Weapons trade:
Escalation or Preservation?

The impact and sustainability of the western military supply programs with regards to the Russo-Ukrainian war.

Thesis

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Contents

Abstract

"Are western military supply programs to Ukraine sustainable?". That is the research question of this paper. In order to answer this question the paper examines three hypotheses:

- **Hypothesis 1:** Europe arms itself
- **Hypothesis 1A:** Europe calls on the USA for support
- **Hypothesis 2:** Europe does not arm itself

The research consists of a comparative case study between the nations of Germany, France, The United Kingdom, and the Netherlands.

The hypotheses are answered by analysing data from the SIPRI Arms Industry Database; the SIPRI Arms Transfers Database; STATISTA; the SIPRI TRENDS IN INTERNATIONAL ARMS TRANSFERS 2022 Fact sheet, World Bank statistics, and the SIPRI TRENDS IN WORLD MILITARY EXPENDITURE 2022 Fact sheet, as well as a multitude of non-data sources. This data is then examined in four distinct observation points: Budget, Purchases, Manufacturing, and Cooperation. Based on the analysed data, patterns found, and statements made by governments the research concludes that as long as Europe, and its nations, are willing to continue supporting Ukraine, its military industrial complexes will be able to keep up with demand, both with and without the support of the USA.

Introduction

How long can the West keep up its support to Ukraine? On February 24, 2022, after years of previous conflict since 2015, Russia launched an invasion of Ukraine under the pretence of a 'Special military operation'. The invasion consisted of land, air and naval forces and included an attempt to quickly seize Kiev through an airborne operation around the airfield of Kiev that was ultimately repelled by Ukrainian forces. It is fair to say that most individuals and experts alike would not have expected the current Ukrainian success in countering Russian attempts to take control of the country. The nation bordered with the military superpower surprised all by showing that modern day military tactics and hard work can form the basis of resistance to those that are, on paper, vastly more powerful.

In the years prior to the full scale invasions, during the build-up of Russian forces and aggression, the US and its western allies tried to deter Russia from further ingression by imposing sanctions upon individuals and the Russian state (Von Der Leyen, 2022). This seemingly had little to no effect on Russian activities, in part due to support to Russia from other stakeholders in the conflict such as China's massive increase in trade with Russia (Wang, 2023). Since the beginning of the conflict, stakeholders such as NATO-members have invested large amounts of financial support as well as send a continuous flow of equipment, weapons and ammunition to Ukraine. The reserve stockpiles that these stakeholders have used to supply the Ukrainian military are however not infinite, and Ukraine is rapidly consuming them in their efforts to deter Russia's aggression. Whether or not the West is able to continue to support Ukraine depends on their economic stability, civil support, political will, production capabilities and international cooperation.

The research paper will focus on the military aspect of the described above by attempting to answer the following research question: "Are western military supply programs to Ukraine sustainable?" . The goal is to determine if western military supplies can keep up with Ukrainian demand by creating a functioning military industrial complex. In order to determine this, the capabilities and efforts of the west should be studied. In other words, the research paper will study how willing and able the west is to continue sending Ukraine military supplies.

This research paper will do so through the use of a case study, looking at the cases of Germany, France, The United Kingdom (UK) and The Netherlands. As a second layer, the research will additionally look for evidence of the nation's cooperating and convincing each other with regards to their involvement and commitment in the Russo-Ukrainian conflict. Based on this case study the paper will answer a number of hypotheses which in turn will help answer the aforementioned main research question.

Theory

In order to theorize based on the information found in the literature and research with regards to the stakeholders; one needs a base theory to move on. This paper will use a Realism point of view, as well as the balance of power theory at its core. This base theory functions as a form of calculated and well thought out set of assumptions as to how and why actors will or will not engage in certain actions, policies, promises, deliveries and/or sales. Realism argues that states organise resources for survival first internally and then externally (Waltz, 1979).

European Change

Based on this general understanding of realism and the balance of power theory, there are four possible outcomes with regards to EU action:

- Internal European Change
- External European Change
- No European action
- A combination of Internal and External European Change

Internal European change

Internal balancing refers to states increasing their military expenditures and capabilities in order to increase their defence and deterrence. As described by Waltz, internal balancing is always preferred over external balancing and therefor states will attempt this first (Waltz, 1979). Such balancing can be observed through increased budgets, manufacturing and military purchases.

External European change

External balancing, as the name suggests, focusses on creating alliances with other states in order to form a more powerful front against potential enemies. This type of balancing is not preferred and is therefore only engaged in when internal balancing does not create a significant enough power increase. This means that this will likely be implemented if European nations fail to create enough of a functioning military industrial complex. There are many different ways to engage in external balancing, including forming military alliances such as NATO, combined technological development (House, 2023), and also the lend-lease programs that western nations currently have with Ukraine (Ahmedzade, 2023). In addition to external balancing, there are other means of external change. One that is especially significant for this research paper is bandwagoning. Bandwagoning is the opposite technique to balancing. In this case states will align themselves with the state that is in the current place as a hegemony. Cases of this are Europe joining the USA, and Belarus joining Russia.

The implications for the research paper are that, should European nations fail to create a functioning military industrial complex in time, external change would suggest that these nations will then rely on more cooperation and the backing of nations with more military power such as the USA.

No European change

Besides internal and external change, there is another option, which would be no change in course of action by European nations. This too is supported by realism, specifically by defensive realism, which argues that offensive actions may upset "the tendency of states to conform to the balance of power theory, thereby decreasing the primary objective of the state, which they argue is ensuring its security." (Lobell, 2017). Thus, constraint is good and through this aggression is not provoked. This would mean the European nations would not get (any more) involved in the conflict and perhaps rather pass it on through a process called 'buck passing'. Buck passing occurs when a weaker state with little ability to counter a hegemon's rise passes the buck onto a larger and more impactful state. This is interesting for this paper as it could very well be a possible outcome when Europe determines itself no longer able to support Ukraine at the current level and passes the issue on to the USA.

Hypotheses

In order to most completely answer the general research question "Are western military supply programs to Ukraine sustainable?" the following hypotheses, based on the theory discussed above, will be tested:

- **Hypothesis 1**
  Europe arms itself
- **Hypothesis 1A**
  Europe calls on the USA for support
- **Hypothesis 2**
  Europe does not arm itself

Methods

Design

Research design

In order to answer the research question and prove or disprove the hypotheses, the research paper will be conducting a comparative case study. This will be a multilevel analysis consisting of national as well as international level-analysis. The bridge between the international and national level will be the foreign policy documents, which are in this case independent variables as member states are rational, unitary actors that have influence on collective action. As stated in the theory, there might be internal as well as external change both in and outside of Europe. In order to properly answer the research question based on the theory, these different types of change should all be analysed, resulting in a multilevel analysis.

The steps for such a case study are: specifying a model, specifying cases to compare, engaging in qualitative data collection through triangulation and using a congruence method which may include the creation of a table to better collect and analyse data. The choice for a comparative case study was made due to the specificity of the research question, as well as the different stakeholders listed in the hypothesis and their different levels of decision making and impact. These factors ask for detailed data which is best obtained by engaging in a comparative case study.

The case study comparison will focus on the period 2014 till present day, including preestablished commitments for the future.

While the initial plan was to focus on data from 2022 onward, there was little to no data available from 2023, and only limited data from 2022 available, as such data is usually published halfway through the next year. That means that data from 2022 will be largely available after the upcoming summer and data from 2023 even a year later. It was therefore decided that the start of Russian meddling in Ukraine by means of the annexation of Crimea in 2014 will be the starting point of research on the topic. A larger spread in years will give us more date resulting in a more accurate and precise picture that will aid in better predicting future steps. In addition, any significant differences between these years may be studied and might show behavioural patterns in the military investments of governments. For this comparative case study, the cases Germany, France, the UK and The Netherlands will be used, researched, and compared. These cases are selected based on accessibility to data, their influence on the conflict, and their different responses with regards to the conflict.

These different responses to the conflict come from the different attitudes these nations have. These attitudes are likely to either slow down or speed up any progress with regards to support for Ukraine as these nations all have an influence on the European Union. Decisions made in the EU and with EU-partners can only be possible with the support of the nation states and it is because of this essential support that it is important to analyse not only the national but also the international level in this research paper.

The design of the research paper is as follows. The paper will present three hypotheses that are based on the general research question “Are western military supply programs to Ukraine sustainable?”. These hypotheses are:

- Hypothesis 1: Europe arms itself
- Hypothesis 1A: Europe calls on the USA for support
- Hypothesis 2: Europe does not arm itself

The outcomes of these hypotheses will allow for an overall answer on the sustainability of western military supply programs to Ukraine as they show whether or not European nations will be able to create functioning industrial military complexes, which can allow for the manufacturing of arms at a rate that matches or outpaces Ukrainian arms consumption/losses, which in the case of this research paper is the definition of the 'sustainability' in the main research question.

In order to answer these hypotheses, the different types of data analysed in this paper will all be used to look at 4 specific observation points, namely:

- Budget
- Purchases
- Manufacturing
- Cooperation

These four observation points were selected as they best indicate the willingness and ability of Europe to create functioning industrial military complexes. These observation points will be elaborated upon below.

Budget is with regards to the defence budget of the four stakeholders. The data will be used to investigate if and how much the defence budgets have changed since the beginning of the war. Purchases are focussed on purchases of military equipment and ammunition since the beginning of the war and how these have changed. Manufacturing will focus on investigating changes in the manufacturing of such equipment and ammunition within the nations. The final observation point examined will be that of cooperation. The use of official government statements and/or news publications with regards to such statements will be used to determine the extent of international cooperation and thus the extent of external action of European nations

For the first three of these observation points will be answered by the variables "Up", "Down", and "Same". "Up" signifying an increase in budget, purchases or manufacturing, "Down" entailing an observed decrease and "Same" entailing no significant change in the observations since the beginning of the conflict. For example, if data from, among other sources, "THE SIPRI TOP 100 ARMSPRODUCING AND MILITARY SERVICES COMPANIES" shows that there is a significant increase in weapons and ammunition production, the variable "Up" will be assigned, and hypothesis 1 can be at the very least debated upon as that would suggest that European nations are arming themselves and are thus capable of increasing their military industrial complex.

