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# GOVERNMENT IDEOLOGY AND ARMS EXPORTS

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## ABSTRACT

The relationship between ideology and government decisions is a major field of research in economics and political sciences. Particularly the influence of government ideology on security issues of special interest. This paper analyses the relationship between government orientation and arms exports. Therefore, bilateral trade data for conventional weapons is regressed on data of government orientation. The results indicate that left-wing governments are more likely to grant arms export licences than governments of other partisan orientation. The finding is robust to the inclusion of control variables checking for further characteristics of the exporter government. Including interaction terms shows, that left-wing governments care about the human rights protection in importing countries and prefer to export to countries which are not involved in a conflict.

Keywords: Arms trade, government orientation, partisan ideology

JEL: F19, F59, H11

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## INTRODUCTION

The influence of partisan orientation on government decisions has received a lot of attention from economists and political scientists (see for an overview: Imbeau, Pétry, and Lamari 2001; Alesina, Roubini, and Cohen 1999).<sup>2</sup> Scholars developed theoretical models of political business cycles and their influence on macroeconomic outcomes. These models are divided into models of opportunistic executive behaviour and models of partisan politics (Alesina et al. 1999). Proponents of the second type of models argue that there should be a difference observed in the outcomes from the government of parties of different ideological orientation. Several authors have investigated that question empirically finding evidence of a partisan effect (Imbeau, Pétry, and Lamari 2001; Cusack 1997; Blais, Blake, and Dion 1993).

Comola presents a first empirical study on the influence of government ideology on conventional weapons exports (Comola 2012). Applying a gravity type model, she finds right-wing governments as well as coalition governments increase arms exports significantly. This paper once more turns to the question, whether government ideology leads to differences in arms exports. It adds to the literature by first providing theoretical considerations on why parties differ in this policy area and by second re-estimating the influence of ideology on arms exports by augmenting a gravity model with variables capturing government ideology. The empirical part focusses on the post-cold war period. Data covers 68 exporting countries and 87 importers over the years 1995-2011. A large proportion of zero trade flows makes a separate estimation of the selection process necessary. The selection stage is estimated with a logit regression model. A negative binomial model is applied to the size of the trade flow.

Especially in the selection stage a positive relationship between left-wing governments and granted arms exports licenses is found. However, this result varies with model specification. It turns out that the main result is to some degree driven by US politics. Coalition governments, especially those of the same ideological orientation are more likely to grant arms exports. Left-wing governments seem to be more selective concerning trade partners who are involved in an ongoing conflict and they seem to prefer to export weapons to countries with good human rights records as well as countries which are governed by a party with a similar ideological orientation.

The paper is structured as follows. First there is a short overview over the literature. The second part presents the argument, why governments from different partisan orientation can be expected to decide differently on arms exports. The third and fourth part present data and the estimation approach. Then, in the fifth part results are presented. The paper concludes with a short discussion.

## LITERATURE

There is an ongoing debate in literature whether and to what extent partisan ideology matters for political outcomes (Potrafke 2012; Potrafke 2011a; Milner and Judkins 2004; Imbeau, Pétry, and Lamari 2001; Alesina, Roubini, and Cohen 1999; Cusack 1997; Alesina and Roubini 1992; Alesina and Tabellini 1989; Hibbs 1977; Nordhaus 1975). Partisan convergence theory predicts convergence of partisan policies towards the preferred policy of the median voter (Downs 1957). However, it has been argued that under the assumption of probabilistic voting and partisan politics non-convergence occurs (see Acemoglu and Robinson (2005) for discussion).

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<sup>2</sup> Recent publications are among others (Dreher, Nunnenkamp, and Schmaljohann 2015; Wenzelburger 2015; Herwartz and Theilen 2014; Schneider and Urpelainen 2014; Bjørnskov and Potrafke 2013; Brech and Potrafke 2013; Klomp and de Haan 2013; Martin and Vanberg 2013)

Comola presents the only study so far analysing the influence of partisan ideology on arms exports. Using a gravity type model, she finds a strong positive relationship between right-wing executives and arms exports using a tobit model to estimate conventional weapons trade flows (Comola 2012).

The influence of partisan ideology has more often been presented in the context of military spending. Imbeau and coauthors (2001) conducted a Meta-analysis over empirical studies testing the left-right party impact hypothesis. Their primary finding is that the average success rate of these studies is rather low, meaning that significant estimates are rare. Kollias and Paleologou (2003) found that changes of government have a significant and positive impact on military expenditure in transition periods. This, however, does not explain differences between parties, but rather what happens in case of political change. Bel and Elias-Moreno (2009) conclude that right-wing governments are more prone to spend money on their military forces and their results suggest that government ideology is more important for determining defence spending than the political system. Potrafke (2011) as well confirms an insignificant influence of left-wing ideology on defence spending. (Kauder and Potrafke 2016) show that growth of military expenditure was higher under right wing governments when they use the manifesto indicator to account for government ideology. All other indicators they applied did not lead to this result.

From these empirical results suggest one could expect that a relationship between partisan orientation and preferences for arms exports exists. The following section provides theoretical considerations on how ideology affects arms export decisions.

## HOW IDEOLOGY INFLUENCES ARMS EXPORT DECISIONS

In the following three channels are presented, how partisan ideology matters for the export of conventional weapons.

### *Interventionism and trade openness*

Differences in granting domestic firms to export arms may be the result of consequent pursuit of class interests. Parties are traditionally found to take positions along class cleavage lines. Left-wing parties are associated with policies in favour of labour as factor of production, while the interests of capital are supported by right-wing parties. Left-wing governments are consequently related with social welfare programs, expansionary governments and protectionist policies (Zahariadis 2010). Their voters, low income groups or the unemployed, benefit from large public sectors (Hessami 2010). Right-wing parties in turn are usually proponents of market liberalization and property rights protection (Bjørnskov and Potrafke 2013). Leftist executives are more likely to implement protectionist trade policies, especially in capital abundant countries, where labour as factor of production gains disproportionately less from trade. Right-wing governments are found to pursue more free trade policies (Schneider and Urpelainen 2014; Dutt and Mitra 2005; Milner and Judkins 2004). Thus, overall left-wing governments are more interventionist in general than their right-wing counterparts (McGillivray 2004).

Therefore, right-wing parties, which are in general adopting more liberal policies and oppose market interventions, are expected to be more liberal concerning arms exports as well. Meanwhile, for leftist executives the hurdle to interfere in economic transactions is lower. In addition, the production of conventional weapons is rather capital intensive and thus takes more often place in capital abundant countries. Increasing trade of

conventional weapons therefore yields higher returns to capital as factor of production. As left-wing governments are more likely to implement protectionism in capital abundant countries, it is not surprising to observe lower arms exports in countries with leftist executives due to higher barriers to trade (Dutt and Mitra 2006; Dutt and Mitra 2005; Milner and Judkins 2004).

### *Leftist voters are more pacifist*

Many scholars would agree “that the preferences of domestic political factions affect policy choices on security questions” (Fordham 2008, 624). During the Vietnam War and later during the 1980s, peace movements gained more influence in the western world. In particular liberal and left-wing intellectual circles oppose the paradigm of realpolitik and support more ethical standards in foreign policy. Left-wing ideology is characterized by preferences for greater political and economic equality.

