

Online Appendix

The online appendix presents alternative model specifications and sample selections in addition to the tests presented in the article. Due to the number of suppliers we are examining and the number of weapon systems that can be transferred the total number of models that can be ran is quite large. Due to the large number of possible tests, we choose to present the alternative tests here instead of the main body of the paper.

The first set of tests is Poisson pseudo-maximum-likelihood models that use the number of unites ordered as the dependent variable. These tests are used to examine the size of the transfer; however, we choose not to use these as the main tests as the size of the transfer is somewhat less important as opposed to the decision to supply *any* number of major weapon systems that are capable of violating human rights.

The second set of tests in the online appendix are ordered logits with the same dependent variable as the main tests in the article – these tests are separated by time period to determine if the behavior of exporters changed in the different time periods. The time periods examined are the Cold War, end of Cold War until 9/11, post-9/11, and all transfers since the end of the Cold War.

Alternative Modeling Specification: Poisson Pseudo-Maximum-Likelihood

Data

The data for the dependent variables come from the Stockholm International Peace Research Institute's (SIPRI) arms trade register. These data include the number of units ordered and delivered across the range of major weapon systems. We use the number of units ordered as deliveries can occur over a period of years and the decision for a government to accept an order is a political decision. Thus, the dependent variable is the number of units ordered of a particular model ordered in a given year.

Test

We use Poisson pseudo-maximum-likelihood (PPML) models to test our hypotheses. PPML models are essentially gravity models that are useful to account for the presence of zeros and heteroscedasticity in trade data, which arms transfers are a subset of (Silva and Tenreyro 2006). Using a model that accounts for the presence of zeros in a single stage simplifies the interpretation of result; traditional Heckman models that account for selection bias are highly dependent on the factors included in each stage. Additionally, the results of a zero-inflated negative binomial regression can be driven by the variables chosen to account for the inflation of zeros. One negative aspect of the model is that it does not allow for automated calculations of marginal effects.

Results

The results are presented in Tables 1-7 due to the high number of major weapon system categories and the number of suppliers we investigate. When a category of major weapon system is missing from a table it indicates that the exporter never transferred that category. Missing coefficients and standard errors indicate that independent variable was dropped due to collinearity. We first focus on the results related to the importer's human rights record for each supplier's transfer of aircraft before examining the transfer of land weapons. Lastly, we highlight more general results of the control variables before discussing the comparative results.

[Tables A1-A4 About Here]

Air Weapons

Table 1 presents the results of United States transfers of aircraft. There is little variation in the significance of the coefficients based largely on the purpose of the aircraft – only the transport aircraft human rights variable is significant. The positive relationship between human rights violators and the transfer of those aircraft could be explained by the wide range of aircraft in this category, which everything from large cargo aircraft to smaller jets and planes able to transport just a dozen people. Hypothesis 1 has a null finding as the coefficient for attack aircraft is insignificant.

The United Kingdom results in Table A2 show different results – only the transport aircraft and transport helicopter coefficients are significant with the former being negative and the latter positive. Interestingly, the transport aircraft results are opposite of the United States. Governments transferring transport helicopters would argue that these types of aircraft do not provide the importer with higher capabilities since they have no direct offensive ability; but, after the first Gulf War Sadaam Hussein used transport helicopters in the attacks on Kurdish uprisings in Northern Iraq after fixed-wing aircraft were grounded due the ceasefire agreement. All weapon systems provide capabilities to the importer regardless of the presence of armament.

The French air weapon system results in Table A3 have the most variation with the effect of human rights – four categories are positive and significant. Support aircraft, transport aircraft, support transport helicopters, and combat helicopters have positive coefficients indicating that human rights violators will receive more units of aircraft used to project power as opposed to direct power, with the exception being combat helicopters that are extremely useful for oppression compared to their fixed-wing counter-parts. Thus, Hypothesis 2 is not supported and once again there is a null finding for Hypothesis 1

Lastly, German air and land results are presented in Table A4 as many of the tests will not converge due to the ratio of non-zeros to zeros in the data (or no non-zeros). Only the transport aircraft coefficient is significant and negative.

