolio in longer terms and only one sixth in shorter term. Potentially up to half of the industry is facing adversities, even business closures, if the restriction comes into force without 5-10 years transition period.

Based on the methodology used it can be concluded that annually the industry records a revenue of nearly 6 Billion euros and profit of over 0.6 Billion euros and employs nearly 22 thousand employees. A premature restriction would endanger at least half of this and undoubtedly results in business closures of approx. 20 % of the companies. Annual monetary losses in terms of revenue and profit are estimated potentially up to 3 Billion euros and 334 Million euros respectively, and over 11,000 jobs lost in the EEA.

The scope of the study are the direct impacts of the restriction on the firearms manufacturers. In addition, there will be significant indirect negative impacts e.g. on their supply chain and customers which are not considered in this study.

The submitters request that these monetary costs related to business and welfare losses are considered in the impact assessment of the Annex XV restriction report.

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Introduction

Aims of the Analysis

This analysis aims to present European firearms manufacturer industry and socio-economic impacts of the proposed restriction on lead ammunition. The industry is presented via business indicators, other characteristics information and information about ability to substitute lead in ammunition collected with an online survey developed for this purpose. This analysis assesses what would happen to the European firearms manufacturers in terms of revenue, profit, and employment if the proposed restriction on lead ammunition would take place.

Two associations present the European firearms manufacturers, IEACS[1] and ESFAM[2]. IEACS (European Institute of Hunting and Sporting Arms) is an all-around non-profit association for national European associations of manufacturers of sport shooting firearms. IEACS represents virtually 1,000 companies involved in the whole sector, and about 150 manufacturers of civilian firearms across Europe. ESFAM (Association of European Manufacturers of Sporting Firearms) is an international non-profit association whose members are leading European manufacturers of hunting and sport shooting weapons.

Methodology

Surveys

Two surveys were prepared and released during the information gathering. The first was more general, and it was targeted for the national associations to gather background information. The second was more detailed, and it targeted firearm manufacturer companies to gather information on the current production of firearms using lead containing and lead-free ammunition. For shotguns, the surveys differentiate calibres between those where steel shot is generally available and those where it is not. Also, a second grouping was used for shotguns based on whether they would be suitable, have limited suitability, or be unsuitable to be reproofed/modified to fire steel shot. For rifles, the survey differentiates between rimfire and centrefire as this is important for the availability of non-lead rifle ammunition. For centrefire, the survey differentiates between ≤ 6.5 mm and > 6.5 mm as this is also a relevant current distinction for the availability of non-lead rifle ammunition. Short firearms, muzzle loaders and air-powered firearms were considered separately. For these groups the information collected consisted of insights to civilian/non-civilian portfolio, ability to and duration of substitution, production, revenue, profit, employment, non-use scenarios and impacts of the proposed restriction.

Extrapolation

Extrapolation of monetary figures, production volumes and employment was used in this analysis to understand the industry and impacts as entirety. Twenty companies responded the survey. As the industry is comprised of approx. 150 firearms manufacturers, roughly 13 % of the industry responded. Average figures were derived from the responses and this extrapolated to cover 150 by multiplication.

[1] https://www.ieacs.eu/
[2] https://www.esfam.eu/

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Assumptions and constraints

Key assumptions used in this analysis are listed below.

- All European firearm manufacturers are included in either IEACS or ESFAM
- European firearms manufacturing industry is comprised of 150 companies
- Companies who responded to the survey describe the industry well
    - Information was received from all sized companies: small (21 %), medium (58 %) and large (21 %).
    - Information was received from the manufacturers of all types of firearms: rifles, shotguns, short firearms/handguns, muzzle loaders and air-powered firearms
- Non-use scenarios are correlated with business figures e.g. stop producing is equivalent of 100 % business losses.
- Non-use scenarios are correlated with the industry totals e.g. 19 % of companies would stop producing means that from industry's revenue 19 % is lost.

Key constraints of the analysis are listed below.

- Better (than 13 %) response rate would have given more detailed and robust results
- Responses came mostly from medium and large sized companies. Views of small companies may be under-represented e.g. in terms of substitution timelines resulting in downwards skewed timelines. In addition, due to same reason monetary information may be skewed upwards.

Firearm grouping

For shotguns, the report differentiates between those where steel shot is generally available (**10/12/16/20 calibre**) and those where it is not (**24/28/.410 calibre**). A second grouping for shotguns is based on whether or not they would need to be reproofed/modified to fire steel shot:

- **Suitable:** Shotguns capable for use with non-lead shot without testing/modification;
- **Limited suitability:** Shotguns capable for use with a limited range of non-lead shot cartridges without testing/modification (e.g. standard pressure, limited range of shot sizes);
- **Unsuitable:** Shotguns that are currently unsuitable for steel shot that require modification (e.g. to choke or chamber) or replacement and/or testing to ensure they support the pressures of alternatives.

Rifles are differentiated between rimfire and centrefire as this is important for the availability of non-lead rifle ammunition. Centrefires are also differentiated between **≤ 6.5 mm** and **> 6.5 mm** as this is also a relevant current distinction for the availability of non-lead rifle ammunition.

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Table 1 Firearm grouping

Category for the purpose of this research	Sub-grouping based on firing mechanism and ammunition	Sub-grouping based on suitability for non-lead ammunition
Rifles	- Rimfire - Centrefire ≤ 6.5 mm - Centrefire > 6.5 mm	
Shotguns	- 10/12/16/20 gauge - 24/28/.410 gauge	
		- Suitable - Limited suitability - Unsuitable
Short firearms/handguns **(all short barrel firearms)**		
Muzzle loaders	(all antique and modern muzzle loaders)	
Air-powered firearms	Air rifles, air pistols	

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Firearms manufacturing industry in Europe

Supply chain

The firearms manufacturing industry is represented by IEACS and ESFAM. In this analysis, these two associations are considered representative for the entire firearms manufacturing industry in the EEA. Together they have approx. 1,000 members including 150 firearms manufacturers, ranging from small artisan workshops to large global firearms brands. It is possible that not all firearms manufacturers belong to these associations or their national affiliates but for simplicity it is assumed that figures extrapolated to cover IEACS and ESFAM represents the entire European firearms industry. From the companies that answered to the survey approx. 20 % are small companies, 60 % medium companies and 20 % large companies.