*“An emphasis on equality has typically made leftist champions of the weak against the strong, fighting for the underprivileged. They apply this inclusive agenda at the international level as well. Leftist are marked by a broader conception of political community both at home and abroad.”*  
(Rathbun 2004, 21)

They are more likely to accept the interests of other states as legitimate and have less confidence in the use of force as means of conflict resolution in international relations (Rathbun 2004). In contrast, rightists are more exclusive in their views and policies, placing higher weight on domestic demands. There is also a higher level of acceptance among right-wing parties to support foreign policy objectives with military superiority (Schoen 2007; Rathbun 2004). Right-wing parties place higher emphasis on the military, national security as well as on the defence industry than left-wing parties and are ascribed to have more competence in these issue areas (Danzell 2011; Schoen 2007;

Petrocik 1996). As well, right-wing governments are associated with more hawkish foreign policies (Whitten and Williams 2011; Koch and Cranmer 2007; Palmer, London, and Regan 2004; Rathbun 2004).

Research on congressman voting behaviour suggests that votes in the area of defence and foreign policy are indeed better predicted by ideology than by economic interests of their constituency (Fordham 2008; Lindsay 1990; Wayman 1985; Ray 1981). Acemoglu and Robinson show that under the presence of ideological voting behaviour (i.e. probabilistic voting) and partisan ideology convergence of policies will not happen (Acemoglu and Robinson 2005). Considering the adverse effects conventional weapons have on international security, opposition to arms exports is consistent with leftist ideological stances and therefore hypothesized to be more often observed than right wing opposition to arms exports.

### *Fiscal considerations*

Arms exports are the result of trade-offs a government faces in fiscal policy. The arms industry, especially firms producing conventional war weapons, is subject to high fixed cost. Research and development is very costly in high technology industries. Domestic demand, however, is often not large enough to absorb the production capacities of firms, what is necessary to cover the high fixed cost. In addition, arms procurement declined particularly during the 1990s as a consequence of the end of the cold war and the resulting reduction of threat. Armament companies, therefore, often produce in the face of negative profits. As the defence industry is in many cases argued to be vital for a country and self-sufficiency in the supply of weapons is a high goal for many states, governments face the urge to support this industry. Support can take the form of increased procurement, subsidization of the industry or allowing arms exports to

increase revenues. While buying weapons increases military expenditure and subsidies also burden the budget, arms sales to foreign buyers is a way of supporting the industry without increasing government spending. Research gives support for the argument that industries require fewer subsidies when trade increases (Aydin 2007). Thus, fiscal considerations could lead to increasing arms exports. Then it is different spending priorities of left and right-wing parties that lead to differences in arms exports. It depends a lot on how stressed the budget already is, whether increases in government expenditures is a viable way to support the own arms industry.

Thus, higher arms exports are the result of different preferences for budget composition and fiscal discipline between left and right parties. As a consequence of their support for the lower classes, left-wing governments favour subsidies to labour and spending on social programmes (Aydin 2007; Verdier 1995). Especially when jobs are at danger, left-wing governments are inclined to support the industry to avoid increases in unemployment, although they might otherwise be more reluctant to support weapons production. However, increasing military expenditure and arming the military seems to be an unlikely candidate for left-wing governments as well, having their ideological distance towards the military in mind. Although the literature remains inconclusive on the issue, there is a tendency towards lower military expenditure under left-wing governments. Thus, left-wing governments oftentimes face a trade-off between assigning resources to the welfare state and industrial support.

The same holds to a similar extent for right-wing executives. There might be a higher propensity to increase domestic procurement of weapons for right-wing governments, because the association with the military comes more naturally for the political right. Again, in the past only mixed evidence has been found for differences of budget composition over political parties (Potrafke 2012; Potrafke 2011a; Potrafke 2011b; Potrafke 2010). When the budget is tight, right-wing governments may be constrained in

their choices as well, as budgetary balance seems to be a value for itself for many right wing governments (Boix 2000). In order to avoid a deficit, right-wing governments may be more likely to opt for arms exports, while left-wing governments show less reluctance to increase public debt (Boix 2000). Therefore higher exports of conventional weapons under right wing governments could be expected.

## THE DATA

To test the hypotheses, arms exports of 68 democratic exporters and 87 importing countries for the years 1995 until 2011 are regressed on their governments' political orientation. Democracies are selected following the democracy variable from (Bormann and Golder 2013; Cheibub, Gandhi, and Vreeland 2010). The dataset is due to different data availabilities unbalanced.

### *Dependent variables*

The dependent variable, the *number of arms* exported from country  $i$  to country  $j$ , is taken from the Stockholm International Peace Research Institute (SIPRI 2014). First, SIPRI is very transparent with regards to the data collection and assembling process, increasing the reliability of the results from the analysis. Second, SIPRI provides the number of weapons exported in addition to information on the value of weapons. This is of particular interest for two reasons. On the one hand the number and potentially the type of weapons might be of higher interest during the political decision making process than the value of the deal. Especially for the risk assessment of an arms deal, the number and types of weapons are crucial. On the other hand there is no free market for conventional weapons; therefore, prices yield only limited information anyway. The trend-indicator value (TIV) SIPRI constructs for each weapon type is used to check the sensitivity of the results. However, it does not sufficiently add explanatory value

considered to be large enough to outweigh the fact that it is in most cases an estimate of the weapons production value and that it does not reflect actual payments made (SIPRI 2014). Last, the export of conventional weapons is evaluated individually in the political process. Dual use items as well as small arms are often regulated through control lists and deals are not decided individually. Because the aim of this study is to find out more about the political decision making process the focus is laid on conventional arms exports, knowing that today the spread of small arms and the control of dual-use goods are an increasing problem and important field of research.

The timing of arms exports is also very important. Between the conclusion of a deal and the delivery of the weapon many years may pass. In the following analysis the focus is laid on the arms export licences granted by the government. This makes it possible to attach the deal to the government which granted the license. Using deliveries instead might lead to biased results, because it is not clear which of the previous governments has actually granted the deal and the decision to stop a deal, which has been granted in the past, potentially follows different considerations than allowing a new deal to take place. In the following the notion of *granting arms export licenses* and *exporting weapons* will be used interchangeably.

*Independent variables: government orientation*

For the political orientation of governments data is taken from the Database of Political Institutions (DPI) (Beck et al. 2001). The orientation of the party with respect to economic policy is coded on a scale from right to centre to left. However, this does not necessarily imply that the data also captures the ideological orientation of governments with regard to security and peace policy. In order to clarify whether the DPI data captures also ideology with regard to peace and security I regress the data from the DPI on data from the Manifesto Project Database. The Manifesto Project presents a quantitative content analysis of party programmes in 56 countries covering democratic

elections since 1945 (Volkens et al. 2015). It offers indicators capturing statements in the party programmes with regard to peace and military and also composes an international peace index which covers negative notions of particular countries with which the respective country has special relations, negative statements towards the military and “any declaration of belief in peace and peaceful means of solving crises” (Volkens et al. 2015). Table 1 shows the bilateral regressions over 43 countries in their election periods between 1995 and 2004.

The international peace index is significantly and positively correlated with a left-wing coding in the DPI dataset, but insignificant for right-wing. This could be interpreted as a first indication that the coding of the DPI also captures ideological orientation with regard to peace and security. In order to be more precise the variables capturing negative notions of particular countries with which the respective country has special relations, positive statements about the military and negative statements about the military, as well as the peace variable, are inspected more closely.