The final observation point, namely "Cooperation" will be answered by the variables "Yes" and "No" and then elaborated upon by the variable "Who". "Yes" entails that there is evidence of cooperation or a call/promise of future cooperation since the beginning of the conflict while "No" means the opposite. The elaboration through the variable "Who" is relevant to determine whether actions such as 'bandwagoning' or 'passing the buck' are conducted which has implications with regards to answering the main research question.

Stakeholders	Budget	Purchases	Manufacturing	Cooperation
Germany	Up/Down/Same	Up/Down/Same	Up/Down/Same	Yes/No (Who?)
France	Up/Down/Same	Up/Down/Same	Up/Down/Same	Yes/No (Who?)
The United Kingdom	Up/Down/Same	Up/Down/Same	Up/Down/Same	Yes/No (Who?)
The Netherlands	Up/Down/Same	Up/Down/Same	Up/Down/Same	Yes/No (Who?)

Method of data analysis

The data gathered for the research paper will be analysed using the method of process tracing. Official documents, such as but not limited to: documents by the heads of government, the defence ministry, the foreign ministry and input from 3rd governments; as well as data from source such as SIPRI will be used as initial data sources. News articles and scientific papers will be used to cross-examine the theoretical and the real life implications. The combination of this data will then be used to study whether hypotheses introduced earlier in this research proposal are either supported or opposed. In order to get a better understanding of the data gathered, it is best to create a visualization for this data. To achieve this, the research paper will create a data frame in excel, that can then be integrated into analysis programs such as Rstudio and Python. With these programs, graphs for the different stances and opinions of the different stakeholders can be created which can then be used to assess whether or not the data supports its respective hypothesis.

Stakeholders

The foundation of understanding actions in any situation lies in understanding the motivation of those behind it: the stakeholders. When considering the European level, the four stakeholders considered in this research paper (Germany, France, the UK, and The Netherlands) are all significantly influential participants in the decision-making process with regards to the conflict in Ukraine. Understanding the stances of these participants leads to a better understanding of the decision-making process in general. This part of the research paper will be a general introduction to the four stakeholders, their public stances, and foreign policies.

Germany

As the nation with the strongest economy in Europe (Germany Country Profile. n.d.), Germany is often looked at by other member states and neighbouring countries as a leader in decision making moments and as significant benefactor to a multitude of causes and investments. In combination with its overall economy, its industrial power that backs a number of famous weapons manufacturing companies, such as Rheinmetall, make Germany one of the top influencing stakeholders from Europe with regards to the war in Ukraine. The nation is determined to support Ukraine for “As long as it takes”, according to the official website of the Federal Foreign Office (Amt, A. n.d.-a). Their main official reason for support of Ukraine is that Russia is “attempting to deprive people in Ukraine of the basic necessities of life” (Amt, A. n.d.-a). In a video message, the German Foreign Minister said that “Russia, with its brutal war of aggression, is attempting to destroy everything that 24 August stands for: security, peace and freedom for your country. For the right of Ukraine, like any other country in the world, to determine its own future. You are fighting for all this with extraordinary courage. For our shared values and our European peaceful order. We in Germany stand firmly by your side in this struggle. Today, on Ukraine’s Independence Day, and in the days ahead.” (Amt, A. n.d.-b)

It should be noted however that the German government was not always this determined to support Ukraine at the current level of investment and shipments. In august 2022, Polish prime minister wrote the following about German contributions to the war in Ukraine: “If Europe had sent weapons to Ukraine on the same scale, and at the same pace, as Germany, the war would have ended long ago: with Russia’s absolute victory. And Europe would be on the eve of another war.” (Bonner, B. 2023). This ‘weaker’ stance with Ukraine than the one the nation currently has resulted from disagreement on the conflict and how to act upon it both on a governmental and public national level (Bonner, B. 2023). The major difficulty on the governmental level is the issue of the conflicting views of the coalition government. As explained by K Schwarz “In the Social Democratic Party of Germany, many interpret Russian aggression in Ukraine as a proxy war with the U.S. They advocate cutting off arms supplies and persuading the Ukrainian leadership to negotiate unconditionally with Moscow. In contrast, the Greens, who are vehemently in favour of arming Ukraine, seem to have put aside their traditional reservations about Washington. The third governing party, the liberal Free Democratic Party, has always been transatlantic-oriented and sees no reason to change. It, too, is almost unanimously in favour of supporting Ukraine.” (Bonner, B. 2023). This disagreement of actions and support often lead to a hesitant stance from the German government.

After both internal and external pressure, as well as clear signs of atrocities conducted by the Russian forces in Ukraine, Germany has changed its resolve into on that stands with the people of Ukraine and its determination to liberate itself from Russian occupation.

France

Interestingly, the case of France seems to be the opposite from that of Germany. French newspaper 'Le Monde' stated "Since 2017, French President Emmanuel Macron has rightly defended the notion of European sovereignty, of which European defense should be a cornerstone." (Cayla, P. 2023, April 10). The newspaper is however critical to the implementation of this belief in the face of the war in Ukraine. While France has expressed strong opinions towards the defense of sovereign nations, it has contributed disproportional military equipment compared to its self-proclaimed military might (Cayla, P. 2023, April 10). The difficulty lies in the apparent difference in expressed desires and actions, and perhaps even the seemingly contrasting statements made by the French government. On the official website of the French government, it states that "From the very first day of the conflict, France and its European Union partners chose to stand firmly alongside Ukraine and its people." (One year of war in Ukraine: France's diplomatic action. 2023, March 5). At the same time, prime minister Macron stated that it was of great importance that Russia would not be 'humiliated over its invasion' (Sabbagh, 2022). While its investments with regards to direct military supplies might be questionable, France does invest in both other types of aid for Ukraine as well as its ties with other European nations in the wake of the consequences of the current support for Ukraine.

The United Kingdom

Being on of the largest providers of military support to Ukraine in the European continent, the UK has shown its clear stance on the war in Ukraine. The official government website states that "The UK and our allies condemn the Russian government's unprovoked and premeditated invasion of Ukraine" ("The UK Government's Response to the Russian Invasion of Ukraine," 2023). In addition, in a 2021 report from the UK government, Russia was called "the most acute direct threat" ("Intelligence and Security Committee of Parliament Publish Predecessor's Russia Report," 2021). Having been involved in training Ukrainian military personnel since 2015 (Ministry of Defence, 2021), the UK has a long standing history in its open support of Ukraine when compared to other European nations. This strong stance is possible in a large part through the understanding in both the political world as well as public understanding that Russia forms a threat for stability and security, not only outside the borders of the UK but also within. The infamous Novichok poisoning played a major role in this (NOS. 2018, September 5). This resolve has been consistent, even through the three changes of leadership the government of the UK has experienced since their first commitment to Ukraine.

While the UK is no longer a member state of the European Union, there are still close ties between the two in matters both directly and indirectly connected to the war in Ukraine. An example of this is the Tallinn Pledge (Ministry of Defence. 2023, February 2) in which a joint statement with regards to the war was made by the UK and 8 EU member states. Sanctions conducted by the EU have been implemented only after EU-UK coordination. Besides the EU, the UK is also in close contact with the USA, considering these two nations are the top providers of military support for Ukraine.

The Netherlands

The Netherlands is an interesting case. The nation sits in the middle of the three aforementioned powerhouses of (western)Europe, and houses the International Criminal Court (ICC) among other international institutions. The connections with the other nations as well as the responsibility towards a morally just yet objective stance on the matter contribute to the expressed opinion and actions taken by the country. The official government website states that "The Netherlands strongly condemns the Russian attack on Ukraine. It is an act of war for which Russia will pay a heavy price. The Netherlands is in close contact with the EU, NATO and other allies." (Ministerie van Algemene Zaken. 2022, May 9). Like the UK, The Netherlands has had its own tragedy caused by Russia, the downing of the MH-17 plane by Russian-backed rebels, which carried predominantly Dutch tourists, has strongly opinionated the Dutch public with regards to Russian aggression. Like other nations in Europe, The Netherlands has aided Ukraine by sending supplies, increasing its involvement in NATO, and imposing coordinated sanctions upon Russia (Ministerie van Algemene Zaken. 2023, February 23).

While condemning Russia's actions and supporting Ukraine in its struggle to maintain its sovereignty, the nation is one of the main opposers to the fast-track EU membership for Ukraine. The Netherlands wishes for the defeat of Russia to ensure Ukrainian sovereignty and by extension the safety of all sovereign nations. In a letter, the Dutch prime minister wrote "The rules-based world order will crumble if we are not willing to resist aggression, and however different the interests of regions and countries may be, this bears on us all." (Rutte, M. 2023, February 23). As well as "For the sake of all sovereign nations, Putin cannot be allowed to win this war." (Rutte, M. 2023, February 23). The Netherlands seeks to do so without necessarily changing the composition and workings of the EU.