The general conclusions to draw are that human rights violations are rarely an issue to the major democratic exporters when it comes to aircraft, which then indicates that other factors are at play that overrides the human rights violations. This may be explained by two factors discussed earlier in the paper – security or economic concerns.

[Tables A5-A7 About Here]

Land Weapons

Table A5 presents the results of the United States exports of land weapon systems. In only the gun air defense system is the coefficient significant and in this case negative, which partially supports Hypothesis 4. The other implication is that the United States is more concerned about other interests than the importer's human rights records when transferring land weapons, which does not support Hypotheses 3 or 5.

The United Kingdom land weapon models in Table A6 show the coefficient for human rights in the gun air defense system model is statistically significant and negative. Thus, the UK transfers lower number of gun ADS to human rights violators than other states, as does the United States. Additionally, the human rights coefficient in the tank model is also negative and significant, which is a good sign for the world, but does not support our hypothesis. French results in Table 7 show no significance of any of the coefficients for human rights.

Combining the findings for both land and air weapons further indicate that the major democratic suppliers are valuing other characteristics of the importer when determining whether or not to transfer arms, which leads to the control variables.

Controls

The controls provide valuable insight into the decision to transfer arms that match up with most peoples' perceptions of the international arms trade, but also counter the stated goals of the suppliers – economic factors drive arm transfers where increases in trade between states leads to the amount of arms ordered increases in all non-German models but two. GDP per capita has mixed results in sign and significance across the models. These findings are investigated more below.

Analysis

The results are staggering, but on some level not surprising. Common sense and the historical record indicate that economics matter in arms transfers. For example, Britain supplied Iraq overtly and Iran covertly during the Iran-Iraq War in order to protect their traditional trade interests after the war was over (Miller 1996). The staggering result is the general lack of significance for the human rights variable in almost all of the land categories and a lot of the aircraft categories. Since exporters must export arms for economic efficiency, but do not have to export all types, human rights should have mattered. In order to further investigate the linkages between human rights and economic considerations the marginal effects of low human rights violations and high human rights violations are plotted over significant economic indicators.

[Insert Figure A1 Around Here]

Figure A1 presents the marginal effects of US transfers of transport aircraft over trade with the importer and UK transfers of transport helicopters over trade with the importer. Out of all the models with significant human rights variables and significance of either trade or GDP per capita these were the only models where substantive significance is present. The left panel indicates that at mid- to high levels of logged trade (7-12) states with the highest level of human rights violations will receive more units of transport aircraft than low human rights violators. At low and high levels of trade the confidence intervals overlap showing no significance for human rights violations. In the right panel there is only minimal significance of human rights at logged trade levels around nine and ten; the difference here is that low human rights violators will receive more transport helicopters than high human rights violators, which (slightly) supports the hypothesis. At other levels of trade there is no variation.

The lack of a substantive effect for the human rights variable despite the statistical significance raises even more questions about the role of human rights in major democratic arms transfers. Essentially, in most cases, these exporters are not directly taking into account normative and humanitarian concerns about the importer when engaging in arms transfers, which – as stated

earlier – indicates that economics and/or security is driving the decisions. Economically, there are substantively significant results with trade in most cases – as trade increases so does the number of units ordered and, in turn, transferred. GDP per capita is less substantively significant, but many of the states with a high GDP per capita may also have their own arms industries that limit the amount of imports they need in order to maintain their security.

From a security perspective, defense pact is the most direct measure included in the models. In the land weapon tests it is almost exclusively negative when significant while it is positive in the majority of air models when significant. Similarly, joint democracy is only significant in 20% of the models despite an extensive literature examining the effect of joint democracy on interstate processes. The indirect measure of security concerns is Cold War, which is always positive when significant. Unsurprisingly, the positive effect of Cold War is mostly consistent across the models of United States transfers.

One potential explanation of the differences of these results versus the expectations and Blanton's findings is that the dynamics of the arms trade goes beyond the traditional explanations of interstate relationships present in the majority of the quantitative international relations literature. Future research could attempt a more in-depth investigation of these dynamics by accounting for the actions of other exporters, such as the Soviet Union/Russia, when deciding where to transfer arms. During the Cold War regional dynamics led to an action-reaction cycle of transfers regardless of regimes and leaders. Additionally, arms transfers were used to exert influence and seek change in importers; thus, the effect of arms transfers on human rights may take time to have an effect.