Table 1 OLS regressions of DPI and Manifesto Indicators

VARIABLES	(1) right wing	(2) left wing	(3) right wing	(4) left wing	(5) right wing	(6) left wing	(7) right wing	(8) left wing
International Peace Index	-0.026 (0.025)	0.052** (0.025)						
Positive military			0.024*** (0.007)	-0.022*** (0.007)				
Negative military					-0.075 (0.069)	0.156** (0.068)		
Peace							-0.032 (0.022)	0.058** (0.023)
Constant	0.436*** (0.045)	0.400*** (0.043)	0.376*** (0.041)	0.479*** (0.042)	0.430*** (0.043)	0.411*** (0.043)	0.431*** (0.042)	0.414*** (0.041)
Observations	162	162	162	162	162	162	162	162
R-squared	0.006	0.025	0.025	0.021	0.005	0.021	0.006	0.019

Note: Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

For foreign special relations the coefficients are insignificant and not reported in the table. If a party is coded right-wing in the DPI there is a significant positive probability that positive statements about the military are included in its party programme. The

opposite holds for parties being coded left-wing in the DPI. There is a negative probability of positive statements about the military in their party programmes. Moving to negative statements about the military this relationship is confirmed. There is a significant positive probability of having negative statements in party programmes of parties coded as left-wing in the DPI. Although the coefficient for the right-wing parties is insignificant it has the correct sign. Furthermore, a left-wing coded party in the DPI significantly increases the likelihood that the party programme includes statements about peace. Using the Manifesto Data is not uncontested. The reasons are severe problems with miscoding, due to the lack of inter-coder reliability, as the manifestos are coded only once by only one person (Benoit, Laver, and Mikhaylov 2007). Therefore, the Manifesto data is not used for further analysis in this paper and the results reported above should be taken with caution.

To sum up there is some indication that parties which are coded left-wing with regard to economic policy also have a higher likelihood of supporting peace and are more critical about the military than those parties which are coded right-wing. Therefore, the paper proceeds using the DPI data for government orientation.

*Independent variables: gravity model controls*

In a first baseline model the variables commonly used in the literature to estimate the gravity model are included from the CEPII database (Mayer and Zignago 2011). Bilateral Distance, a common border, a common language, previous colonial ties, a common colonizer, being landlocked and a common legal origin are included. For regional trade agreements, data provided by (De Sousa 2011) is used. Data on GDP is taken from the World Development Indicators (World Bank 2014). In case economic factors are primary drivers of the arms trade, estimates for these variables should display significant effects in the same direction as it has been regularly found in literature on bilateral trade. Thus, I expect positive coefficients for importer and exporter GDP, common language, previous

colonial ties, a common colonizer, common legal origin and trade agreements. Negative effects are expected for bilateral distance, a common border and for at least one country being landlocked.

*Independent variables: additional controls*

The inclusion of *military expenditure* in the model is intuitive. The higher the budget is the exporter can spend on his military the lower is the necessity to support the local arms industry through arms exports. Thus the supply of weapons will be lower. On the side of the importer the higher the budget is the more weapons can be purchased. Thus the demand for weapons will be higher. Data for size of *military expenditure relative to the GDP* is taken from the world bank, but has been ultimately collected by SIPRI (World Bank 2014).

On the importer part, a variable capturing the *number of conflicts* the importer is involved in is used in order to control for increased demand in those countries. The effect of this variable is expected to be positive. The data is taken from the UCDP database Uppsala Conflict Data Program (2015)

*Fuel exports of the importer* are included in order to control for the effect of resource rich countries. They should have more financial means to buy weapons. Thus, the effect is expected to be positive. On the other hand, many fuel exporters are located in the Middle East and have been involved in massive military build-up during the 1990s and 2000s. Data for fuel exports is taken from the WDI database (World Bank 2014).

Democracies fight fewer wars with each other and trade more with each other (Mesquita et al. 1999; Aidt and Gassebner 2010). In addition democracies are more likely to form enduring alliances with each other (Gaubatz 1996). Thus *democratic* status of a country is included to the model. The democracy variable is taken from (Cheibub, Gandhi, and Vreeland 2009; Bormann and Golder 2013). To account for *physical integrity rights protection* the latent variable proposed by Fariss is included. Its benefit over other

variables capturing repression is that it is accounting for increasing reporting standards over time (Fariss 2014; Schnakenberg and Fariss 2014; Fariss 2015). The variable is normalized to range between 0 and 1 for easier interpretation.

In order to test for industrial development, the share of *exports of goods and services over GDP* and the *share of merchandize exports* is included in the estimation for both the importer and the exporter. For the first, data is taken from the WDI database and the second from the Penn World tables (World Bank 2014; Feenstra, Inklaar, and Timmer 2013). Countries, which export more and specifically which export more merchandize products are assumed to be more developed and in line with the Helpman, Melitz, and Rubinstein hypothesis, have more productive firms in their territory (Helpman, Melitz, and Rubinstein 2008). Thus, they are also more likely producers and exporters of weapons.

The *current account balance (% of GDP)* is included for exporters (World Bank 2014). Countries with a negative current account balance may be tempted to export weapons in order to improve it, while countries with a positive current account balance are less likely to export weapons.

The members of the *same military alliance* are more likely to trade weapons with each other than with non-members and even more than other countries not part of the same military alliance. The reason is that the alliance reduces the probability that the two partners engage in a conflict with each other. Thus exporting weapons to a member of the same military alliance increases a state's security. Partners support each other in order to strengthen their alliance and to increase interoperability of their weapon systems. A variable capturing whether both countries are member of the NATO is included. The variable is self-coded. It takes the value 1, when both countries are members of the NATO and 0 if not.

Party systems and partisan politics are believed to be different in presidential and parliamentary democracies. Coalition governments are more likely to occur in parliamentary systems. Another difference between presidential and parliamentary systems is that in presidential systems it is not uncommon that the party of the executive is not the same as the party holding majority in the parliament and the executive is usually directly accountable to the citizens and less so to the parliament. The resulting conflict and difference in accountability might lead to different results in presidential systems than in parliamentary. In order to control for that a dummy for *presidential system* is included (Beck et al. 2001). A more sophisticated model specification also includes a *coalition* dummy in order to capture the effect of coalition governments. Coalitions are however, not all the same. Thus two additional controls for coalition governments of parties with the same and different orientation are included: *same coalition and mixed coalition*. As coalition governments have to bargain over issues and coalition partners have to be convinced, coalition governments are assumed to export fewer weapons, especially when they are mixed coalitions. The variables are constructed from the DPI (Beck et al. 2001).

Finally, the United States is the world's largest arms exporters, responsible for roughly 60 % of world arms trade (SIPRI 2014). Therefore, the model is once estimated excluding all observations, where the USA is the exporter.

In addition to the *RTA* variable I include a variable capturing whether both trading partners are members of the *European Union*. Some of the largest arms exporters are members of the EU, which may also have a significant effect on their bilateral arms trade flows.

A dummy for the existence of an *UN mandatory arms embargo* on the importer was to be included. In case embargoes are effective this dummy should have a negative significant effect on arms exports to that country. However, as it turns out all exporters

within the sample seem to respect embargos, therefore the variable dropped out because it did not vary in this sample.

## ESTIMATION METHOD

The choice of an adequate model for estimation is crucial and needs some attention.