Results

Data

In order to create a complete database that allows for this paper the paint an accurate picture of the status quo and properly answer the research question, multiple datasets were created. These datasets were created using data from:

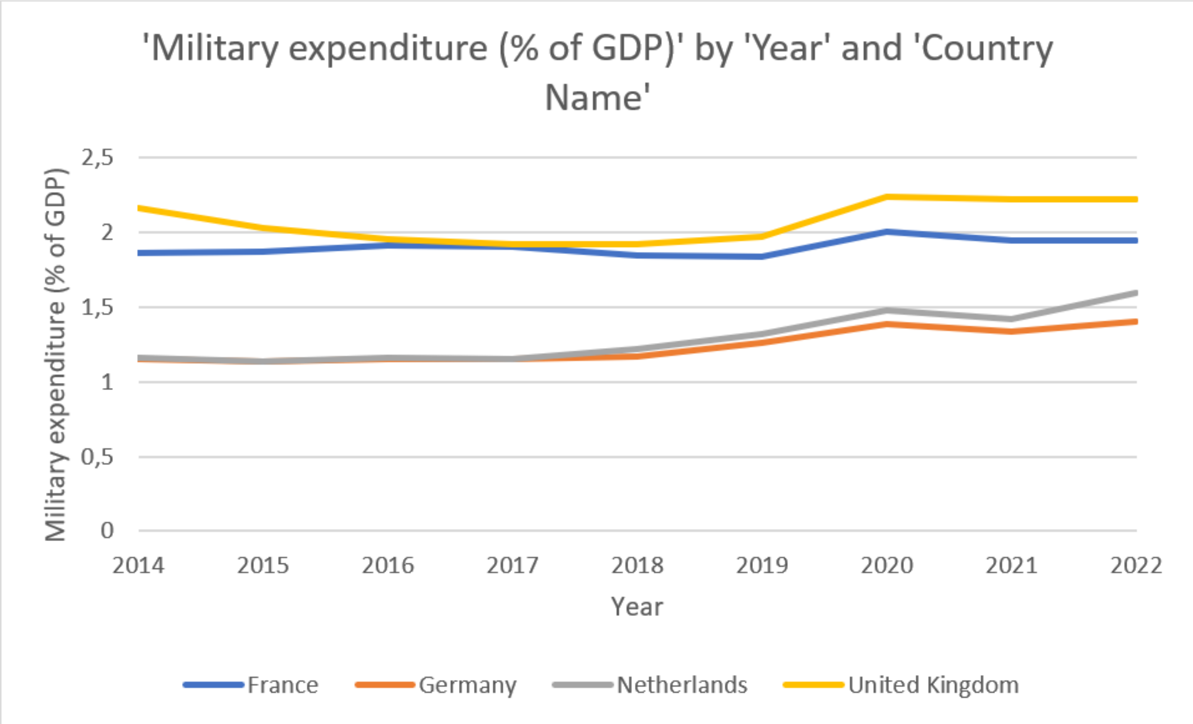
- SIPRI Arms Industry Database
- SIPRI Arms Transfers Database
- STATISTA
- SIPRI TRENDS IN INTERNATIONAL ARMS TRANSFERS, 2022 Fact sheet
- World Bank statistics
- SIPRI TRENDS IN WORLD MILITARY EXPENDITURE, 2022 Fact sheet

Different parts of these databases were used to look at the four observation points introduced in the "Methods" part of this research paper namely:

- Budget
- Purchasing
- Manufacturing
- Cooperation

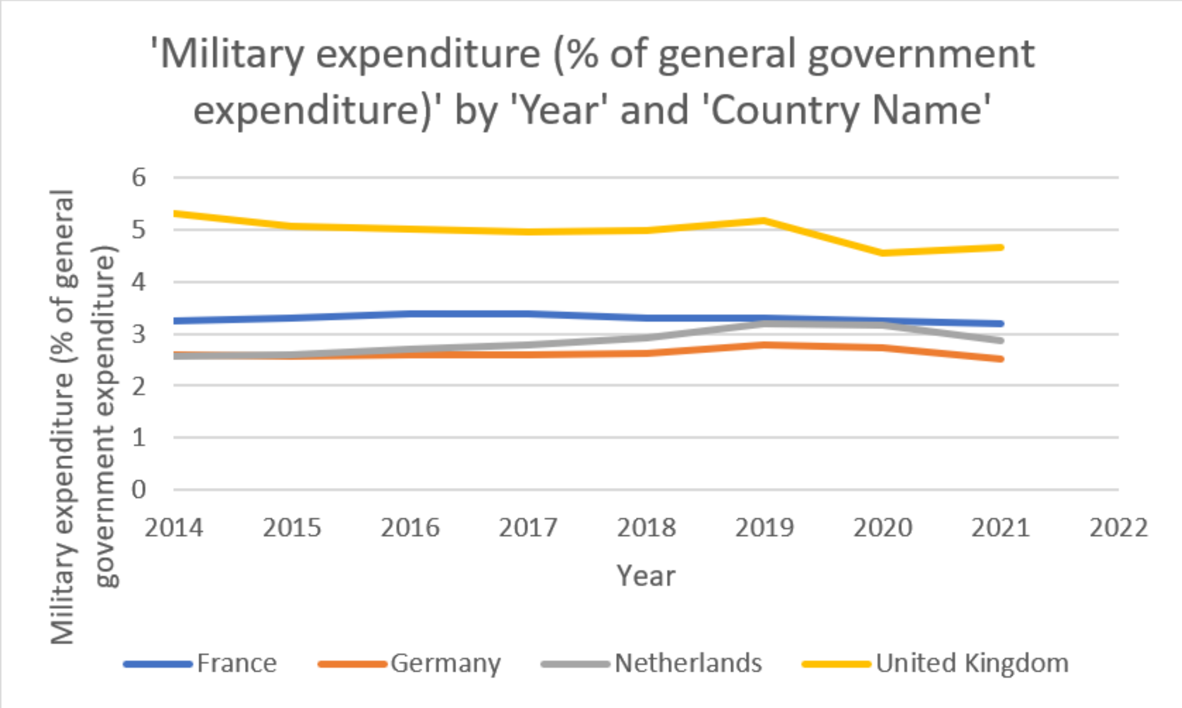
Budget

For the "Budget" observation point data from STATISTA, "SIPRI TRENDS IN WORLD MILITARY EXPENDITURE 2022" fact sheet and the World Bank statistics were used. The data used is with regards to the military budget of the four nations that this research paper is looking at. The budget was examined in two different ways: as a percentage of the nations' GDP and as a percentage of the "General government expenditure" (World Bank Open Data. n.d.-b). Datapoints from 2014 to 2022 were used for the budget as percentage of the GDP and datapoints from 2014 to 2021 were used for the military expenditure as a percentage of the general government expenditure. The reason for the missing year of 2022 in the latter case is that there was no such data available for this year.



World Bank Statistics

When examining the graph with regards to the military expenditure as a percentage of the GDP by year and by country, it can be observed that the general trend in this matter is an increase, more so after 2018. It should be further noted that we see a decrease in 2020 that stabilizes or increases again from 2021 to 2022.The steepest increase in the last year can be observed in the case of The Netherlands, and after that Germany. France and the UK seem to have no increase nor decrease from 2021 to 2022. While Germany has the lowest percentage, it should be noted that the German GDP is substantially higher than the other three nations researched in this paper. Therefore even though Germany might invest a lower percentage of its GDP, this does not necessarily mean that Germany has a smaller budget for its military than the other countries listed.

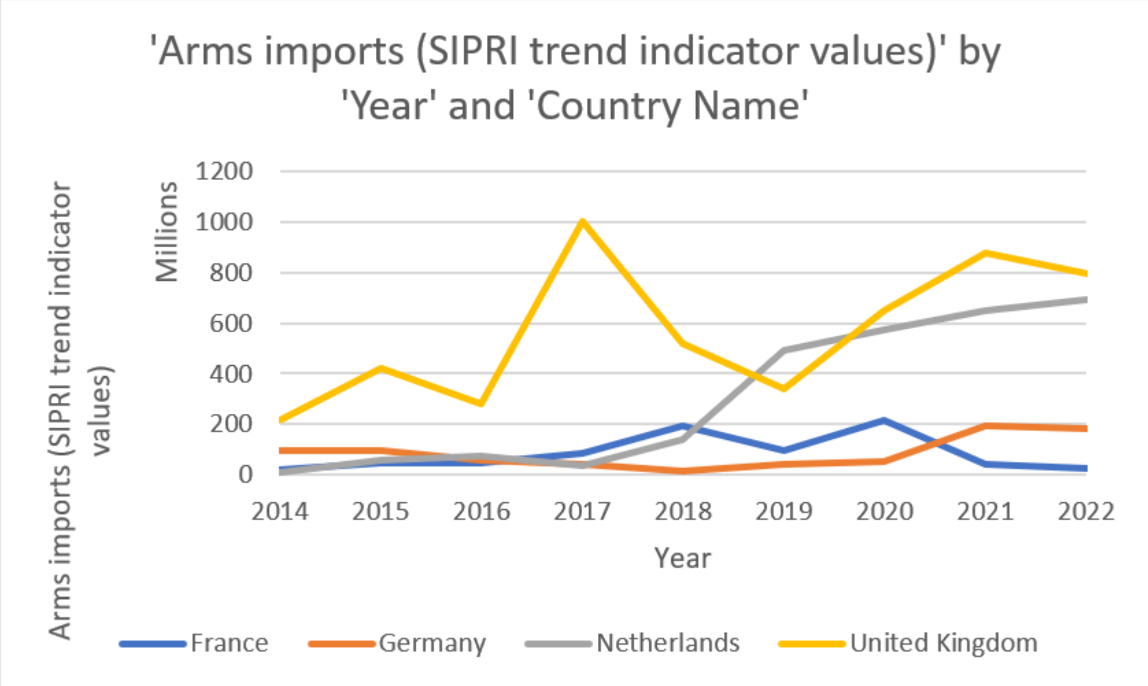


World Bank Statistics

Interestingly and in contrast to spending as a percentage of the GDP, expenditures as a percentage of general government expenditures seem to be decreasing in all cases except for The Netherlands from 2014 to 2021. While some initial increase can be noted in 2018, this decreases again from 2019 onward. Only the UK shows an increase again in the final available year of data. It should be noted that the Russo-Ukraine war did not start until 2022 and that therefore this missing year does sadly leave out an important slice of information.