Table A1: USA Air

	Supp AC	Trans AC	Attack	Supp Hel	Trans Hel	Combat Hel	UAV
Human Rights	0.01 (0.07)	0.15** (0.05)	0.02 (0.06)	0.18 (0.25)	0.17** (0.04)	0.01 (0.09)	0.06 (0.13)
Dependency	3.57** (0.61)	1.36** (0.32)	2.71** (0.33)	2.92 (1.63)	2.63** (0.29)	4.92** (0.47)	2.00* (0.92)
Importer Polity	-0.05 (0.03)	-0.01 (0.01)	0.01 (0.02)	0.06 (0.08)	-0.01 (0.01)	-0.03 (0.02)	0.03 (0.06)
GDP (Log)	0.59** (0.09)	0.36** (0.06)	0.31** (0.05)	1.11** (0.41)	0.36** (0.05)	0.22* (0.10)	0.35** (0.09)
Defense Pact	0.40 (0.42)	0.73** (0.24)	-0.01 (0.25)	0.12 (0.91)	0.74** (0.20)	-0.71* (0.35)	-2.24** (0.74)
Intl. Conflict	-0.03 (0.07)	-0.03 (0.05)	0.11* (0.05)	-0.25** (0.08)	0.04 (0.04)	0.24** (0.08)	0.33 (0.20)
Civil Conflict	0.05 (0.20)	0.00 (0.15)	0.05 (0.19)	-0.15 (0.67)	0.16 (0.13)	0.10 (0.26)	-0.87 (0.70)
Cold War	1.29** (0.34)	0.24 (0.21)	0.72** (0.26)	1.08 (0.97)	0.56** (0.21)	-0.38 (0.38)	0.35 (0.69)
Post-9/11	0.21 (0.37)	-0.48 (0.31)	0.15 (0.35)	-0.29 (0.69)	-0.40 (0.23)	-0.46 (0.47)	-1.13 (1.07)
Constant	-11.77** (1.38)	-6.35** (0.58)	-5.13** (0.63)	-18.98** (7.06)	-6.54** (0.62)	-6.14** (1.27)	-7.75** (0.74)
Observations	5150	5225	5179	5144	5229	5150	5145

Standard errors in parentheses

* p<0.05 ** p<0.01

Table A2: UK Air

	Supp AC	Trans AC	Attack	Supp Hel	Trans Hel	Combat Hel	UAV
Human Rights	0.23 (0.20)	-0.26* (0.11)	-0.31** (0.09)	0.11 (0.12)	0.18** (0.04)	-0.00 (0.08)	-0.09 (0.12)
Dependency	5.46 (3.08)	2.44** (0.82)	2.67** (0.55)	-0.97 (1.05)	2.95** (0.35)	5.89** (0.40)	2.22* (0.87)
Importer Polity	0.44** (0.06)	-0.00 (0.03)	-0.04 (0.03)	0.15** (0.04)	-0.01 (0.01)	-0.02 (0.02)	-0.01 (0.05)
GDP (Log)	0.47 (0.45)	0.37** (0.14)	0.84** (0.08)	0.59** (0.10)	0.40** (0.06)	0.17* (0.07)	0.27** (0.07)
Defense Pact		-0.80 (0.47)	-1.30* (0.64)	-0.33 (0.66)	0.81** (0.21)	-0.42 (0.38)	-0.21 (0.81)
Intl. Conflict	0.68 (0.39)	0.14 (0.14)	0.05 (0.08)	-0.09 (0.18)	0.01 (0.04)	0.24** (0.08)	0.37* (0.18)
Civil Conflict	0.05 (0.61)	-0.13 (0.50)	1.14** (0.32)	-0.29 (0.61)	0.15 (0.15)	0.21 (0.24)	-0.07 (0.54)
Cold War	1.83 (1.29)	0.92 (0.63)	1.03* (0.50)	1.69** (0.63)	0.66** (0.17)	-0.70* (0.35)	-0.39 (0.64)
Post-9/11		-1.32 (0.68)	-0.13 (0.64)		-0.10 (0.29)	-0.50 (0.43)	-0.01 (0.77)
Constant	-17.72* (7.25)	-7.45** (1.33)	-11.48** (1.16)	-11.92** (1.25)	-7.48** (0.82)	-6.64** (0.81)	-7.66** (0.86)
Observations	3366	5148	5153	3721	20696	20600	20595