The basic model that is estimated is a gravity type model:

$$X_{ijt} = \beta_0 (GDP_{it})^{\beta_1} (GDP_{jt})^{\beta_2} (DIST_{ij})^{-\beta_3} e^{\beta_4(X_{ijt})} e^{\beta_5(E_{it})} e^{\beta_6(I_{jt})} e^{\beta_7(\theta_i)} e^{\beta_8(\delta_j)} e^{\beta_9(\gamma_t)} \varepsilon_{ijt}$$

where  $X_{ijt}$  is the bilateral volume of arms trade between  $i$  and  $j$ ,  $GDP_{it}$  and  $GDP_{jt}$  are the GDPs of the exporter and the importer,  $DIST_{ij}$  is bilateral distance,  $X_{ijt}$  is a vector of bilateral characteristics,  $E_{it}$  is a vector of exporter and  $I_{jt}$  is a vector of importer specific characteristics (Baier and Bergstrand 2007). In addition year  $\gamma_t$ , importer  $\delta_j$  and exporter  $\theta_i$  fixed effects are included, as well as multilateral resistance terms following the approach of Baier and Bergstrand (2009). The inclusion of time-varying importer and exporter fixed effects is not feasible, as our variable of interest, political orientation of the exporter government, is correlated with them and would be dropped (Baldwin and Taglioni 2006).

The model is estimated in its baseline specification using negative binomial regression on the positive values of arms exports.<sup>3</sup> Due to convergence problems the inclusion of zero trade flows was not possible. This, however, may induce a significant selection bias to the results presented. To control for the selection, a different estimator would be more appropriate, for example the zero inflated negative binomial (ZINB) estimator. Unfortunately, the ZINB model did also not converge for the present dataset.

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<sup>3</sup> Traditionally the gravity equation is estimated using OLS. In order to do so the equation has to be log-linearized. However, taking the natural logarithm of the dependent variable produces a large number of missing values when the dependent variable contains many zero values resulting from unobserved or non-existent arms trade between two countries. This problem has already been addressed in the literature on gravity analysis (Linders and De Groot 2006, Silva and Tenreyro 2006, Helpman, Melitz, and Rubinstein 2008, Burger, van Oort, and Linders 2009).

Therefore, the selection stage is estimated separately in the following with a logit model and for sensitivity analysis also a tobit model is estimated, which explicitly takes the censoring of the data into account (Comola 2012). However, the tobit model does not explicitly model the sample selection process.

## RESULTS

### *Baseline estimations*

Table 2 displays the results from the negative binomial regression (model 1) and the logit regression (model 2) of the baseline model with the inclusion of our variables of interest. In model 1 the estimates for government orientation are insignificant. Thus, neither centre, nor left wing chief executive parties are significantly selling more or less weapons than the excluded category of right wing chief executive parties. Model 2, however, shows a positive and significant coefficient for left-wing orientation. Thus, left-wing chief executive parties are more likely to grant weapons sales. Or formulated differently, they are more likely to allow arms exports to another country. This is surprising because the theory would have predicted that it is rather the right-wing governments which allow more conventional weapons exports.

The importers GDP is negatively related to the volume of arms exports, while exporters GDP turns out insignificant. The distance between trading partners is positively related to the volume of trade and negatively to the probability of arms trade flows. Thus, although countries with a large distance between them are less likely to trade with each other, they trade more weapons with each other. Among the standard controls for an augmented gravity model, common legal origin, both trading partners being in a regional trade agreement, and either countries being landlocked reach conventional significance levels. Having had a common colonizer and having a trade

agreement increases both, the probability and the volume of arms trade. Sharing the same legal origin only increases the probability of trading weapons, but has not effect on the volume of the flow. At least one country being landlocked reduces the volume of arms traded between two countries, but it increases the probability of observing arms trade. There is no ad hoc explanation for this finding available.

Military expenditure seems not to affect arms trade flows in this setting. The positive and significant sign in model 2 for the number of conflicts in the importing state does not come as a surprise either, as there is a higher demand for weapons in those countries, thus the probability of arms imports increases.

The estimate of the exporter's share of exports of goods and services in GDP is weakly significant and has a negative sign. Thus, countries with a large export industry seem to export fewer weapons. On the other hand, the exporter's share of merchandise goods in exports is positive and significant in model 2. This indicates a positive relationship between merchandise exports and the probability of exporting weapons. All other coefficients turn out to be insignificant. The variable capturing UN embargoes had been dropped from the analysis, because it lacked variation. The analysis has been restricted to democratic exporters only and none of them seems to violate mandatory UN embargoes.

Due to convergence problems the model could only be estimated with either only the positive trade flows as dependent variable or a binary dependent variable capturing whether or not there is a positive flow between two countries. An estimation of the model with zero trade flows included in the dependent variable or with zero-inflated negative binomial regression to simultaneously estimate the selection and the outcome stage had to be abandoned.

Table 2 Neg. Binomial and Logit Regression of baseline model

Variables	(1)	(2)
Exp. gov. centre	0.474 (0.396)	-0.326 (0.219)
Exp. gov. left	0.147 (0.192)	0.315*** (0.119)
Exp. GDP (log)	0.157 (1.301)	-0.488 (0.659)
Imp. GDP (log)	-1.705** (0.746)	0.124 (0.404)
Distance (log)	0.346* (0.179)	-0.266** (0.108)
Contiguity	0.666** (0.306)	-0.042 (0.191)
Common Language	0.050 (0.388)	0.337 (0.249)
Colonial ties	0.198 (0.357)	0.305 (0.217)
Common colonizer	1.298** (0.577)	0.981** (0.495)
RTA	0.640** (0.287)	0.555*** (0.213)
Landlocked	-2.439** (0.985)	12.998*** (0.730)
Common legal origin	-0.248 (0.229)	0.392** (0.155)
Exp. milex	-0.082 (0.164)	0.072 (0.088)
Imp. milex	0.109 (0.068)	0.045 (0.032)
Imp. Conflicts	0.079 (0.122)	0.217*** (0.064)
Imp. Democracy	0.058 (0.427)	0.157 (0.253)
Imp. Fuel exports	-0.022 (0.021)	0.015 (0.016)
Imp. exports	0.010 (0.017)	0.004 (0.011)
Imp. Merchandise exports	-0.034 (0.098)	0.169 (0.227)
Imp. Human Rights	-2.527 (2.299)	1.522 (1.462)
Exp. current account	0.026 (0.055)	0.027 (0.028)
Exp. exports	-0.090* (0.051)	-0.032 (0.021)
Exp. Merchandise exports	4.130 (2.838)	2.760* (1.491)
Exp. Human Rights	0.517 (2.220)	0.796 (1.560)
Exp. presidential	0.361 (0.800)	-0.144 (0.411)
Both NATO	0.093 (0.340)	-0.048 (0.191)
Both EU	-0.008 (0.309)	-0.276 (0.231)
Inalpha	0.668*** (0.037)	
Observations	1,001	16,268
AIC	10302	5425
BIC	10975	6580

Note: Cluster robust standard errors in parentheses. MRTS, time, importer and exporter fixed effects included in all models. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

*Sensitivity analysis: excluding the US as exporter and adding other controls*

Since the United States is the dominant actor with regard to weapons exports, it is important to make sure that the results are not driven by US government orientation. Table 4 in the Appendix shows the results for dropping observations whenever the US is the exporter (models 1 and 2). When this is done the estimate for left-wing orientation of the chief executive party turns significant and is positive in the logit estimation of whether arms exports are observed, while the center government estimate is negative in weakly significant. This indicates that the results for the influence of government orientation on arms exports are partly driven by US politics. For countries other than the United States there exists a positive relationship between left-wing dominated governments and the probability of granting arms exports.