Purchases

The purchases of military equipment are assessed through two databases, namely the SIPRI Arms imports trends as published by the world bank (World Bank Open Data. n.d.-a); and numbers from "SIPRI TRENDS IN INTERNATIONAL ARMS TRANSFERS, 2022" Fact sheet (S. T. Wezeman & Wezeman, 2023). The first is represented in the graph seen below.



SIPRI Arms Transfers Database

The graph shows quite clearly that all nations, except France, have an overall increase in arms deals since 2014 to 2022. The Netherlands has the most noticeable change from 2018 onward. The sudden increase for the UK in 2017 cannot be explained by any direct statements by the government of the UK, including its official report "UK Defence in numbers 2017" (Ministry of Defence, 2017). France is the only nation that does not have an overall increase since 2014. This is mostly due to the almost complete reliance on its national arms manufacturing to supply its military. While Germany does have an overall increase, it too heavily relies on its own industrial military complex to supply its military.

The second data source with relations to arms import used in this paper is the most recent report published by SIPRI on weapons exchange (SIPRI Arms Transfers Database. n.d.). In this report, among numerous other data, the top 40 nations with the highest percentage share of weapons imports were reviewed. The review included there percentage change of weapons imports. This entails the change of expenditures on arms import, not the change in their percentage as shareholder of global arms imports. The report compared the imports over the years 2014 to 2017 with the imports over the years 2018 to 2020. As stated before, France and Germany have low arms imports expenditures. Both the UK and The Netherlands are in the top 40 percent shareholders of global arms imports. Both these nations showed a significant increase in spending on arms imports. The UK had an increase of 31% expenditures on arms imports between the two time periods. The Netherlands had an even higher change, with a massive 307% increase in expenditures on arms imports between the two time periods (*SIPRI Arms Transfers Database*. n.d.).

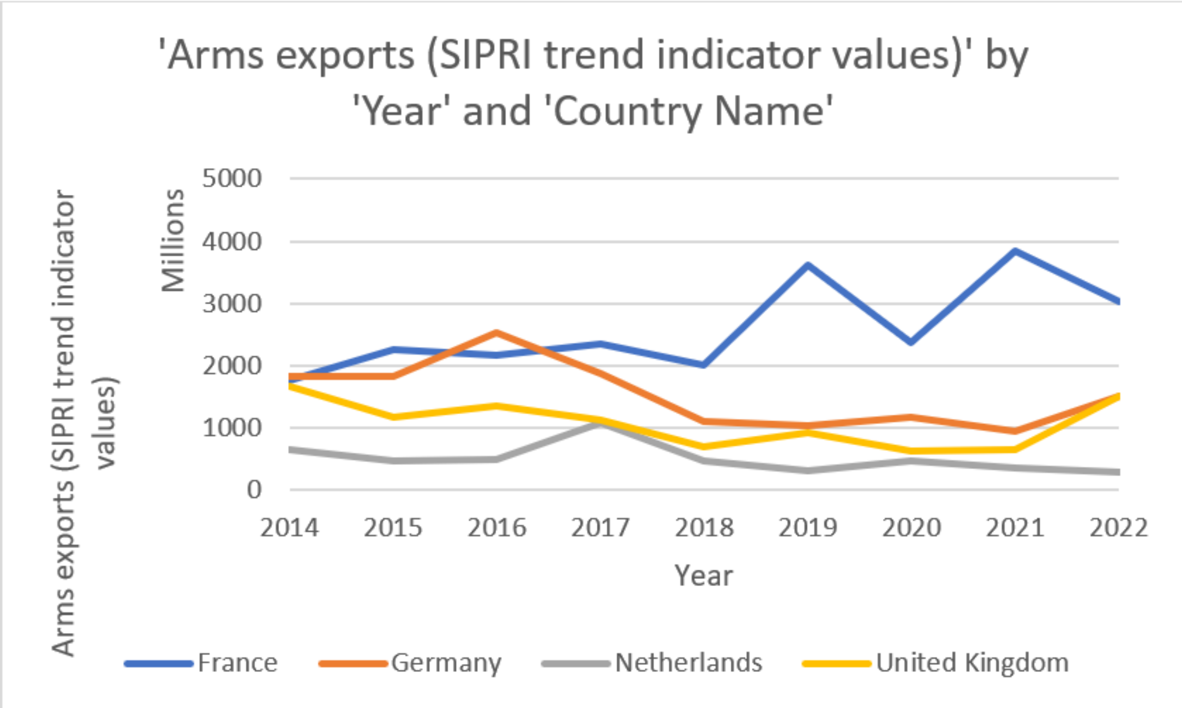
This can be explained by two factors: conforming to NATO expectations of percentage investments into the defense budget, and a modernisation/maintenance of the military after years of recession that left the military in a poor state (Van Harreveld, 2023). This is more visual in imports of the case of The Netherlands than the other countries because The Netherlands barely produces any complete military equipment. While The Netherlands is among the top in arms exports, it specializes in specific parts/components of military equipment and not in the final assembly of the product (Van Harreveld, 2022), therefore this final product almost always needs to be imported from other nations when The Netherlands wishes to expend or modernize its military.

When considering the funding for this 307% increase in imports, government websites stated that it comes from a budgetary fund called the “Aanvullende post” (2.2 Belangrijkste Begrotingswijzigingen | Ministerie Van Financiën - Rijksoverheid, n.d.). This is a previously agreed upon fund that saves a part of the government funds for projects that are agreed upon yet not yet worked out in detail. Once such a project has been planned and worked out in detail, funding is transferred from the “Aanvullende post”. How exactly an increased overall predetermined fund for the military in this case is filled more than previous years is difficult to determine. The Dutch newspaper “De Telegraaf” did research on this and speculated that increased military funds might be put together through the increase of taxes for small business owners (Brandsema & Lengton, 2022).

Manufacturing

The manufacturing of military products was analysed in three different ways and through the use of two different datasets. The datasets used were the database of the world bank on Arms exports through SIPRI trend indicator values (Wezeman, P. D., Fleurant, A., Kuimova, A., Tian, N., & Wezeman, S. T. 2018), and the “SIPRI Arms Industry Database” . The latter was further specified by the institution as the “The SIPRI Top 100 Database” (SIPRI Arms Industry Database. n.d.). The first of these datasets indicated the arms exports in deals through the nations themselves in USD, the second indicates the sales of the companies in these countries as well as the average percentage of the overall sales by these companies that consisted of arms and/or military equipment. To clarify, the company Airbus for example, does have contracts to produce military equipment, but not nearly all of its sales consist of sales that have to do with arms and military equipment. The percentage of its overall sales is connected to arms/military equipment is what is used in this research paper. The idea behind using this is that it indicates whether companies have increased their military production over other production as demands both within these countries and worldwide have risen, which would indicate the ability of such companies to increase military production when demand increases. Besides this percentage, the total sales by these companies, taking into account inflation year by year, were also examined and then expressed in graphs. While this dataset included the top 100 companies of military export, naturally, not all of these companies reside in the nations researched in this paper. Therefore, only those that are located in these nations, or are classified as alliances that include these nations were selected in the dataset used for this research paper and the graphs seen below.

World bank data (Arms export)

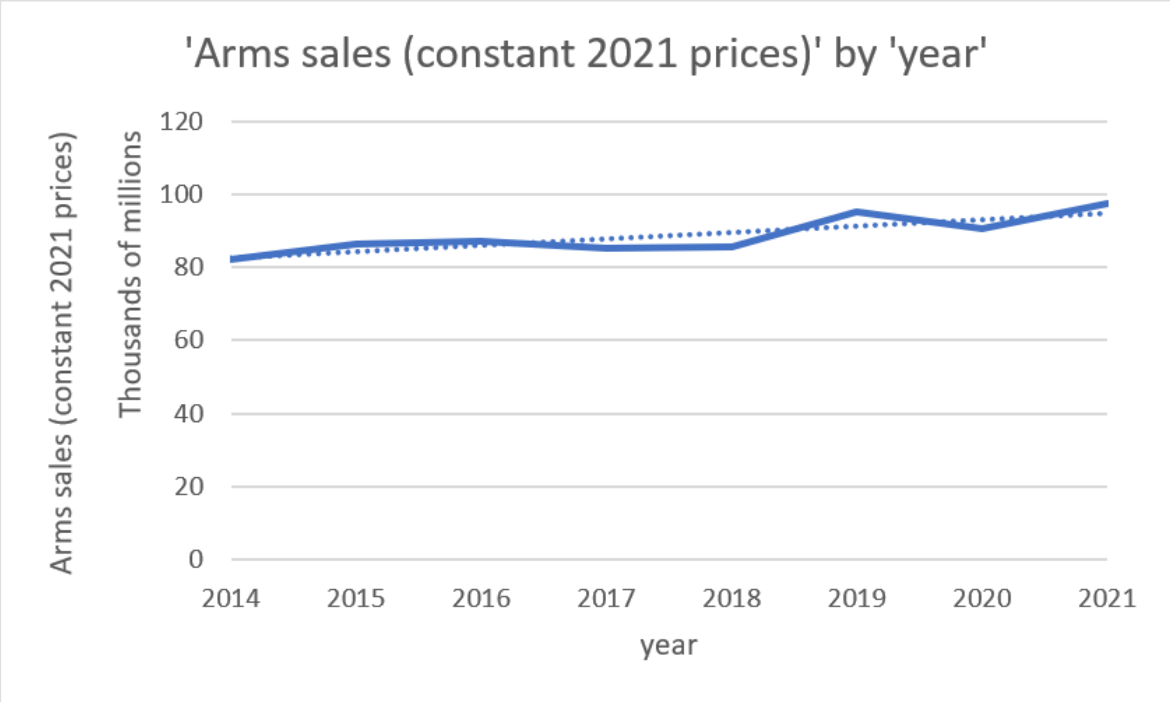


SIPRI Arms Transfers Database

Interestingly all nations, once again except for France, seem to have a declining trend when it comes to arms export. While this is the case, one can also observe that the UK and Germany have a clear increase in arms exports again from 2021 to 2022. France and The Netherlands do not seem to share this trend in the most recent year available and move oppositely, having a decrease in arms exports. The difference might be explained in different strategies and/or levels of preparedness for a possible conflict on the European mainland. Certain countries may prioritize to invest production into their own militaries, while others invest it into bolstering the power of their allies. This explanation however is difficult to verify and therefore remains little more than speculation.