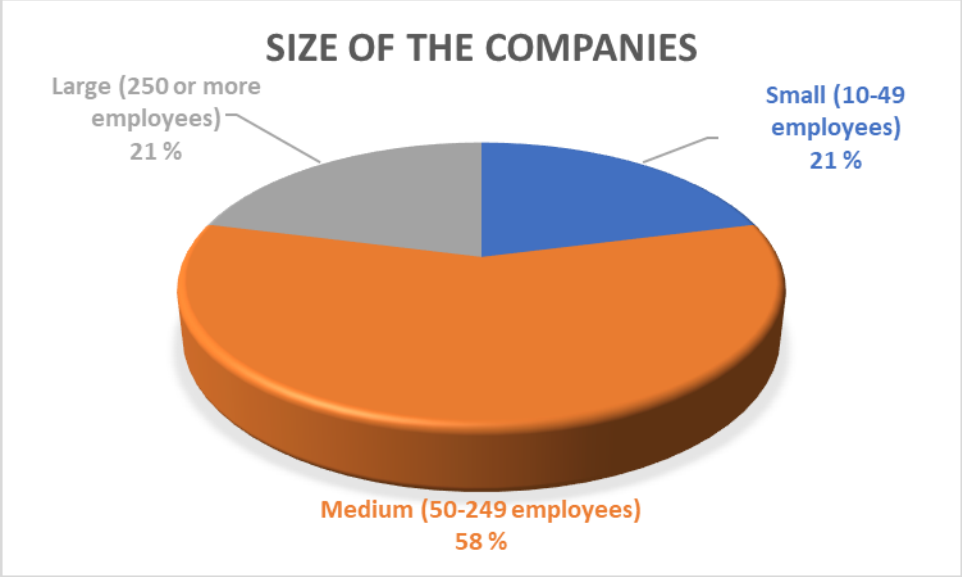

Figure 1 Size of the companies (19 answers)

The lead ammunition supply chain can be divided in four levels. Lead suppliers and producers are in the first level. Firearms manufacturers are partly included in this level because the specifications for ammunition comes from them. Firearms manufacturers are also present in the second level, manufacturing level, of the supply chain. Firearms manufactured can be divided into five different groups: shotguns, rifles, short firearms / handguns, muzzle loaders and air-powered firearms. Usually, firearms manufactures are so-called generalists having firearms from many of these groups in their portfolio. However, amongst them are also so-called specialists, focusing only on one type of firearm.

Ammunition manufacturers are in the second level of the supply chain. The main categories for ammunition can be presented as gunshot (shotshell), bullet and pellet. Firearms manufacturers are linked with ammunition manufacturers; gunshots are used with shotgun, bullets with rifles, short firearms and muzzle loaders, and pellets with air-powered firearms. Within gunshot and bullet categories there are many sub-categories. Gunshot manufacturers consist of projectile manufacturers, loaders and component manufacturers (excluding projectile). Bullet manufacturers consist of projectile

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manufacturers, RIMFIRE and CENTERFIRE loaders, and RIMFIRE and CENTERFIRE component manufacturers. Pellet manufacturing is a simpler process and it consist only of manufacturers. In addition, there are supporting companies e.g. for machinery, testing and OEMs. It is characteristic for the ammunition manufacturers that they perform many of these roles/activities. Same can be said for firearms manufacturers. Companies usually manufacturer many types of firearms.

Distributors and dealers are in the third level of the supply chain. It has been estimated that there are 200 distributors and 14,000 retailers and over 300,000 collectors in Europe, whose business is totally or largely dependent on the hunting or recreational shooting market. The fourth level is consisted of consumers, namely hunters and sport shooters and associations which represent these individuals. It has been estimated that there are 7 million hunters in Europe.

This analysis is focused on the first and second level of the supply chain where firearms manufacturers are operating.

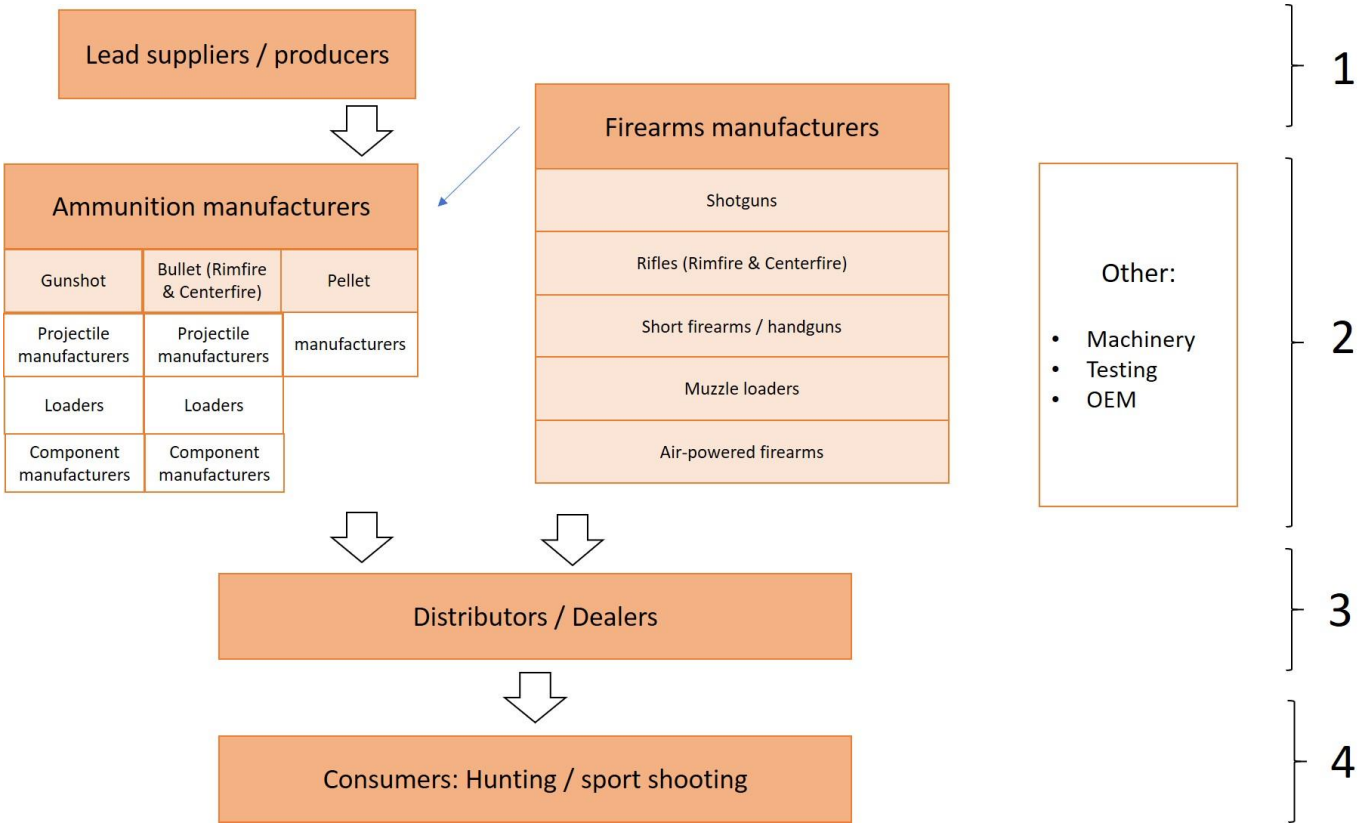

Figure 2 Supply chain

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Descriptive business information of the industry

In the preparation of this comment, the industry was surveyed to collect representative data from the sector. 20 firearms manufacturers participated in the survey. All the information presented below is based on the aggregation, calculation or extrapolation of the answers for the survey.