Another important concern which is additionally addressed in models 3-6, is whether coalition governments are different from single party governments, because not only the political orientation of one party has to be taken into account in coalition governments. Thus, the baseline model is extended with variables controlling whether the government is formed by more than one party. Table 4 again shows the results. Controlling for coalition governments by including a dummy which captures whether there is more than one party involved in the government (models 3 and 4) turns out to be important. The coefficient for coalition governments is in both models significantly and positively related to arms trade. In addition the left-wing coefficient is again positive and significant in the logit estimation of the model. Thus, once heterogeneity of the government is controlled for, left-wing led governments seem to export more weapons than right-wing governments (the excluded category). And governments led by a single party have a lower propensity to export weapons. Distinguishing between coalitions of parties with different partisan orientation and same orientation should be

more informative (models 5 and 6). Obviously coalitions with the same partisan orientation are more likely to sell more weapons and sell significantly more weapons than other coalitions or non-coalition governments. This could be due to a reinforcing effect.

*Sensitivity analysis: including interaction effects*

There is often the claim that certain governments only trade with the ‘good’ ones - meaning countries which are either democratic, not involved in a conflict, are not violating human rights, or have a government with similar partisan orientation. Table 5 in the appendix reports the results for the mentioned interactions. In models 1 and 2 an interaction between the exporters government orientation with the democracy dummy of the importer is included. It turns out that this has no effect on the variables of interest.

Next, government orientation of the exporter is interacted with the number of conflicts the exporter is involved in (models 3 and 4 in table 5). The coefficient for left-wing governments turns out to be positive and significant in the logit estimation. In addition the interaction term of left-wing orientation and conflicts is significant and negative. Thus, left-wing governments may be more likely to export weapons, but they are less likely to export them to states in conflict. This could be counted as a first indicator, that left-wing parties are indeed driven by normative concerns. Interacting government orientation with the respect for human rights leads to a similar result and conclusion. The interaction term in model 5 is positive and significant, indicating that a good human rights record of the importer increases the likelihood for left-wing ruled exporters to send weapons.

Finally, government orientation of the exporter and importer are interacted, in order to control, whether similar ideological orientation of governments increases bilateral arms trade, and indeed it does. While the ideological orientation of the importing government has not effect on governments located at the center of the ideological

spectrum, left-wing dominated governments are more likely to export weapons to other left-wing ruled countries.

*Sensitivity analysis: differentiating between weapon types, using a different dependent variable and another regression model*

Which type of weapon is to be exported also seems to matter for governments. In table 6 the results for an estimation of the model by weapons type is presented. Weapon types, for which fewer than 50 export instances are reported, have not been used for estimation and estimating armoured vehicles as dependent variable did not lead to convergence. There is a positive and significant relationship between left-wing and centre governments and the export of radars. Thus, right-wing governments are exporting fewer radars than governments of other partisan orientation. On the other hand there is a negative and significant relationship between left-wing government and the export of engines.

In order to test the robustness of the result, the model is again estimated with the SIPRI TIV value as dependent variable instead of the actual number of weapons exported. The results are found in table 7, model 1. On the one hand, the result shows differences to the estimation with the number of weapons exported on the other hand there is also no significant effect of government orientation on the value of arms exports.

Comola (2012) in her seminal study on the topic made use of a tobit regression model. The tobit model explicitly takes the censoring of the dependent variable into account. As another sensitivity test I also estimate my model specification with a tobit regression. The results are in column 2 in table 7. I do not find a significant relationship between government ideology and bilateral arms trade. One reason may be the different time period focussed on. The larger part of the time period Comola focusses on is during the cold war, while I focus on the post-cold war period. Comola controls for this dynamic and finds that compared to cold war periods there are significantly less arms exports

carried on after the end of the cold war. Thus, it is possible that during the cold war arms exports were another strategic tool of foreign policy in the bipolar world. However, with the end of the cold war the international arena has changed and thus arms exports may be subject to different considerations today.

Overall, in some specifications of the model a significant relationship between government ideological orientation and arms exports granted is found. Although findings in the literature suggest that right-wing governments sell more conventional weapons than governments of other partisan orientation, this study found an effect which turns out to go in a different direction.

## DISCUSSION AND CONCLUSION

The goal of this paper was to find whether government ideology has an influence on arms exports. Left-wing parties are argued to pursue more inclusionary 'dovish' international policies. Right-wing parties may favour to support the arms industry through liberalization of the arms trade instead of increasing government spending for the support of this industry.

The findings of this paper indicate that left-wing led governments are more likely to grant export licenses, but no effect on the size of exports is found. This result is especially pronounced when the US is excluded from the list of exporters. Coalition governments of parties with the same ideological orientation are more likely to export weapons and significantly export more weapons than coalitions of parties with different ideological orientation. One reason could be that coalitions of parties with the same ideological orientation reinforce themselves and are therefore less constrained in their actions. Including interaction terms between origin government orientation and destination characteristics also leads to mixed results. Especially left-wing executive

parties seem to honour good human rights protection with arms exports and reduce arms exports to importers involved in conflicts. This last finding is in line with the hypothesis that left-wing governments are driven by ideological convictions.

The overall finding, however, is in contrast to the formulated hypothesis and also previous findings in the literature. The effect that has been found relates left-wing governments to more rather than to fewer arms exports, what has been expected based on theoretical considerations and due to previous results (Comola 2012). One explanation might be that issue compensation is taking place. Left-wing governments have to do more because they are perceived as less competent in the policy area (Jensen 2010). In addition, right-wing governments might indeed place a higher emphasis on national security and defence and are therefore less willing to endanger it by selling important technologies to potential enemies, although it would benefit their constituency. Right-wing governments may be more inclined to increase own weapon procurement in order to support the defence industrial base. Another explanation might be that leftist governments avoid military confrontation and show support of allies by sending weapons instead of troops. Finally, left-wing governments might get into difficulty when jobs are at danger, granting more arms exports to reduce the risk of higher unemployment.

Also, the results need some qualification. First, the arms export license data from SIPRI does by far not cover all actual arms export licenses granted, but only those where data is publicly available. The main caveat is therefore that the results can not only be interpreted in the way that right-wing governments grant less export licenses for weapons, it may simply be the case that they are less transparent about it, especially when it comes to selling arms to conflict states or states who are subject to an arms embargo. Whether the interpretation that right-wing governments actually grant fewer

export licenses is valid, can only be checked with better data on arms exports, which is unfortunately not available yet.

Second, the role of interest groups has only been tested indirectly. Whether the defence industry is really successful in lobbying for their interest or not, cannot be deducted from this analysis. It is possible that interest groups are especially successful with some parties and not so much with others. More research would be required to analyse the interplay of different lobby groups, because there might be also competing lobby groups.

Finally, the differentiation of left and right-wing parties is extremely crude. It is not clear that left-wing parties with regard to economic policy would have a pacifist tendency. Unfortunately, there is no data on pacifistic ideology in parties over a larger number of states. It would be highly interesting to gain such data in order to understand which parties are actually pursuing pacifist policies and also whether this contributes to their success. Research on this topic, however, also covers the question of military size, engagement in international conflict or peace missions. The non-participation in world arms trade is only one aspect of pacifism. Future research on the relationship between partisan ideology and pacifistic (foreign) policies could develop a more sophisticated theory than the one presented in this paper and cover more policy fields.