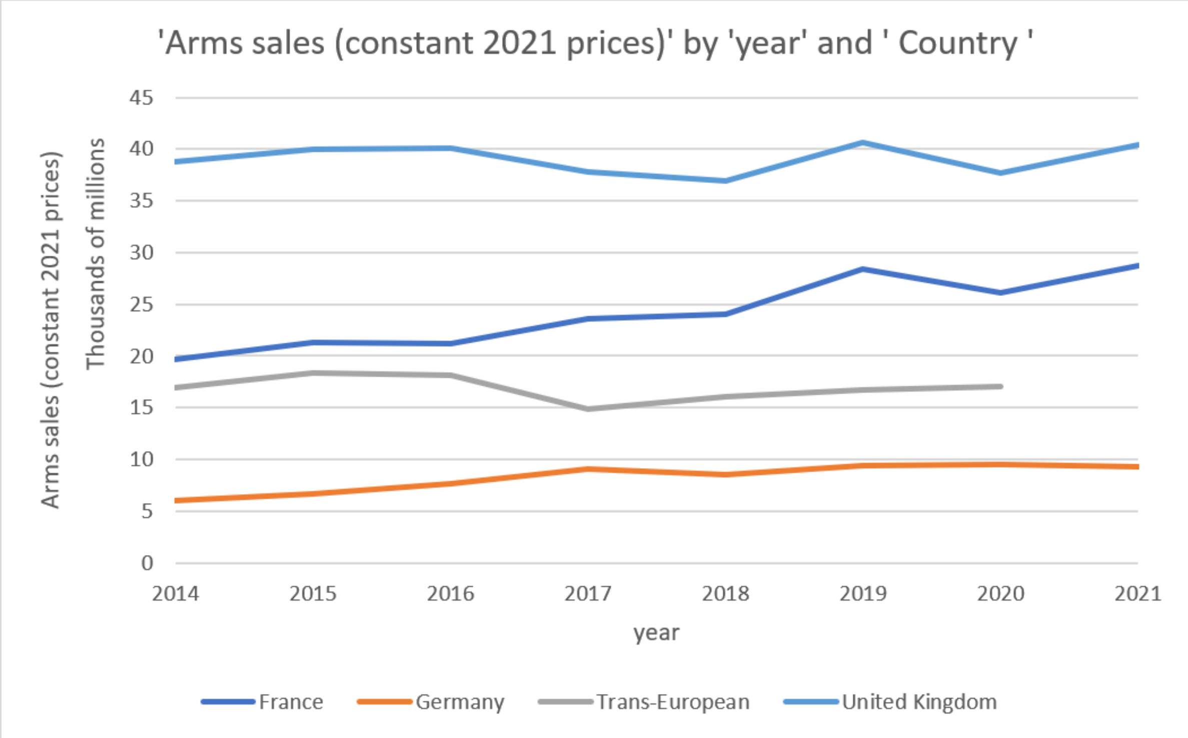
While these statistics on exports are not directed at Ukraine specifically, the numbers do provide an overview of two important parameters: the willingness to continue export of the nation states, and the capability of manufacturers to continue production. Without the latter, taking into account the bolstering of national militaries as well as the delivery of weapon supplies to Ukraine, there would have been a noticeable decrease in exports as there simply would not be enough left to export. The former shows that the nations are still exporting a significant amount of military equipment, signalling that there is no shortage internal nor external, created by national demand or demand by the Ukrainian front. These indicators of 'surplus' production are valuable information for this research.

Arms sales top 100 companies (EU countries)



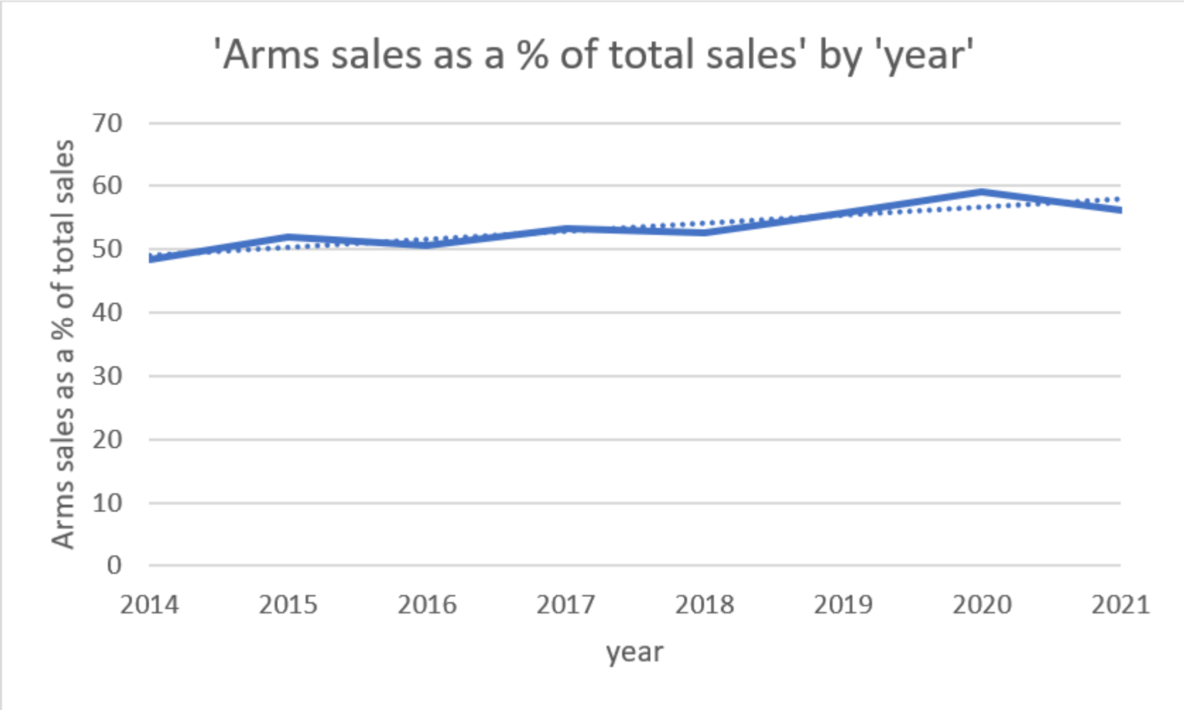
SIPRI Arms Industry Database

This first graph shows the overall amount in USD of arms sales by all companies (that are included in the top 100) in the four countries and their collaborations combined. Even when taking into account inflation, there is a clear increasing trend of almost 20 billion USD, even when accounting for inflation.



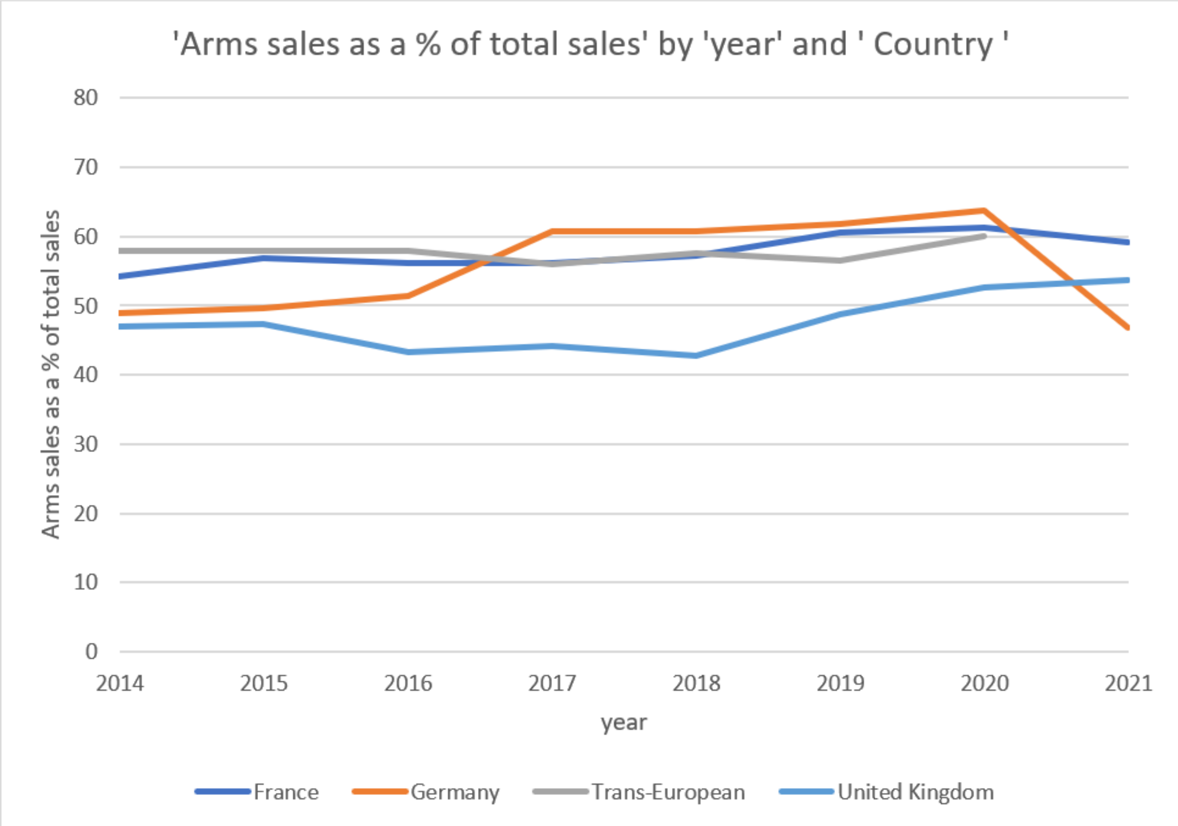
SIPRI Arms Industry Database

This second graph shows arms sales expressed in USD that take into account inflation as well, but then divided based on the nation of residence of these countries. Note that The Netherlands is not included as a line in this graph. This is because there are no Dutch companies manufacturing military equipment in the top 100 listing of SIPRI. None of the graphs displayed below with regards to this database will therefore include data on The Netherlands either. There are however companies that function internationally through European cooperation, these are expressed and represented in the graphs, both above and below. Another note is that, as can be seen above, some data seems to be missing (see Trans-European year 2021). This is because the companies that inhibit the top 100 list are not the same every year, and therefore those years in which these companies are not included do not provide data on them. This has relatively little influence on the outcome of the data as it is implemented as an average of all the companies. Big changes in only one company would not signify anything with regards to the upscaling of production capabilities in the nations and thus the overall average is a better indicator of change in the industry.