Survey results

Main business figures describing the entire industry

- Total annual turnover (14 answers): 547.6 M EUR
- Average annual turnover (14 answers): 39.1 M EUR
- Average of EEA share of turnover: 49 %
- Expected annual growth rate: 7 %
- Total annual profit (11 answers): 47.1 M EUR
- Average annual profit (11 answers): 4.3 M EUR
- Average of EEA share of profit: 56 %
- Overall number of employees (13 answers): 1,884
- Average number of employees: 145
- Turnover per employee: 0.27 M EUR
- Average annual median salary: 34,400 €

Extrapolation to the entirety of the industry

The information was extrapolated to cover all IEACS firearms manufacturers (150). To avoid overestimation, the following (except profit margin and salary) are considered to be the maximum for the firearms manufacturing industry in the EEA:

- Total annual turnover: 5,867 M EUR
- Total annual turnover from the EEA sales: 2,879 M EUR
- Total annual profit: 642 M EUR
- Total annual profit from the EEA sales: 357 M EUR
- General profit margin: 642 M EUR / 5,867 M EUR = 0.11 = 11 %
- Overall number of employees: 21,738
- Average annual median salary: 34,400 €

Portfolio

A typical firearms portfolio of the manufacturers is described next via survey answers. According to the survey responses, 90 % of firearms manufacturers manufacture mostly for civilian users. 10 % of firearms manufacturers production is split roughly 50/50 between civilian and non-civilian users.

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Table 2 Portfolio between civilian and non-civilian users (20 answers)

Mostly civilian users	18
Roughly 50/50	2
Mostly non-civilian users	0

In general, it can be said that firearms manufacturers export a large part of their civilian production outside of the EEA. According to the survey 70 % of the companies export over half of their production.

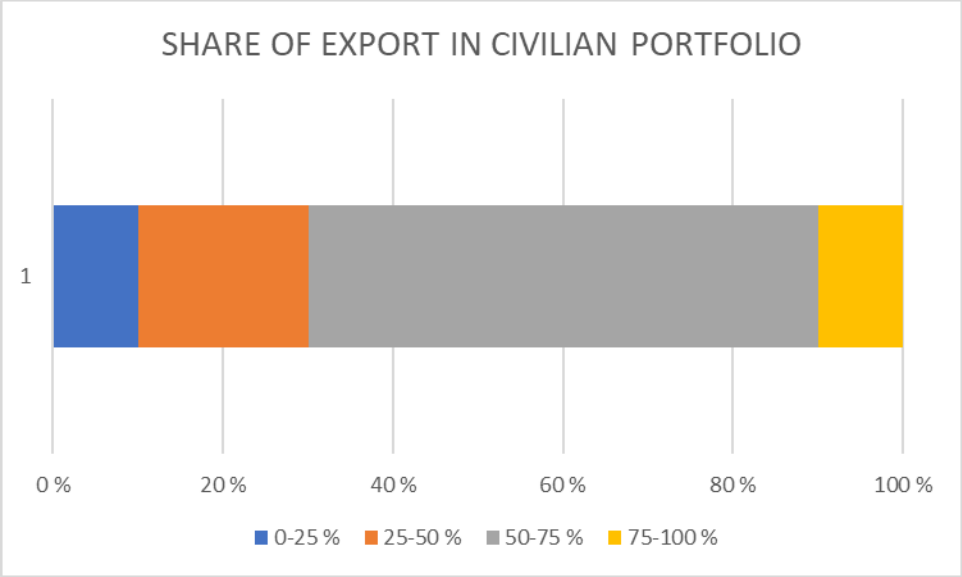

Figure 3 Export of civilian portfolio (20 answers)

In general, it can be said that the production between civilian and non-civilian portfolio is divided. According to the survey 65 % of the firearms manufacturers have less than half of their portfolio for both civilian and non-civilian users.

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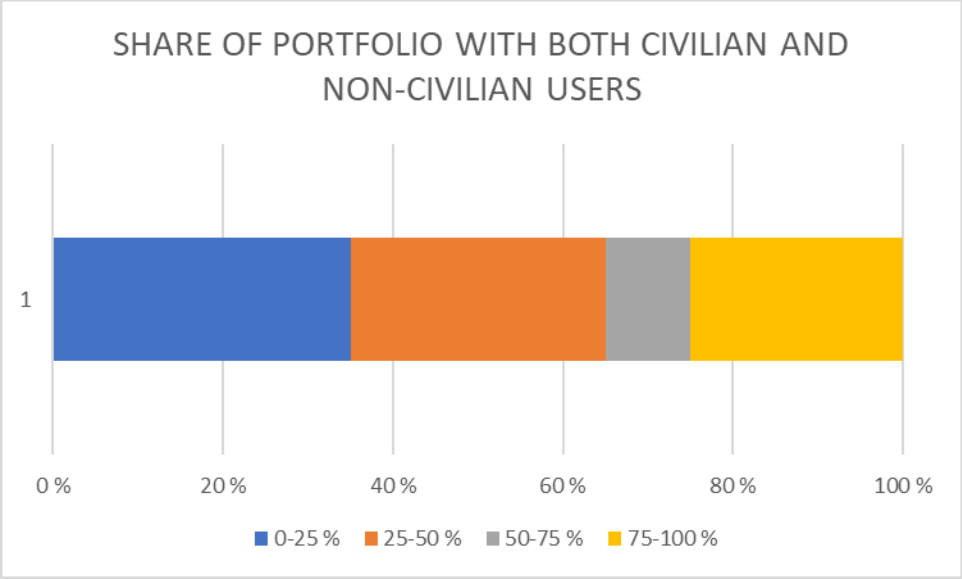

Figure 4 Portfolio with both civilian and non-civilian users (20 answers)

Figure 5 summarises how usual it is amongst firearms manufacturers to manufacture different kind of firearms. Firearms are categorized based on the grouping presented earlier. The figure outlines the share of companies manufacturing different firearm categories. According to the survey, it seems to be very usual to manufacture many types of firearms. Over half of the companies have 8 (out of 11) different categories in their portfolio. Centerfire rifles > 6.5 mm and short firearms are the most popular types. 67 % of the companies have these types on their portfolio. Unsuitable shotguns is the least popular category. 20 % of the companies have this type in their portfolio.

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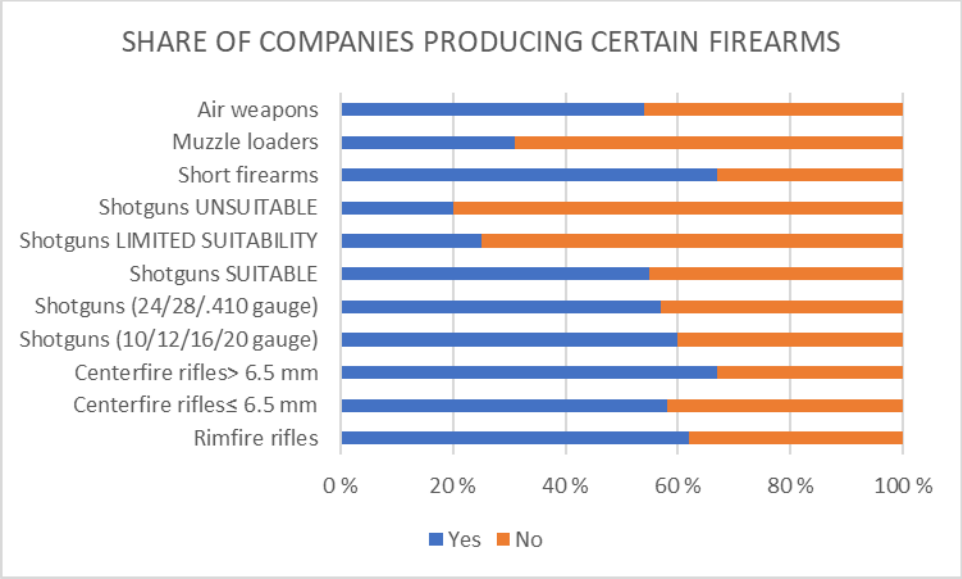

Figure 5 Percentage of companies producing different firearms types (20 answers)

Characteristic for the European firearms manufacturers is that they are manufacturing many types of firearms and their portfolio is serving mostly civilian users and that they export a large part of their civilian production to outside of the EEA. It is also typical that portfolios for civilian and non-civilian customers are different.