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## APPENDIX

Table 3 Summary statistics

Variables	N	Mean	Std. Dev.	Min	Max
Arms trade SIPRI	1001	170.975	662.245	1	14004
TIV SIPRI	1654	57.651	135.684	0	1518
Arms trade dummy	31128	0.032	0.176	0	1
Vehicals	137	187.854	256.419	2	1408
Ships	111	2.297	1.766	1	11
Satellintes	0	.	.	.	.
Radars	223	13.435	32.001	1	298
Other	38	317.842	1201.818	1	6500
Naval Guns	36	5.056	6.220	1	36
Missiles	223	516.543	1205.134	4	14000
Engines	149	56.866	150.316	1	1306
Artillery	42	56.786	86.704	2	453
Air defence systems	26	12.769	17.152	1	66
Aircrafts	294	11.973	25.510	1	346
Exporter Right	31128	0.443	0.497	0	1
Exporter Center	31128	0.139	0.346	0	1
Exporter Left	31128	0.418	0.493	0	1
Importer Right	31128	0.402	0.490	0	1
Importer Center	31128	0.145	0.353	0	1
Importer Left	31128	0.453	0.498	0	1
Exporter Same Orientation Coalition	31128	0.200	0.400	0	1
Exporter Mixed Orientation Coalition	31128	0.654	0.476	0	1
Exporter Coalition Government	31128	0.852	0.355	0	1
Exporter GDP (log)	31128	25.357	2.099	20.245	30.337
Importer GDP (log)	31128	25.212	2.108	20.245	30.373
Distance (log)	31128	8.438	1.028	4.088	9.894
Contiguity	31128	0.033	0.178	0	1
Common language	31128	0.115	0.319	0	1
Colonial ties	31128	0.028	0.166	0	1
Common colonizer	31128	0.030	0.172	0	1
RTA	31128	0.269	0.444	0	1
Landlocked	31128	0.238	0.426	0	1
Common legal origin	31128	0.257	0.437	0	1
Exporter military expenditure (% of central government expenditure)	31128	6.391	4.497	0.487	32.492
Importer military expenditure (% of central government expenditure)	31128	6.660	4.414	0.487	32.492
Importer number of conflicts	31128	0.669	1.080	0	8
Importer democracy	31128	0.797	0.402	0	1
Importer fuel exports (% of merchandise exports)	31128	9.247	15.978	0	98.239
Importer exports of goods and services (% of GDP)	31128	41.655	23.190	6.959	189.036
Importer share of merchandise exports	31128	0.387	0.647	0.020	12.052
Importer human rights protection	31128	0.542	0.170	0.161	1
Exporter current account balance (% of GDP)	31128	-1.470	7.027	-21.834	38.787
Exporter exports of goods and services (% of GDP)	31128	40.947	23.677	6.959	189.036
Exporter share of merchandise exports	31128	0.395	0.673	0.020	12.052
Exporter human rights protection	31128	0.533	0.182	0.113	1
Exporter presidential system	31128	0.339	0.473	0	1
Importer and exporter are members of NATO	31128	0.111	0.314	0	1
Importer and exporter are members of EU	31128	0.131	0.338	0	1
Importer and exporter are democracies	31128	0.797	0.402	0	1

Table 4 Logit and negative binomial regression on dataset excluding USA as exporter (model 1&2) and with inclusion of additional controls (models 3-6)

Variables	(1) logit	(2) nbreg	(3) logit	(4) nbreg	(5) logit	(6) nbreg
Exp. center	-0.367* (0.221)	0.208 (0.404)	-0.333 (0.219)	0.530 (0.400)	-0.306 (0.220)	0.586 (0.397)
Exp. Left-wing	0.273** (0.119)	0.060 (0.217)	0.308*** (0.119)	0.140 (0.188)	0.310*** (0.117)	0.132 (0.186)
Exp.GDP (log)	-0.598 (0.685)	0.038 (1.361)	-0.456 (0.651)	-0.052 (1.299)	-0.431 (0.645)	0.219 (1.289)
Imp. GDP (log)	0.012 (0.416)	-1.316 (1.009)	0.104 (0.404)	-1.815** (0.756)	0.109 (0.403)	-1.843** (0.751)
Imp. Milex	0.122 (0.095)	0.132 (0.208)	0.081 (0.088)	-0.084 (0.163)	0.098 (0.089)	-0.038 (0.164)
Exp. Milex	0.047 (0.032)	0.139 (0.091)	0.046 (0.032)	0.118* (0.067)	0.045 (0.032)	0.109* (0.066)
Imp. Conflicts	0.205*** (0.068)	-0.052 (0.159)	0.215*** (0.064)	0.079 (0.120)	0.213*** (0.064)	0.088 (0.120)
Imp. Democracy	-0.054 (0.297)	0.227 (0.533)	0.160 (0.253)	0.024 (0.416)	0.161 (0.253)	0.053 (0.411)
Imp. Fuel exports	-0.003 (0.017)	0.006 (0.024)	0.016 (0.016)	-0.026 (0.021)	0.016 (0.016)	-0.027 (0.021)
Imp. Exports (% of GDP)	0.005 (0.012)	0.022 (0.026)	0.004 (0.011)	0.010 (0.017)	0.004 (0.011)	0.011 (0.017)
Imp. merchandise exports	0.405** (0.182)	-0.340 (1.730)	0.168 (0.227)	-0.066 (0.099)	0.165 (0.229)	-0.052 (0.099)
Imp. Human Rights	1.855 (1.517)	-1.273 (2.856)	1.501 (1.460)	-2.714 (2.271)	1.482 (1.460)	-2.684 (2.262)
Exp. Current account	0.018 (0.029)	0.057 (0.053)	0.027 (0.028)	0.025 (0.054)	0.027 (0.028)	0.022 (0.054)
Exp. Exports (% of GDP)	-0.022 (0.022)	-0.046 (0.047)	-0.023 (0.022)	-0.076 (0.051)	-0.022 (0.022)	-0.061 (0.048)
Exp. merchandise exports	2.305 (1.528)	1.642 (2.895)	2.418 (1.524)	3.444 (2.855)	2.509* (1.522)	3.200 (2.738)
Exp. Human Rights	0.285 (1.720)	-5.402* (2.948)	0.946 (1.559)	1.428 (2.257)	1.610 (1.567)	3.007 (2.415)
Exp. presidential	0.022 (0.444)	1.590* (0.944)	-0.078 (0.405)	0.451 (0.792)	-0.118 (0.404)	0.439 (0.799)
Both Members of NATO	-0.227 (0.205)	-0.449 (0.400)	-0.045 (0.190)	0.121 (0.336)	-0.040 (0.190)	0.186 (0.336)
Both members of EU	-0.320 (0.249)	0.542 (0.387)	-0.277 (0.231)	-0.056 (0.308)	-0.280 (0.231)	-0.072 (0.311)
Coalition			0.324* (0.185)	0.704* (0.380)		
Same coalition					0.471** (0.215)	1.031** (0.423)
Mixed coalition					0.215 (0.197)	0.479 (0.404)
Constant	16.026 (22.868)	32.246 (48.021)	9.243 (23.435)	40.985 (44.025)	7.729 (23.366)	33.004 (43.966)
lnalpha		0.662*** (0.039)		0.665*** (0.037)		0.662*** (0.037)
Observations	15,284	805	16,268	1,001	16,268	1,001
AIC	4886	7947	5425	10302	5425	10302
BIC	5985	8561	6587	10984	6594	10994

Note: Cluster robust standard errors in parentheses. Gravity controls included, but not reported due to space reasons. MRTs, time, importer and exporter fixed effects included in all models. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 5 Logit and negative binomial regression with inclusion of interaction terms