SIPRI Arms Industry Database

The graph above shows the percentage all sales that is made up of arms sales. We see that there is a general upwards trendline in this suggesting that companies do increase their arms production as demand rises.



SIPRI Arms Industry Database

When looking at this graph which represents that same percentage yet now divided by country one may observe that the situation is more complicated than the previous graph made it appear. We can once again see an increase from all parties involved after the year 2018. This corresponds with increases in military spending by the nations researched in this paper.

While it is true that there still is an overall increasing trend, the clear outlier is the case of companies located in Germany in the final year of available data. When closer observing the data, looking at the individual companies involved between 2020 and 2021 a logical explanation for this can be observed.

Arms companies 2020

Company (c)	Country	Arms sales as a % of total sales (2020)	Arms sales 2020 (constant 2021 prices) note (d)
BAE Systems	United Kingdom	97	26279
Airbus	Trans-European	21	12739
Thales	France	47	9572
Rolls-Royce	United Kingdom	32	5328
Safran	France	24	4770
Rheinmetall	Germany	63	4525
MBDA	Trans-European	99	4303
Naval Group	France	99	3966
Dassault Aviation Groupe	France	59	3934
Babcock International Group	United Kingdom	56	3118
CEA	France	44	2665
ThyssenKrupp	Germany	5	2145
Serco Group	United Kingdom	32	1893
Krauss-Maffei Wegmann	Germany	95	1505
Hensoldt	Germany	92	1355
Nexter	France	95	1259
Meggitt	United Kingdom	46	1072

Arms companies 2021

Company (c)	Country (d)	Arms sales as a % of total sales (2021)	Arms Sales (2021)
BAE Systems	United Kingdom	97	26020
Airbus	Trans-European	18	10850
Thales	France	51	9770
Dassault Aviation Group	France	73	6250
Safran	France	28	5050
Rolls-Royce	United Kingdom	33	4970
MBDA	Trans-European	99	4960
Naval Group	France	99	4740
Rheinmetall	Germany	66	4450
Babcock International Group	United Kingdom	55	3100
KNDS	Trans-European	95	3030
CEA	France	45	2940
ThyssenKrupp	Germany	6	2390
Serco Group	United Kingdom	29	1870
Hensoldt	Germany	92	1610
QinetiQ	United Kingdom	83	1510
Melrose Industries	United Kingdom	12	1190
Ultra Electronics Group	United Kingdom	79	920
Diehl	Germany	23	870
Meggitt	United Kingdom	42	850

When observing the data from 2020 compared to the data from 2021, three of the four companies located in Germany are the same for both years. There is however one different company. In 2020 the company “Krauss-Maffei Wegman” was part of the top 100 database. In 2021 however, this company was no longer part of the database. Instead, the company “Diehl” was. Where Krauss-Maffei focussed nearly all of its resources, 95%, on arms sales; Diehl accounts a mere 23% of its income as from arms sales. Therefore the large decrease in the case of Germany does not indicate a drop in German manufacturing capabilities, but simply a change in financial gains in the arms industry.

As the war in Ukraine is relatively recent, there is a very limited amount of information available from the time period of the war itself. Both the time it takes for governments to release information with regards to expenditures as well as the withholding of information with regards to military conflicts in order to keep Russia in the dark result in a limited data pool with regards to the war itself. The data above does however give an excellent representation of European actions in the build up to the war, as well as responses from the nations as well as the manufacturers when demand (for a variety of reasons) suddenly increases. As this war comes with such an increase of demand as well, information on how nations and coalitions act in the face of those help us develop a good understanding as well as an educated estimation of the reactions and capabilities during the war in Ukraine. This will be further elaborated in the "Analysis" as well as the "Conclusion" chapter of this research paper.

Cooperation

Ever since the beginning of the conflict, nations have handled in accordance to realist expectations; they have worked together in order to increase the chances of their own stability. This cooperation has expressed itself in numerous different ways and alliances. These alliances include inter-European alliances as well as alliances between European nations and nations outside of Europe.

Three of the most well-known examples of this are the international agreements on sanctions against Russia, the Main Battle Tank (MBT) initiative, and most recently the joint F-16 fighter aircraft training/delivery initiative. These will be further examined in this part of the research in order to better gain an understanding of the criteria and expectations between those involved in the case of such cooperations.

Sanctions

Even before the full scale invasion in 2021, many nations had already imposed numerous sanctions on an ever more aggressive Russia (Von Der Leyen, 2022). Since the invasion started, nations from around the world have increased their sanctions massively. So too the nations that are included in this research paper, oftentimes through international cooperation.

Being in a somewhat more complicated position than the other three nations analysed in this paper, the UK has imposed more individual sanctions against Russia as opposed to France, Germany and The Netherlands who have mainly acted combined through EU actions.

In a webinar posted by the government of the UK late 2022, officials explained the extent and implications of sanctions that had been implemented so far. This included but was not limited to: the sanctioning of 1100 individuals linked to the Russian war machine, immobilising 60% of the Russian war chest which amounted to 275 billion British pounds, and placing bans on the import of Russian oil, steel, and luxury goods (*EU Sanctions Map*, n.d.). In addition to nationally imposed sanctions, the UK is also working together with other nations to impose similar or further sanctions. The G7 council is cited most often for this by government officials (Foreign, Commonwealth and Development Office. 2022, September 22).

While the sanctions imposed by the UK were done so in part as a national decision, they have great similarity with EU sanctions placed on Russia. Crude oil, steel, anything related to aviation and luxury goods are part of the European sanctions as well in combinations with financially striking individuals linked to the Russian invasion. A recent example of this comes in the form of the latest amendments to the EU sanction package, which now includes targeting individuals linked to the Russian abduction of Ukrainian children as well as individuals linked to proxy-authorities that have been established in the Russian occupied regions of Ukraine (Press Corner, 2023). The similarity in targets for sanctions between the UK and the nation states of the EU implies both an agreed view of importance of sanctions of these sectors and individuals as well as a sign of cooperation between the entities.

The results of the sanctions on Russia are significant. According to UK officials, over 1000 businesses have left, suspended, or lessened their activities in Russia since the start of the invasion (Foreign, Commonwealth and Development Office. 2022, September 22). Another sign of effect noted by the British government is that car production in Russia has gone down by 90% when compared to pre-invasion production (Foreign, Commonwealth and Development Office. 2022, September 22). Finally weapons production has also shown a decrease as there is a scarcity in parts, especially parts for advanced weapon systems and aviation. The sanctions hit the general Russian economy as well, which is expected to show a significant decrease in the form of its GDP according to British experts (Foreign, Commonwealth and Development Office. 2022, September 22).

MBT initiative

The MBT initiative, MBT stands for “Main Battle Tank”, is an initiative that was created in January 2023. A coalition of nations, including but not limited to Germany, The Netherlands, The UK and the United States (USA) agreed to supply the Ukrainian military with western-made MBT’s.

It should be noted that the MBT initiative was the first of its kind, as the initiative is the first major public multinational coalition agreement to send a combined package of military equipment. While there have been a great number of previous military supplies send to Ukraine, those were send by individual nation states instead of a coalition of nation states. One of the earlier systems that was send by multiple nations was the “stinger air defence system” that was send by, among others, the USA (U.S. Department of Defense, 2022) as well as the Netherlands (Times, 2022). This system was however, send without any form of agreement or coalition between the two nations. This entails that the MBT initiative marks a shift from national military equipment aid to international. In order for such a shift to occur, the nations involved require trust in one another on a new level, signalling a perhaps more than ever before united West. Another possible explanation for this coalition is that the equipment send is significantly more expensive and less available than systems such as the stinger missile, and dividing the investments between the nation states is beneficial to all those in the coalition.

Ukraine had previously received a large number of Soviet-era tanks from European nations but never before western made tanks (Russia’s war on Ukraine: Western-made tanks for Ukraine. 2023, January). Fear of escalation of- and involvement in the war as well as exposure of western technologies to Russian eyes limited the incentive for such a commitment. Expert assessment and dwindling stockpiles of parts and supplies for the Soviet counterparts however changed political opinions (Russia’s war on Ukraine: Western-made tanks for Ukraine. 2023, January).

Many nations were reluctant to send such heavy equipment without the promise of similar investments by other states. One of the nations with the biggest influence on the matter, Germany, stated it would only supply Ukraine with such equipment if it was done in a coalition. In late January Germany and the USA reached an agreement on the matter that included tanks supplied from both of the nations, which was swiftly followed by the promise of investment by a number of other nations (DPG Media Privacy Gate. N.d.). Poland and the UK had both previously stated to be willing to send MBT’s to Ukraine if other nations did so too and thus agreed to this coalition as well.