Typical reactions to of firearms to their portfolio in case of the restriction is analysed next via the survey answers. According to the survey 50 % the firearms manufacturers will face issues in over half of their firearm portfolio with transition to lead-free ammunition. According to the survey 40 % of firearms manufacturers reports that over half of their portfolio do not have suitable lead-free ammunition currently available. Only 35 % of the companies have suitable lead-free ammunition available for over 75 % of their portfolio. These companies are in a relatively good position concerning substitution.

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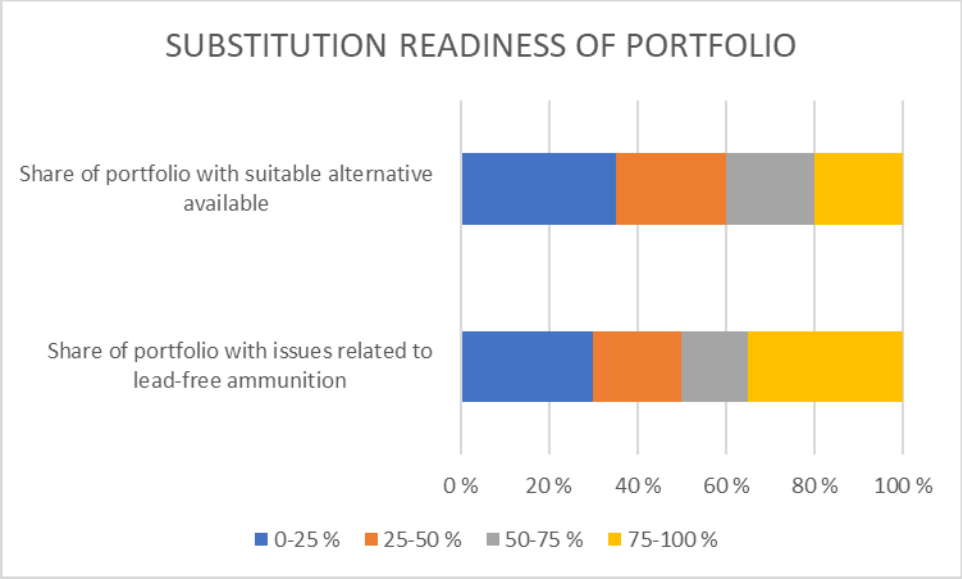

Figure 6 Substitution readiness of portfolio (20 answers)

According to the survey 60 % of the firearms manufacturers are likely to continue to manufacture their current firearms portfolio for lead containing ammunition for export outside the EEA.

Figure 7 Share of companies likely to continue exporting lead containing ammunition (20 answers)

60 % of the industry are likely to continue exporting their current firearm portfolio for lead containing ammunition in case of the restriction. In terms of transition to lead-free ammunition, the industry is quite divided. Half of the industry will face issues for the majority of their portfolio. This is likely due to firearms

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categories they are producing. For some categories, lead-free ammo has already been developed. 35 % of companies are in a relatively good position concerning substitution. Conversely 65 % are not.

Specific business information

The average (all responses) and maximum (per response) shares of turnover for different categories are outlined in Table 3. According to the survey responses Centerfire rifles > 6.5 mm, Shotguns (10/12/16/20 gauge), Shotguns SUITABLE, Short firearms and Muzzle loaders contribute a relatively large impact on the turnover of those companies who are manufacturing those types of firearms. Also at least some manufacturers of Shotguns (10/12/16/20 gauge), Shotguns SUITABLE, Short firearms and Muzzle loaders are very dependent on these firearms categories. On the other hand, Rimfire rifles, Centerfire rifles ≤ 6.5 mm, Shotguns (24/28/.410 gauge), Shotguns LIMITED SUITABILITY and Shotguns UNSUITABLE don't seem to play a very big role in the turnover of those companies producing these types.

However, this seems to imply the fact that the firearms manufacturers target different markets and the firearms they supply reflect this. Larger companies tend to be generalist and have more diverse portfolios and small companies are specialist focusing on specific firearms.

Table 3 Firearm categories' average share and maximum share of total revenue (15 answers)

Category	Average share of total revenue	Maximum share of total revenue
Rimfire rifles	3 %	9 %
Centerfire rifles≤ 6.5 mm	6 %	20 %
Centerfire rifles> 6.5 mm	26 %	42 %
Shotguns (10/12/16/20 gauge)	32 %	87 %
Shotguns (24/28/.410 gauge)	5 %	10 %
Shotguns SUITABLE	51 %	100 %
Shotguns LIMITED SUITABILITY	4 %	10 %
Shotguns UNSUITABLE	9 %	17 %
Short firearms	27 %	98 %
Muzzle loaders	25 %	60 %
Air weapons	16 %	50 %

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Production volumes

According to the survey and extrapolation approx. 7.1 million firearms are manufactured annually in Europe. Most manufactured category is Shotguns (10/12/16/20 gauge) with approx. 2.8 million pieces. Least manufactured category is Shotguns LIMITED SUITABILITY with approx. 15 thousand pieces.

Table 4 Production volumes of different firearms types (10 answers)

Production volume	Rimfire rifles	Centerfire rifles ≤ 6.5 mm	Centerfire rifles > 6.5 mm	Shotguns (10/12/16/20 gauge)	Shotguns (24/28/.410 gauge)	Shotguns SUITABLE	Shotguns LIMITED SUITABILITY	Shotguns UNSUITABLE	ALL Short firearms (pistols, handguns)	ALL Muzzle loaders	ALL Air weapons (air rifles, air pistols)
Average	1,400	200	3,200	17,900	500	1,600	100	700	18,500	700	2,800
Extrapolation	210,000	30,000	480,000	2,685,000	75,000	240,000	15,000	105,000	2,775,000	105,000	420,000
Total: 7.14 million firearms											

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Substitution / adaption

Substitution timelines

According to the survey responses 85 % of firearms manufacturers need more than one year to make the necessary changes for a “typical” firearm to be suitable for lead-free ammunition. It is to be noted that over 35 % need more than three years and 25 % need more than 5 years to make the changes.

According to the survey responses, 80 % of the firearms manufacturers need more than three years to make the transition to lead-free ammunition for a firearm where the impact is more significant (e.g. currently no lead-free ammunition available). Almost half, 45 %, of the companies need more than 5 years to make the changes.