Variables	(1) logit	(2) nbgreg	(3) logit	(4) nbgreg	(5) logit	(6) nbgreg	(7) logit	(8) nbgreg
Exp. center	0.264 (0.424)	0.313 (0.821)	-0.310 (0.238)	0.390 (0.450)	-0.342 (0.611)	1.399* (0.826)	-0.475 (0.341)	0.917* (0.549)
Exp. Left-wing	0.451 (0.308)	-0.063 (0.401)	0.483*** (0.139)	0.111 (0.233)	-0.324 (0.304)	0.610 (0.460)	0.092 (0.163)	-0.065 (0.207)
Exp.GDP (log)	-0.450 (0.664)	0.194 (1.102)	-0.434 (0.655)	0.143 (1.308)	-0.481 (0.660)	0.065 (1.315)	-0.500 (0.658)	0.188 (1.316)
Imp. GDP (log)	0.146 (0.404)	-0.963 (0.601)	0.110 (0.405)	-1.694** (0.750)	0.142 (0.405)	-1.776** (0.747)	0.157 (0.406)	-1.797** (0.748)
Imp. Milex	0.070 (0.088)	0.040 (0.137)	0.071 (0.089)	-0.083 (0.166)	0.071 (0.088)	-0.086 (0.164)	0.071 (0.088)	-0.073 (0.167)
Exp. Milex	0.046 (0.032)	0.130** (0.066)	0.047 (0.033)	0.109 (0.068)	0.045 (0.033)	0.108 (0.067)	0.045 (0.033)	0.118* (0.068)
Imp. Conflicts	0.215*** (0.065)	-0.043 (0.120)	0.290*** (0.071)	0.059 (0.141)	0.222*** (0.064)	0.059 (0.124)	0.215*** (0.064)	0.075 (0.120)
Imp. Democracy	0.280 (0.329)	-0.750 (0.573)	0.160 (0.253)	0.060 (0.431)	0.161 (0.254)	0.076 (0.428)	0.140 (0.259)	0.070 (0.443)
Imp. Fuel exports	0.016 (0.016)	0.002 (0.024)	0.014 (0.016)	-0.021 (0.021)	0.015 (0.016)	-0.018 (0.021)	0.014 (0.016)	-0.028 (0.022)
Imp. Exports (% of GDP)	0.004 (0.011)	0.030* (0.016)	0.004 (0.011)	0.011 (0.017)	0.004 (0.011)	0.012 (0.017)	0.005 (0.011)	0.015 (0.017)
Imp. merchandise exports	0.169 (0.226)	0.040 (0.093)	0.170 (0.225)	-0.033 (0.100)	0.172 (0.228)	-0.042 (0.098)	0.176 (0.227)	-0.030 (0.103)
Imp. Human Rights	1.568 (1.461)	-2.314 (2.349)	1.594 (1.469)	-2.489 (2.332)	1.008 (1.471)	-2.336 (2.293)	1.302 (1.483)	-3.348 (2.425)
Exp. Current account	0.029 (0.028)	0.030 (0.052)	0.030 (0.028)	0.025 (0.056)	0.026 (0.028)	0.026 (0.056)	0.027 (0.028)	0.031 (0.053)
Exp. Exports (% of GDP)	-0.035* (0.021)	-0.094* (0.049)	-0.030 (0.021)	-0.089* (0.051)	-0.031 (0.021)	-0.089* (0.050)	-0.032 (0.021)	-0.077 (0.051)
Exp. merchandise exports	2.857* (1.485)	3.522 (2.880)	2.613* (1.503)	4.149 (2.835)	2.720* (1.496)	4.040 (2.838)	2.773* (1.478)	3.944 (2.736)
Exp. Human Rights	0.834 (1.571)	0.480 (2.025)	0.779 (1.552)	0.470 (2.217)	0.860 (1.554)	0.566 (2.226)	0.756 (1.552)	1.033 (2.298)
Exp. presidential	-0.163 (0.411)	0.762 (0.884)	-0.085 (0.418)	0.368 (0.800)	-0.147 (0.413)	0.338 (0.780)	-0.104 (0.413)	0.414 (0.788)
Both Members of NATO	-0.059 (0.191)	0.192 (0.340)	-0.045 (0.191)	0.100 (0.343)	-0.033 (0.194)	0.127 (0.344)	-0.056 (0.191)	0.173 (0.352)
Both members of EU	-0.260 (0.233)	-0.099 (0.326)	-0.274 (0.231)	-0.014 (0.311)	-0.302 (0.233)	-0.000 (0.310)	-0.275 (0.233)	-0.144 (0.322)
Exp. center#Imp. dem	-0.683 (0.432)	0.218 (0.804)						
Exp. left#Imp. dem	-0.158 (0.320)	0.380 (0.426)						
Exp. center#Imp. confl.			0.011 (0.077)	0.071 (0.150)				
Exp. left#Imp. confl.			-0.169*** (0.061)	0.037 (0.105)				
Exp. center#Imp. HR					0.034 (1.079)	-1.646 (1.253)		
Exp. left#Imp. HR					1.133** (0.504)	-0.825 (0.733)		
Imp. center							-0.192 (0.238)	0.360 (0.418)
Imp. left							-0.047 (0.142)	0.274 (0.243)
Exp. center#Imp. center							0.777 (0.645)	-0.961 (1.121)
Exp. center#Imp. left							0.160 (0.345)	-0.420 (0.673)
Exp. left#Imp. center							0.434 (0.288)	-0.410 (0.436)
Exp. left#Imp. left							0.377** (0.186)	0.447* (0.256)
Constant	9.059 (23.756)	15.340 (33.694)	9.264 (23.508)	34.459 (44.008)	10.164 (23.661)	38.182 (44.347)	10.329 (23.636)	35.314 (44.630)
lnalpha		0.691*** (0.036)		0.668*** (0.037)		0.666*** (0.037)		0.658*** (0.036)
Observations	16,268	1,001	16,268	1,001	16,268	1,001	16,268	1,001
AIC	5419		5407		5423		5417	
BIC	6558		6523		6593		6571	

Note: Cluster robust standard errors in parentheses. Gravity controls included, but not reported due to space reasons. MRTs, time, importer and exporter fixed effects included in all models. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 6 Negative binomial regression by weapons type