Germany was on many levels of great importance to this coalition in multiple ways. Not only does the nation state act as an overall leader in the supplying of Ukraine with heavy military equipment, it also sold its national product, the Leopard 2 to a large number of EU countries. These sales are bound to contracts that ensure that the MBT’s are not resold by these other EU countries. Therefore Germany had to give the green light to send these vehicles to Ukraine before any of the other nations in possession of the tank were even able to make such commitments. This clearly shows multilevel cooperation between EU countries and thus countries analysed in this paper. In addition to Germany, both the UK and The Netherlands have agreed to send MBT’s to Ukraine. The UK will send its nationally created MBT, the Challenger 2, and The Netherlands has struck a deal with Germany to purchase Leopard 2 tanks to send to Ukraine (DPG Media Privacy Gate. N.d.).

This shift in German support through the supply of heavy equipment should not be underestimated. From a nation that was hesitant to support Ukraine at all and a divided government to one of the main suppliers and supporters of Ukraine, German foreign policy has changed drastically over the course of a year, without change of government. The current commitment of aid and resources made by the German government would have been unthinkable at the beginning of the war and is a prime example of European resolve.

In the scope of this research paper, only France has not committed to sending main battle tanks. France has however agreed to send lighter armoured anti-tank vehicles with similar appearances to a tank, namely the AMX-10, which was specifically designed to counter Soviet tanks (Russia's war on Ukraine: Western-made tanks for Ukraine. 2023, January). In this regard, all nations that fall within the scope of this research have committed to contribute to the MBT initiative, showing that nations will choose to invest part of their military power only when others do the same. In addition to contributions from individual nations, there is another level of international cooperation included in this initiative. That is direct EU involvement. The EU Council of Foreign Relations has proposed that all nations that invest their MBT's into the conflict should be eligible for EU reimbursement by the EPF, the "European Peace Facility" (Russia's war on Ukraine: Western-made tanks for Ukraine. 2023, January). This means that such nations will receive monetary support from which they may bolster their own arsenal with the newest model of the MBT that they use. This means that there is not only national or international cooperative incentive, but also supranational supportive incentive, creating both a top-down and a bottom-up approach simultaneously.

Two arguments can be suggested as to why this is. The first is that this way, nations ensure that they 'lose' as much of their equipment as those around them, upholding the power balance this way in order not to give others an advantage over them. The second is that by engaging into such cooperation, the chances of success as the outcome increase, which decrease the chances of negative impact of such an investment and an increased likeliness of stability in the region. Both these arguments agree with the realist approach that this paper bases its assumptions upon.

F-16 combined initiative

The final example of international cooperation discussed in this paper is the recent F-16 initiative. This is an agreement between several western states including the USA and, important for this paper, the UK, despite it never having had the F-16 in service, and The Netherlands to firstly train in the use of- and later supply the Ukrainian air force with F-16 fighter jets.

After receiving approval from the USA, western nations now have stated that they will supply the aircraft of US origin to the war theatre in Ukraine. As the Ukrainian air force is not familiar with such modern western aircraft, it will need to be trained before the jets can bolster Ukrainian forces. In an official statement by the Dutch minister of defence it was stated that "The Netherlands is working on a plan to start with the training of Ukrainian flyers for the F-16 as soon as possible. This will be conducted in cooperation with several partner nations." (Ministerie van Defensie. 2023, May 24). A spokesperson for the British government stated that the prime ministers would "would work to build an international coalition to provide Ukraine with combat air capabilities, supporting with everything from training to procuring F-16 jets" as well as that "The leaders agreed to continue working together both bilaterally and through forums such as the European Political Community to tackle the scourge of people trafficking on our continent." (Reporter, G. S. 2023, May 22).

This outspoken public promise of multilevel cooperation between the nations is another prime example of international western long term support of the war in Ukraine for multiple reasons:

- Training

Considering the difference in equipment used by the Ukrainian air force so far and the sophisticated F-16 training the flyers will be a major part of the coalition's responsibilities. According to several news sources, this could take as much as four months (Partridge, B. C. 2023, May 20). Considering this, it could easily take as much as half a year before the aircraft and staff will be combat ready in Ukraine. That means that by publicly affirming this coalition, western nations also affirm at least another half a year of direct investment in the Ukrainian war.

- Investment

Besides time, the investment of more and more western made equipment and assets show both determination and commitment to the cause. By committing more and more resources into such a conflict, other nations become more and more invested in the outcome as loosing would mean the loss of all this equipment. This makes continued investment more likely as more equipment is being send. The F-16 program is a big step with regards to this.

- NATO

In addition to the, hopefully, 'short-term' goal of Ukrainian victory within its official borders, government officials have also stated that the fighter pilots would be trained in "standard NATO techniques" in order to help "build a new Ukrainian air force with NATO-standard F-16 jets" (Reporter, G. S. 2023, May 22). While this might seem but logical, the implications of this outing, combined with the statement that "The prime minister reiterated his belief that Ukraine's rightful place is in NATO" (Reporter, G. S. 2023, May 22). Where nations were previously reluctant to make any comments, let alone commitments to Ukraine joining NATO or the EU, these statements combined with the actions of actually conforming Ukraine's army to NATO standards show a commitment that is confident past Ukrainian victory over Russia which implies that the west is determined to support Ukraine throughout the rest of the war and beyond.

Analysis

Timeline changes

When combining the data used in this research paper, it is possible to create a timeline that reviews all the changes and patterns throughout the years that fall within the scope of this research. There are a number of significant years that are critical to understanding the foreign policies and through that the investments, changes and patterns in terms of the military. This subchapter will highlight these years and explain their importance, the reasons, and the general foreign policy stances that had an impact on the data seen and processed in the previous chapter.

2014

The first mayor year with regards to the conflict of Ukraine was 2014, the year in which Russia annexed Crimea. Based on the data, there was no direct military response, nationally nor internationally. 2015 and 2016 show no clear patterns that show a military increase of any form. Compared to the current responses, foreign policy consisted of little more than condemning the actions, as the annexation of Crimea did not form any direct threat to Europe’s borders.

2018

It should be noted that nearly all of the data shows significant change from the year 2018 onward. Considering the consistency of this change throughout all data it was significant enough to review what might have instilled such change in all nations involved. After careful assessment of changes in 2018 the following changes are likely to have played a role in the changes seen in the data and graphs:

- Russian ex-spy gets poisoned in the UK.
- Putin gets re-elected.
- Trump threatens to leave NATO.

The first of these is an incident in which a former spy of Russia and his daughter were poisoned in the UK by two Russian secret agents that were later prosecuted by the British court (NOS. 2018, September 5). This blatant and obvious action by Russian authorities send a shockwave both across the UK and the international community. The second change, or more precisely in this case reaffirmation was that Putin was re-elected in 2018, ensuring the world that actions such as the one mentioned above might just happen again for more years to come.

The final and perhaps most significant change of 2018 that is highly likely to have had involvement in the changes seen in the data and graphs is that then president Donald Trump threatened to leave NATO, as other member states were not investing predetermined funds into the alliance (Barnes, J. E., & Cooper, H. 2021a, October 18). According to The New York Times “He complained that European governments were not spending enough on the shared costs of defense, leaving the USA to carry an outsize burden. He expressed frustration that European leaders would not, on the spot, pledge to spend more.” (Barnes, J. E., & Cooper, H. 2021a, October 18). The USA leaving NATO would be such a severe blow to the defense of Europe and its areas of interests that this is most likely the prime incentive for (among others) the nations examined in this research paper to increase their military spending and military capacity in general. A prime example of such behaviour comes from a statement by the Dutch government, promising increased military spending in order to meet NATO standards. These commitments were made for multiple years, up to 2025 (2.2 Belangrijkste Begrotingswijzigingen | Ministerie Van Financiën – Rijksoverheid, n.d.).

With more threats to- and infractions on the stability of European nations by these changes, foreign policies changed to a stance that was more against Russia and pro-NATO. This is very visible in the data from the years 2018 and 2019 where nearly all statistics increase.

2020-2021

The years 2020 and 2021 were mostly marked by the pandemic of COVID-19. This clearly shows through the government expenditures, as priorities shifted from foreign policy oriented to a decrease in importance of foreign relations and government focusses moved to the wellbeing of the states themselves. This is in accordance with the realist view that nations will always do what benefits their short time survival most. Interestingly, the import, export and sales of arms did still slightly increase.

2022

The year that the war in Ukraine started clearly shows a Western foreign policy shift back from the national level to an international, anti-Russia policy, in order to ward of the threat to stability of all Western nations. This is clear in all available data which has gone up from the previous year. The data shows similar change as that from 2018 upwards, including similar promises of increased investment in NATO, all the way to 2025 (2.2 Belangrijkste Begrotingswijzigingen | Ministerie Van Financiën – Rijksoverheid, n.d.).

Assessment

After considering the general changes in investment and foreign policy in the previous subchapter, it is possible to fill in the table that was introduced in the "Design" section of this paper. This is shown below, after which some elaboration will follow.

Stakeholders	Budget	Purchases	Manufacturing	Cooperation
Germany	Up	Up	Up	Yes
France	Up	Same	Up	Yes
The United Kingdom	Inconclusive (Likely not down)	Up	Up	Yes
The Netherlands	Up	Up	Inconclusive (Likely Up)	Yes

Budget

All those analysed in this paper, with the exception of the UK show a clear upwards trend with regards to military budget. While the budget shows an upward trend when seen as a percentage of the GDP, it shows a clear negative trend when seen as a percentage of general government expenditure. Considering the trends in all other observation points however, there is reasonable evidence to assume that the overall budgetary trend is at the very least, not a downwards one.

Purchases

All those analysed in this paper, with the exception of France show a clear upwards trend with regards to purchases. France has shown no overall significant increase or decrease. As stated in the "Data" part of this paper, this can be explained by understanding that France relies on its own military industrial complex for nearly all of its military needs.