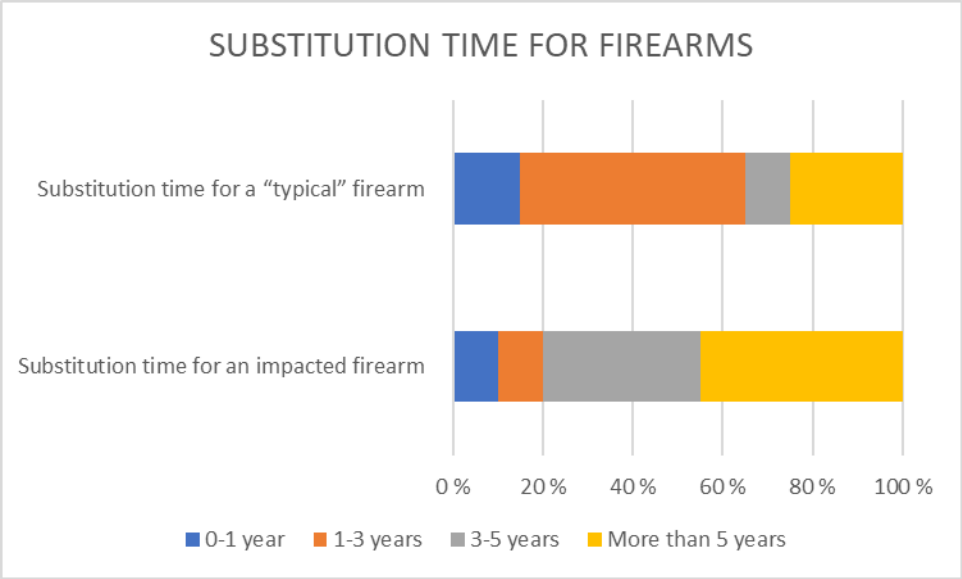

Figure 8 Substitution time for firearms (20 answers)

According to the survey responses, 75 % of the firearms manufacturers need 5 years or more (starting from 2021) to fully switch their firearm portfolio that is impacted by the scope of the restriction to discharge lead free ammunition. It is to be noted that 20 % of the companies need more than 10 years to do this.

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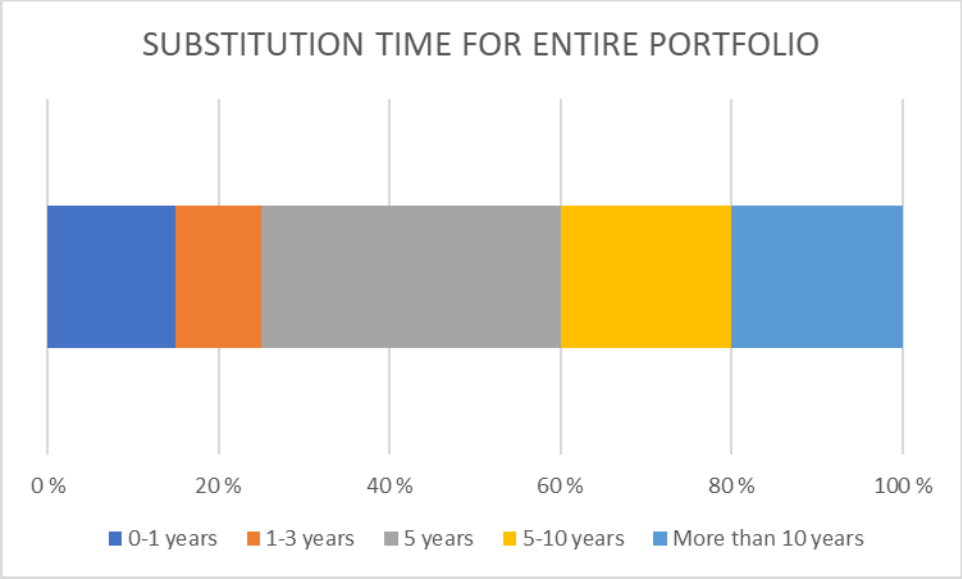

Figure 9 Substitution time needed for entire portfolio (20 answers)

According to the survey 70 % of the companies need an extension of 5 years or more to the entry into force to avoid negative economic impacts. It is to be noted that only one company indicated that no extension is needed.

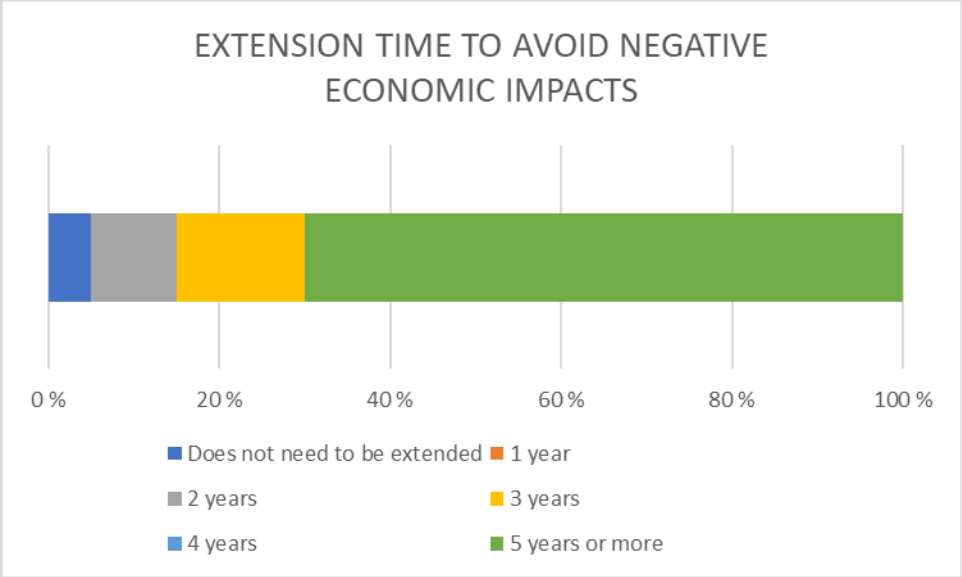

Figure 10 Extension time to avoid negative economic impacts (20 answers)

Typically, it takes more than 1 year to make the necessary changes for a firearm to make it suitable for lead-free ammunition and more than 3 years to make the transition to lead-free ammunition for a firearm where the impact is more significant. Concerning the entire portfolio, it typically takes more than five

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years to fully switch the firearm portfolio that is impacted by the scope of the restriction to discharge lead free ammunition. To avoid negative impacts firearms manufacturers need an extension of more than five years to the entry into force.

Impact of the proposed restriction

Use related impacts

According to the survey responses, restrictions on each uses targeted by the restriction proposal affect at least half of the companies. Use name Firearms using bullets for 'sports' target shooting (outdoor only) is the most critical. Almost 90 % of the firearms manufacturers are affected by the possible restriction on this use.

The importance of the uses outlined in the restriction proposal to firearms manufacturers is outlined in Figure 11 below. Different uses of bullets and gunshot are the most important for the firearms manufacturers. The most important use name is Firearms using bullets for 'sports' target shooting (outdoor only) with 41 % of average share from total revenue.