Variables	(1) Aircrafts	(2) Engines	(3) Missiles	(4) Radars	(5) Ships	(6) Vehicles
Exp. gov. centre	0.791 (0.485)	-1.618 (1.837)	-0.894 (1.159)	2.777*** (0.747)	0.512 (0.946)	-1.296 (1.055)
Exp. gov. left	-0.214 (0.201)	-1.077* (0.621)	-0.648 (0.516)	1.085*** (0.309)	-0.498 (0.333)	-0.159 (0.320)
Exp. GDP (log)	-0.157 (1.405)	11.439 (10.281)	-3.411 (2.894)	-5.797 (4.345)	-10.799*** (2.591)	-9.126** (3.777)
Imp. GDP (log)	-0.230 (0.532)	1.744 (2.735)	-0.934 (1.488)	-4.362*** (1.291)	3.343** (1.636)	-6.374*** (1.770)
Distance (log)	-0.233 (0.168)	-0.978* (0.555)	1.243*** (0.368)	0.187 (0.191)	0.012 (0.356)	0.942*** (0.362)
Contiguity	0.496 (0.319)	-0.580 (0.661)	0.841 (0.665)	-0.141 (0.234)	-6.423 (6.744)	-0.580 (0.646)
Common Language	-1.075** (0.429)	3.177* (1.666)	1.010 (0.721)	-0.757 (0.505)	-0.294 (2.564)	1.008** (0.506)
Colonial ties	0.725 (0.449)	-2.225*** (0.679)	-0.559 (0.412)	0.905** (0.437)	5.305 (6.082)	2.137*** (0.814)
Common colonizer	-0.190 (0.460)		1.111* (0.624)	0.145 (0.388)	0.517 (2.557)	
RTA	-0.151 (0.265)	1.700** (0.848)	0.372 (0.424)	0.659* (0.350)	-0.428 (0.817)	1.830** (0.759)
Landlocked	-1.521 (0.966)	0.687 (10.231)	3.400 (4.771)	-5.074** (2.221)		-34.482*** (9.716)
Common legal origin	0.579*** (0.180)	-1.194 (0.804)	-0.933** (0.467)	0.293 (0.288)	1.220* (0.699)	-1.390*** (0.343)
Exp. milex	0.030 (0.178)	-0.400 (0.859)	-0.106 (0.410)	0.200 (0.360)	-0.290 (0.400)	0.020 (0.429)
Imp. milex	0.021 (0.083)	0.262* (0.152)	0.094 (0.093)	0.022 (0.146)	-0.323* (0.182)	-0.435** (0.213)
Imp. Conflicts	-0.135 (0.116)	0.093 (0.250)	0.171 (0.150)	0.127 (0.115)	0.243 (0.198)	0.390 (0.343)
Imp. Democracy	0.296 (0.316)	2.088 (1.522)	0.811 (0.544)	1.413 (0.947)	11.711* (6.271)	2.977*** (0.979)
Imp. Fuel exports	-0.026 (0.017)	-0.205** (0.084)	-0.064** (0.030)	0.015 (0.048)	0.253* (0.152)	0.018 (0.066)
Imp. exports	0.020 (0.019)	-0.101 (0.103)	-0.057 (0.043)	0.011 (0.039)	0.056 (0.049)	0.086 (0.058)
Imp. Merchandise exports	-1.105 (2.065)	-4.308 (5.802)	-2.151 (2.539)	-1.508 (2.581)	-2.172 (4.725)	5.028 (3.891)
Imp. Human Rights	-7.354*** (2.847)	-0.536 (7.200)	2.060 (4.253)	-2.131 (3.845)	11.464 (10.814)	-5.680 (4.470)
Exp. current account	0.029 (0.077)	-0.316 (0.206)	0.262 (0.165)	-0.091 (0.081)	0.171** (0.087)	-0.077 (0.091)
Exp. exports	0.061 (0.052)	0.188 (0.241)	-0.275** (0.110)	0.005 (0.099)	-0.149 (0.108)	-0.041 (0.094)
Exp. Merchandise exports	-6.566 (5.296)	-3.853 (20.573)	-8.071 (6.994)	2.047 (3.836)	6.754 (5.626)	-7.406 (5.423)
Exp. Human Rights	2.213 (2.978)	9.821 (18.423)	-2.241 (5.477)	2.129 (3.483)	-0.288 (3.341)	-6.784 (4.878)
Exp. presidential	0.194 (0.675)	33.249 (65.832)	0.375 (1.202)	3.035*** (0.835)	58.568*** (21.521)	31.500*** (9.201)
Both NATO	0.392 (0.395)	-1.820 (1.213)	0.128 (0.644)	0.713* (0.400)	1.657*** (0.310)	1.174 (0.863)
Both EU	0.237 (0.334)	-4.171*** (1.146)	1.607*** (0.543)	0.465 (0.400)	-1.221* (0.693)	0.575 (0.806)
Inalpha	-0.898*** (0.111)	-0.825*** (0.156)	-0.361*** (0.106)	-0.855*** (0.111)	-17.280*** (0.086)	-1.554*** (0.182)
Observations	294	149	223	223	111	137
AIC	1549	1549	1549	1549	1549	1549
BIC	1750	1750	1750	1750	1750	1750

Note: Cluster robust standard errors in parentheses. MRTs, time, importer and exporter fixed effects included in all models. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 7 Regression, model 1 with TIV as dependent, model 2 tobit regression of the model

Variables	(1) TIV nbreg	(2) Arms tobit	(3) TIV tobit
Exp. gov. centre	-0.023 (0.253)	125.680 (157.582)	-2.861 (2.355)
Exp. gov. left	-0.049 (0.098)	-5.844 (69.795)	-5.836** (2.594)
Exp. GDP (log)	-0.111 (0.822)	72.398 (507.945)	23.321*** (0.173)
Imp. GDP (log)	0.747* (0.390)	-22.544 (233.981)	47.366*** (0.175)
Distance (log)	0.232** (0.107)	106.919** (53.562)	26.179*** (0.605)
Contiguity	0.005 (0.228)	165.783 (109.670)	8.071*** (2.765)
Common Language	0.355 (0.306)	95.098 (128.616)	33.677*** (5.312)
Colonial ties	-0.034 (0.251)	-70.693 (115.475)	1.124 (4.436)
Common colonizer	1.608*** (0.400)	277.989 (233.161)	93.336*** (4.792)
RTA	0.767*** (0.208)	54.853 (104.119)	88.579*** (3.022)
Landlocked	1.000 (0.681)	-140.133 (831.417)	669.538*** (3.700)
Common legal origin	0.142 (0.159)	-24.558 (75.830)	3.732 (3.591)
Exp. milex	0.116 (0.085)	-2.806 (58.054)	6.526*** (0.599)
Imp. milex	-0.012 (0.044)	18.011 (20.418)	-5.210*** (0.491)
Imp. Conflicts	-0.102* (0.053)	29.088 (38.798)	-1.853 (1.250)
Imp. Democracy	-0.028 (0.237)	240.702 (156.361)	-14.330*** (4.437)
Imp. Fuel exports	-0.027 (0.018)	-4.063 (10.872)	-1.485*** (0.166)
Imp. exports	0.044*** (0.014)	2.647 (6.777)	2.881*** (0.103)
Imp. Merchandise exports	0.000 (0.058)	94.182 (160.374)	7.467 (4.565)
Imp. Human Rights	-0.300 (1.440)	-718.836 (752.227)	49.368*** (7.072)
Exp. current account	-0.049 (0.030)	-8.558 (17.508)	-0.821 (0.547)
Exp. exports	-0.016 (0.035)	-15.546 (17.227)	-0.067 (0.092)
Exp. Merchandise exports	2.398 (1.827)	816.802 (1,116.379)	-4.534 (7.339)
Exp. Human Rights	3.052** (1.492)	73.360 (902.624)	288.682*** (6.816)
Exp. presidential	0.066 (0.440)	1.468 (262.083)	9.550 (12.801)
Both NATO	0.661*** (0.229)	-28.279 (124.242)	14.173*** (4.100)
Both EU	-0.206 (0.243)	109.711 (118.987)	7.958*** (2.977)
Constant	-18.970 (25.041)	-2,432.582 (16,102.256)	-2,118.383*** (4.633)
Inalpha	0.202*** (0.039)		
sigma		641.906*** (15.060)	120.363*** (0.070)
Observations	1,654	1,001	1,654
AIC	14982	14782	19078
BIC	15745	15489	19814

Note: Cluster robust standard errors in parentheses. MRTs, time, importer and exporter fixed effects included in all models. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1