Manufacturing

All those analysed in this paper, with the exception of The Netherlands show a clear upwards trend with regards to Manufacturing. The case of The Netherlands in inconclusive as the data used in this research with regards to manufacturing lacked data for The Netherlands, with the exception of data on exports. This data showed a general downwards trend, but so did the data for Germany and the UK. Data on sales of arm suppliers showed upwards trends for France, Germany and the UK, with the exception of Germany's sales as a percentage which was explained in the "Data" part of this paper. This shows that a likely shift from export to bolstering of national militaries. Considering that the arms industries focus mostly on subparts of military equipment and the other nations show an increase in manufacturing, it is reasonable to estimate that military production in The Netherlands is likely an upwards trend as well.

	France	**Germany**	**United Kingdom**	**Netherlands**
Export	↑	↓	↓	↓
Sales %	↑	↓ Explained	↑	-
Sales constant	↑	↑	↑	-
Manufacturing	**↑**	**↑**	**↑**	**↗ Likely Up**

Cooperation
All those analysed in this paper, with no exception, show a clear investment in international cooperation. Interestingly, in all three cases studied, only The Netherlands was involved in each and every one of the cooperations within the scope of this paper. This paper recognizes two possible reasons for this.

- Unintended bias

As the researcher from this paper resides in The Netherlands, there is a chance that these three examples were chosen unintendedly based on news that is published in The Netherlands. It is not entirely impossible that, should the researcher have resided in one of the other three nations, other examples were chosen based on news.

- Limited capacity to act independently

The other possibility is that, while the other three nations are all military powerhouses in western Europe, the limited capacity and strength of the armed forces of The Netherlands allows it to engage in less investments to Ukraine on its own. If this were the case, that would possibly suggest an even greater commitment to Ukraine, as it would be easier to support Ukraine directly rather than only through international cooperations, as those take more investment of time as all parties involved need to agree while all have their own opinions and priorities.

Hypotheses

Hypothesis 1
"Europe arms itself"

After carefully analysing the data, graphs, official statements and other sources of information this paper concludes that hypothesis 1 is correct. Considering the increase in military budgets, importing of military equipment and military manufacturing (combined with decreased exportation) it can be concluded that Europe is in fact arming itself. The most significant data that shows European response when confronted with a threat to its stability is the data from 2018 and 2019. The previously discussed threats made by Trump with regards to NATO in combination with the other events that year resulted in a significant investment into the military for all four nations that were analysed. This shows that, when faced with external threats to stability, Europe will indeed arm itself.

In addition to the statistical proof; statements by government officials on national and, perhaps even more binding, international level show investment through public involvement. Commitments by nations to further investments into the military by the governments are clear indicators of the arming of Europe. International cooperation requires trust in the other parties involved and through such trust commitment into the future. Therefore the significance of actions such as the Leopard 2 commitment and the role of the European council in that should not be taken lightly as a sign of the arming and investment of and in Europe.

Hypothesis 1A

"Europe calls on the USA for support"

While it is true that Europe is arming itself, it has to be admitted that it still relies on the USA as well. The F-16 and MBT programs are prime examples of this. The fact that Europe relies on American made weapons directly (F-16) means it relies on the USA as well, at the very least when it comes to any actions that have to do with these weapons. Indirectly Europe relies on the USA as well as its member states are unwilling to commit without the USA doing so as well in, for example, the case of the MBT initiative and the demands Germany made with regards to it and the USA.

While Europe might be able to do more than it is currently without calling on the USA if it needed, it is doing so in part out of convenience. As the USA is a large military industrial complex and has interests against Russian expansion there are multiple reasons for it to be willing to get involved in it. For many European nations it is cheaper as well as significantly faster to import military equipment from the USA than it is to significantly increase its own military industrial complex. For the USA, this means increased sales which is beneficial for its economy as well as more of a foothold on the European mainland. Therefore it is mutually beneficial for Europe as well as the USA that Europe does, at least partially, call on the USA for support. As long as Europe and the USA share military agreements through NATO and American supply can keep up with European demand, Europe will see little to no need to increase its own production of weapons its currently demanding and receiving from the USA. Should the USA prove unable to keep up with the demand. Europe will be able to increase its own production.

Nations such as France have little to no reason to call on the USA for support as they produce most of their weapon systems locally already and are thus not relying on the USA for their current weapon systems. In addition, such nations can therefore expand through their own military industrial complex cheaper than through that of for example the USA.

Hypothesis 2

"Europe does not arm itself"

Based on the data collected and analysed in this research paper, hypothesis 2 is false. There is a large amount of evidence that contradicts this hypothesis. If hypothesis two would be true, there would be no proof of increased weapons import and manufacturing, nor of increase in military budget. In addition, it would be illogical for Europe to not arm itself while supplying Ukraine with military equipment as it would, in effect, disarm itself through such actions. If Europe were to not arm itself, it would show no actions to support Ukraine on national nor international levels. In order to keep itself safe without arming itself, Europe would have likely not spoken out against Russian aggression as, believing Russian statements, that would risk consequences. This would in turn mean Europe would need to arm itself assuming states do anything to survive. All official statements from all governments that fall within the scope of this research paper strongly contradict such reluctance to speak out against Russian aggression and thus contradict hypothesis 2 itself.

Conclusion

Answer to the research question

"Are western military supply programs to Ukraine sustainable?"

Based on the analysed data, government commitments and all other forms of information examined by this research paper, in combination with the answered hypotheses, this paper reaches the conclusion that western military supply programs to Ukraine are sustainable. The short answer to the research question is therefore "Yes".

As can be expected, the reality of the situation is somewhat more complicated. The findings of this paper, such as the data collected from the SIPRI fact sheets, indicate that there is certainly capacity to expand current military production and thus to expand national and international military industrial complexes. The sudden increase in 2018 shows that, when needed, companies can significantly increase their output. Considering the current political investment and renewed understood importance of military capability, there are potential gains in investing in the expansion of the national military industrial complexes. Taking France as an example, one can see the large benefits in both export and investments into the military. Should Europe choose to increase its own military industrial complexes like France, it will become less reliable on superpowers such as the USA. On the other hand, this reliance does create stability both within Europe as well as on the international level through organisations such as NATO. The conclusion of this research paper is that there are both benefits as well as disadvantages to the expansion of European military industrial complexes. The safest option would in this case be the limited expansion of European military industrial complexes.

As capacities are currently fine and can be increased, the question shifts from "able" to "willing". As sustainability is explained in this paper as willing and able, this is the second and last required affirmation. The current, and at the very least short term future willingness required for the military supply programs are clearly visible through agreements such as the MBT initiative and the F-16 program. Commitments and coalitions paint a clear picture of the level of willingness. The current level of commitment is not easily broken off as expressed in the "Analysis" chapter of this research paper. As breaking of current commitments would be a bad image for any and all of those in power in Europe, in combination with the fact that investments show an upwards trend in both value and technology, the willingness of contribution will remain for the foreseeable future.

Discussion

Data 2022-2023

The most obvious ‘missing piece’ to this research paper is data from 2022 and 2023, the years of the full scale war in Ukraine. Information from these years would undoubtedly show clear evidence with regards to European investment and production numbers. At the time of this research paper however, this data has not yet been released. Government numbers are presented post-summer the next year. For the 2022 data this entails that the information will likely be available after the summer of 2023, and the data from 2023 a year later. In addition to the timing of release of information, the fact that the research topic is war, one should consider that the maximum capacities of nations wont often be disclosed, as this is in essence information that could be beneficial to the opposition, in this case Russia. To elaborate, should it become apparent that Europe is currently producing at its highest efficiency and the USA cannot increase its industrial military complex either this could give Russia a knowledge advantage based on which it might improve its wartime strategies. It will thus always, at least to some extent, be a matter of educated estimations.

Because of this missing data, the scope of the research shifted to the time period 2014 to 2022. This allowed insight into patterns with regards to European reaction to significant changes as well as the reaction to threats to stability, as stated in the research, such as the changes from 2018.

Manufacturing

The numbers show evidence that support the theory that when willing to, nations are able to increase their industrial military complexes. Part of this evidence is seen in the ‘manufacturing’ subchapter of this research paper. There has been however a major event that may have influences the production/ sales rates: COVID-19

Covid

The global pandemic influenced not only individuals, but also national and international industries. Factories were closed both for the safety as well as due to the inability to acquire enough materials and resources to continue production (*Arms Sales of SIPRI Top 100 Arms Companies Grow Despite Supply Chain Challenges, 2022*) The well-known comparison of pictures on emissions in China’s industrial areas before and during the pandemic are a prime example of the scale on which industries were hit. This toll on industries included the arms industries as well. Reports show that the arms industries had trouble acquiring sufficient raw materials to produce ammunition for example (Arms Sales of SIPRI Top 100 Arms Companies Grow Despite Supply Chain Challenges, 2022). The implications of said shortage, and therefore lower production rates in the arms industry on this research paper should thus be considered. There are two primary possibilities as to the implications.

The first is that the inability to produce (and thus sell) more suggests that the numbers of these years and the years later would otherwise be higher, which would mean that there is even a stronger case of data that supports the theory that nations are able to increase production when willing to.

The other option is that the inability to produce (and thus sell) more suggests that part of the increase in arms sales in post-pandemic years is merely to ‘catch up’ will a shortage in military stocks that occurred during the pandemic years, instead of being based on higher demands due to current national and international instability. This does however not influence ability as much, but rather willingness as the numbers show the ability of increase in production and sales, regardless of the reasons for it. This would however suggest that there is less of a demand based on conflicts and thus perhaps less willingness to invest but simply more necessity to refill the standard required stockpiles.

Research on this specific impact and its implications alone could be enough for a whole research paper and therefore cannot be included in this paper due to time and resource constraints. It will therefore largely fall outside of the scope of this paper. It is however good to remember that there may always be outside influences that play a, al be it unknown, part in one’s research and can therefore never hurt to consider possibilities that might have influenced one’s conclusion.

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