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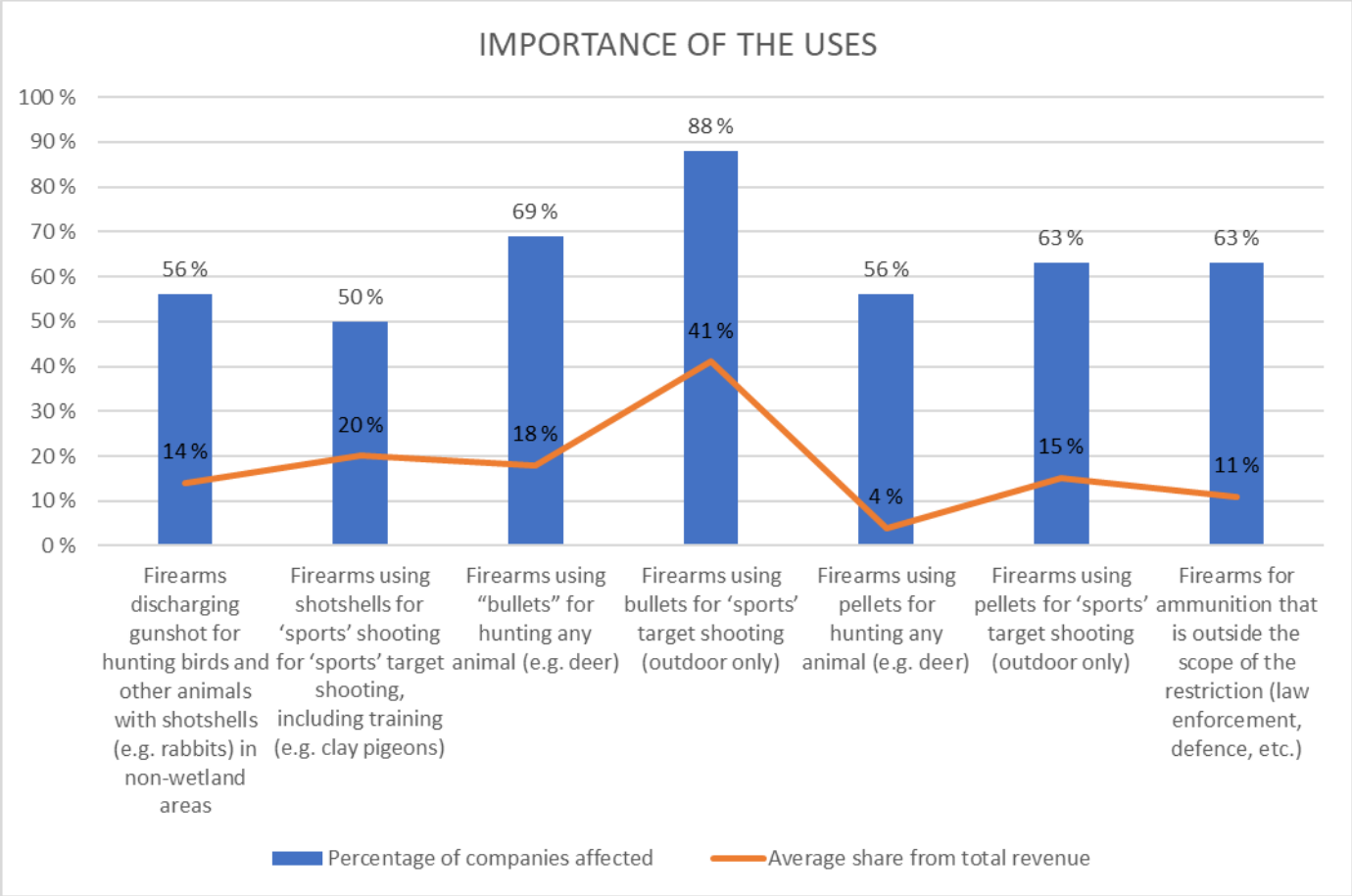

Figure 11 Importance of the uses including percentage of companies affected (16 answers) and average share from total revenue (10 answers)

Impacts on portfolio

According to the survey responses, 65 % of firearms manufacturers predict major or significant impact for their civilian portfolio resulting from the restriction. Only 5 % predict no impact resulting from the restriction. According to the survey responses, 75 % of firearms manufacturers predict minor or no impact for their non-civilian portfolio resulting from the restriction. Only 5 % predict significant impact resulting from the restriction.

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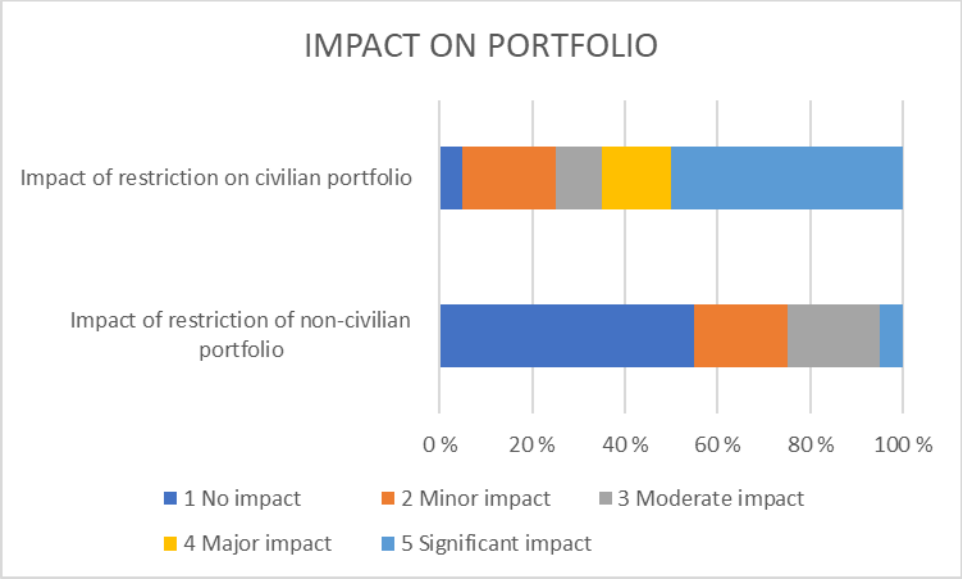

Figure 12 Impact of restriction on portfolio (20 answers)

Therefore, it is reasonable to assume that civilian firearms portfolio as well as civilian users are mostly impacted by the restriction and the scale of the impact is significant.

Restriction scenario

In the survey it was asked what the companies would do in the case of restriction for each of the firearms category. The possible scenarios were set to as follows:

1. Stop producing
2. Only producing the current firearms of this type for non-civilian user
3. Keep current firearms for civilian users for export outside the EEA
4. Adapting all firearms of this type in the portfolio where there will be lead-free equivalent ammunition available in the short term 0-3 years)
5. Adapting all firearms of this type where there will be lead-free equivalent ammunition available in the longer term (5-10 years)
6. Something else

The most popular non-use scenarios for each firearm category are summarized next and in Figure 13.

- Rimfire rifle: 50 % of manufacturers will keep current civilian portfolio for export, 38 % will adapt firearms in longer term (5-10 years) and 13 % will stop producing.
- Centerfire rifles ≤ 6.5 mm: 46 % will adapt firearms in longer term (5-10 years) and 31 % will keep current civilian portfolio for export. 8 % stop producing.
- Centerfire rifles > 6.5 mm: 35 % will keep current civilian portfolio for export and 35 % will adapt in longer term (5-10 years). 12 % stop producing.

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- Shotguns (10/12/16/20 gauge): 38 % adapt in short term (1-3 years), 31 % keep current civilian portfolio for export and 25 % adapt in longer term (5-10 years). 6 % stop producing.
- Shotguns (24/28/.410 gauge): 29 % adapt in short term (1-3 years), 29 % keep current civilian portfolio for export and 29 % adapt in longer term (5-10 years). 14 % stop producing.
- Shotguns SUITABLE: 33 % adapt in longer term (5-10 years), 22 % keep current civilian portfolio for export and 22 % adapt in short term (1-3 years). 22 % stop producing
- Shotguns LIMITED SUITABILITY: 57 % adapt in longer term (5-10 years), 29 % stop producing, 14 % keep current civilian portfolio for export
- Shotguns UNSUITABLE: 57 % stop producing, 29 % adapt in longer term (5-10 years) and 14 % keep current civilian portfolio for export.
- Short firearms: 44 % keep current civilian portfolio for export, 31 % adapt in longer term (5-10 years), 19 % adapt in short term (1-3 years). 6 % stop producing.
- Muzzle loaders: 50 % stop producing, 20 % adapt in longer term (5-10 years), 20 % adapt in short term (1-3 years), 10 % only produce for non-civilian portfolio.
- Air weapons: 31 % stop producing, 31 % adapt in longer term (5-10 years), 31 % keep current civilian portfolio for export, 8 % adapt in short term (1-3 years)

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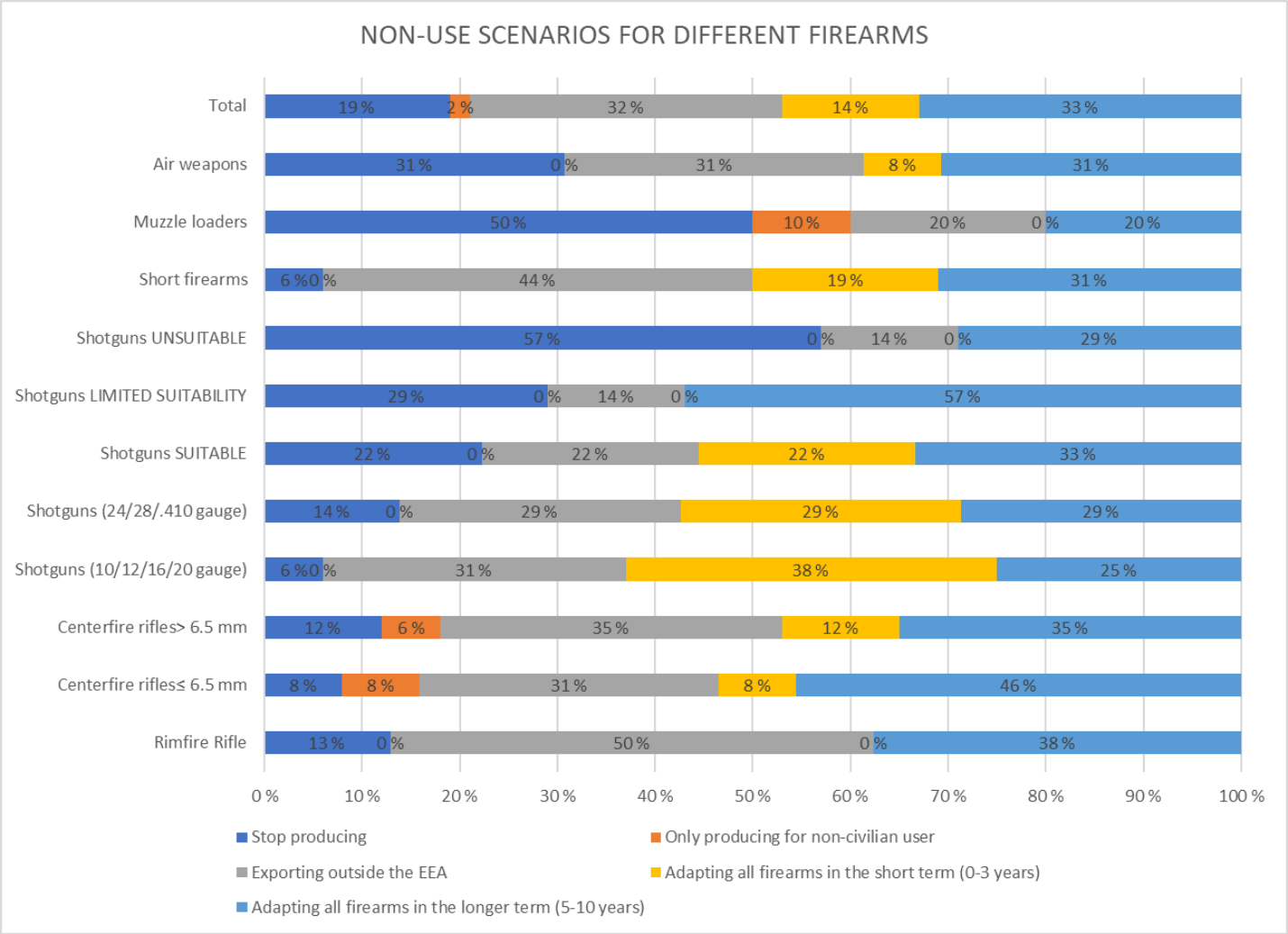

Figure 13 Non-use scenarios

There were several different combinations of answers for the categories, but the common analogue can be summarized as follows. Restriction on the consumers' end-use affects severely to the firearms manufacturers' business. It affects differently for the companies which are relying on the European market than for those who sell also to the rest of the world. EEA share of the industry's sales is approx. 50 %. Those manufacturers who mainly produce for the European market face the severest difficulties. 19 % of the industry will stop producing firearms categories impacted by the restriction. Companies who are able to export, 32 % of the industry, will keep doing so in future as well. Producing to the European market is dependent on manufacturers ability to adapt their current portfolio to lead-free. 14 % are able to adapt in short term (0-3 years). 33 % are able to adapt in longer term (5-10 years).

It is clear from the survey that those companies who produce firearms which cannot be adapted, or produce only on the European market, or are only able to adapt in longer term must stop producing if

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lead is banned. For the majority of those companies, it means a complete shutdown of their business. As the case is also in firearms industry, large companies might be able to focus on export and substitute in short term, but the small and medium size companies will suffer from the vanishing of major part of their markets.

However, it is assumed that non-use scenarios correlate with business figures in the industry. Meaning that 19 % of the industry, those who will stop producing, present 19 % of business amongst the firearms manufacturers in the restriction scenario. 33 % of the industry, those who are able to adapt their portfolio in longer term, present 33 % of the firearms business figures. It is also assumed that stop producing is equivalent of 100 % business losses and adaption in longer terms is equivalent of 0-100 % of business losses. In the case of the restriction, it is thus assumed that stop producing -scenario, 19 % loss of total revenue/profit, is the lower level impact amongst the firearms manufacturer industry; and stop business together with portfolio adaption in longer term, 19 % + 33 % = 52 % loss of total revenue/profit, is the higher level impact amongst the industry. It is questionable if a company who need more than 5 years to adapt its portfolio, can continue business in case of restriction. However, according to the survey responses and above assumption it can be concluded that 19-52 % of revenue/profit made by firearms manufacturing industry is lost in the case of restriction. The impacts are quantified in the next chapter.

To give more insights to the views of the companies, some of their responses are quoted below.

"The impact of banning lead will be existential for our competition business that manifests 50 % of our inhouse-manufacturing and 30% of our total turnover. At this moment in time, it is unknown if the remaining business outside EEA will be sufficient to sustain a profitable competition business or if that segment has to be closed."

"We will not be able to transform our production in the short term so we will be forced to stop our sales in EU until production will be made available to shoot lead-free ammo."

"Probably our sales will drop 80-90 %."

"Decrease of at least 50% of our sales."

"We will close the company, as other muzzle loading companies as well."

"According to the time needed to turn our production to accept lead-free ammo we may have a very high impact on our turnover if changes will be required in the short term. In case of a change required in the long term, we could be able to spread the necessary cost over different years and not cease sales causing great damage to our past efforts to cover EU market with our products."

"If the company is not able to execute a revision of firearm portfolio, it will have to face a reduction in sales and turnover, with potential drawback in employment rate."

"This will be a huge financial impact for all manufactures. It will drive the stronger export plans further."

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"Our present production is going in this direction. We are preparing the transition. More time allows a softer impact transition."

"Lead ban will be the end of competitive air and .22 shooting and therefore very likely the end of in-house production of air and .22 pistols and rifles if the remaining business outside EEA is insufficient."

"Our market is a niche in the civilian gun market. It brings together cultural elements to the purists of the shooting sport and hunting. Changing production, after many decades, means eliminating the history and brand of our company, forcing us to create a new company from scratch, as our projects and equipment would no longer be usable."

In addition, on wider level the restriction creates discrepancy between intra and extra European firearms manufacturers. To serve both markets European manufacturers must keep two different production systems active without having an increase of the quantity produced.

Quantified impacts of the restriction and cost benefit analysis

As stated in the previous chapter, the impact of the restriction would be that 19 % of firearms manufacturers would stop their business and 33 % need 5-10 years to adapt their current portfolio. Here it is assumed that stop business, 19 % loss of total revenue/profit, is the lower level impact amongst the firearms manufacturer industry; and stop business together with portfolio adaption in longer term, 19 % + 33 % = 52 % loss of total revenue/profit, is the higher level impact amongst the industry. It is questionable if a company who need more than 5 years to adapt its portfolio, can continue business in case of restriction. In reality, the share of companies who can continue business amongst the companies needing 5-10 years to adapt their portfolio is likely somewhere in between 0 and 33 %. Thus, this assessment doesn't not take a stand on that but uses 33 % as a limit for higher level impact. Also, this assessment assumes that no business losses will occur to those companies who answered that they: 1) Only producing the current firearms of this type for non-civilian user; 2) Keep current firearms for civilian users for export outside the EEA; or 3) Adapting all firearms of this type in the portfolio where there will be lead-free equivalent ammunition available in the short term (0-3 years).

The impact of the restriction, in terms of revenue, profit generated in the EEA and job losses, is estimated using the above extrapolated industry figures. Lower level impact will be 19 % of the variables and higher level impact will be 52 % (19 % + 33 %) of the variables.

Lower level impact of the restriction

- Loss of annual revenue generated in the EEA: 19 % * 5,867 M EUR = 1,115 M EUR
- Loss of annual profit generated in the EEA: 19 % * 642 M EUR = 122 M EUR
- Overall number of lost jobs in the EEA: 19 % * 21,738 = 4,130

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- Welfare cost[3] related to job losses in the EEA: 290 M EUR

Higher level impact of the restriction

- Loss of annual revenue generated in the EEA: 52 % * 5,867 M EUR = 3,051 M EUR
- Loss of annual profit generated in the EEA: 52 % * 642 M EUR = 334 M EUR
- Overall number of lost jobs in the EEA: 52 % * 21,738 = 11,304
- Welfare cost related to job losses in the EEA: 793 M EUR

Annual monetized impact of the restriction in terms of revenue will be between 1,115 and 3,051 M EUR, and in terms of profit between 122 and 334 M EUR. In addition, the restriction will result in lost jobs between 4,130 and 11,304. Welfare cost related to job losses is between 290 M EUR and 793 M EUR.

[3] To capture all welfare cost of unemployment SEAC (https://echa.europa.eu/documents/10162/13555/seac_unemployment_evaluation_en.pdf/af3a487e-65e5-49bb-84a3-2c1bcbc35d25) and Dubourg (https://echa.europa.eu/documents/10162/13555/unemployment_report_en.pdf/e0e5b4c2-66e9-4bb8-b125-29a460720554) have proposed default values for one job lost. In EU28 the value is 2.72 times the annual pre-displacement wages of this job. In EU28 the employer tax rate is 25 %. Average median annual salary is 34,400 €. The welfare cost to society equals to: (1-0.25) * 34,400 € * 2.72 * job losses = welfare cost. This formula is used thorough the analysis.

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Conclusions

IEACS and ESFAM represent 150 firearms manufacturers in Europe. The size of the companies varies from small artisan workshops to large international enterprises. The industry manufacturers all kind of firearms, rimfire and centrefire rifles, shotguns, short firearms, muzzle loaders and air-powered firearms. Their portfolio is mainly targeted for civilian customers. It is characteristics for the industry to have many types of firearms in their portfolio. However, some companies are specialized only in one or two types of firearm. The industry as entirety export approximately half of its production out of the EEA.

To be compliant with the proposed restriction, years of extensive R&D work is still required from the companies. Consensus between the companies is that at least 5-10 years is needed to fully switch their firearm portfolio that is impacted by the scope of the restriction to discharge lead free ammunition and an extension of 5 years or more to the entry into force to avoid negative economic impacts.

Current restriction proposal will pose major or significant impact on the industry's civilian portfolio. The most critical use for the industry is use of firearms using bullets for 'sports' target shooting (outdoor only). Nearly 90 % of the companies are affected by the restriction on this use.

Restriction on the consumers' end-use affects critically to the firearms manufacturers. The magnitude is different between the companies who are exporting and the companies who are focusing on the internal markets. Manufacturers who mainly produce for the European market face the severest difficulties. One fifth of the industry will stop producing firearms categories impacted by the restriction. One third will keep exporting the impacted firearms categories. European market is open for the companies who can adapt their portfolio to lead-free. One third can adapt their portfolio in longer terms and only one sixth in shorter term. Potentially up to half of the industry is facing adversities, even business closures, if the restriction comes into force without 5-10 years transition period.

Based on the methodology used it can be concluded that annually total socio-economic cost of premature restriction, comprising of annual profit losses and welfare cost, would be between 412 and 1,127 M EUR. In terms of unemployment the welfare cost is between 4,130 and 11,304 lost jobs in the EEA.

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Key findings from the socio-economic analysis

The key learnings from the socio-economic analysis undertaken was the large size and the complex characteristics of the industry, and that the proposed restriction would have severe negative socio-economic impacts, annual monetary losses potentially up to **3 Billion euros in revenues and 334 Million euros in profit** and **over 11,000 jobs lost with associated welfare cost of 800 Million euros** in the EEA, on the firearms manufacturers and the related European society. The key learnings are based on the methodology used in the assessment.

The firearms manufacturers are a multiform group of companies and perform several activities. Some of the companies are specialized only to one activity and some have very broad offering covering all types of firearms. Thus, it is very difficult to classify them only to one activity category. This analysis concludes that overall there are 150 firearms manufacturers in the EEA.

Annually the industry records a revenue and profit of nearly 6 and over 0.6 Billion euros respectively and employs nearly 22 thousand employees. The average share of EEA sales is 49 %. The industry expects their business to increase with average growth rate of 7 %.

Dependent on the manufacturers ability to adapt their portfolio, export and the share of the EEA sales the total socio-economic cost, comprising of annual profit losses and welfare cost, would be between 412 and 1,127 M EUR. In terms of unemployment the welfare cost is between 4,130 and 11,304 lost jobs in the EEA.

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