Standard errors in parentheses

* p<0.05 ** p<0.01

Table A3: France Air

	Supp AC	Trans AC	Attack	Supp Hel	Trans Hel	Combat	UAV
Human Rights	-0.86 (0.48)	0.40** (0.15)	-0.09 (0.09)	0.00 (0.21)	0.08 (0.06)	-0.48 (0.52)	-0.32 (0.33)
Dependency	-3.78 (14.31)	2.95** (0.81)	2.59** (0.49)	2.68** (0.91)	3.09** (0.42)	3.32 (2.10)	-0.30 (3.80)
Importer Polity	-0.32* (0.15)	0.01 (0.03)	-0.03 (0.02)	-0.08 (0.07)	-0.00 (0.01)	0.03 (0.15)	0.38 (0.28)
GDP (Log)	1.29** (0.18)	-0.14 (0.17)	0.42** (0.06)	0.52** (0.10)	0.49** (0.06)	0.27 (0.15)	-0.21 (0.24)
Defense Pact	3.68 (2.56)	1.17 (0.86)	-0.79 (0.70)		-0.08 (0.34)	-0.64 (2.86)	2.76** (0.97)
Intl. Conflict	0.15 (0.22)	-0.06 (0.12)	0.11 (0.09)	0.25 (0.19)	0.02 (0.07)	0.89 (0.70)	0.54* (0.26)
Civil Conflict		-0.09 (0.31)	0.48* (0.22)	-0.18 (0.50)	-0.08 (0.24)		0.40 (0.75)
Cold War	19.27** (2.15)	0.23 (0.53)	0.45 (0.48)	-0.10 (0.58)	0.93** (0.28)		
Post-9/11	19.19** (2.89)	-1.27 (0.91)	-1.41 (0.91)		-0.61 (0.37)	0.30 (1.71)	0.46 (0.77)
Constant	-39.60** (1.83)	-4.30** (1.18)	-6.53** (0.84)	-10.25** (1.47)	-7.75** (0.77)	-8.61** (2.09)	-6.38** (2.37)
Observations	5143	5146	5156	3333	5158	2990	2990

Standard errors in parentheses

* p<0.05 ** p<0.01

Table A4: Germany Air

	Supp AC	Trans AC	Attack	Trans Hel	Combat Hel	UAV
Human Rights	-0.02 (0.14)	-0.22 (0.17)	0.27** (0.10)	0.22 (0.30)	-0.70 (0.47)	0.03 (0.23)
Dependency	-82.27 (89.22)	3.58* (1.74)	4.41** (0.98)	-1.67 (2.14)		
Importer Polity	0.22** (0.08)	0.02 (0.05)	-0.11 (0.09)	0.01 (0.05)	0.15 (0.20)	-0.23** (0.06)
GDP (Log)	0.87* (0.39)	0.05 (0.19)	0.17 (0.12)	0.77** (0.17)	0.65* (0.29)	0.92** (0.09)
Defense Pact		-0.52 (1.32)	5.19** (1.72)	0.90 (1.11)	-2.33* (1.07)	2.23 (2.24)
Intl. Conflict	1.12* (0.50)	0.13 (0.16)	-0.55** (0.21)	0.12 (0.09)	-0.07 (0.48)	-0.01 (0.66)
Civil Conflict	0.57 (0.41)	0.76 (0.49)		0.32 (0.75)		1.26 (0.98)
Cold War	3.69* (1.68)	1.33 (0.74)	-0.17 (0.71)	3.01** (0.75)	-2.16 (1.40)	
Post-9/11	-2.01 (1.21)		-1.99* (0.97)	2.72** (0.79)		
Constant	-21.05* (8.32)	-4.84 (2.56)	-6.35** (1.62)	-15.12** (3.68)	-11.48** (2.30)	-15.85** (1.06)
Observations	4645	3733	5168	5166	3732	1579

Standard errors in parentheses

* p<0.05 ** p<0.01

Table A5: USA Land Weapon Exports

	Gun	Missile	Towed	SP	OAV	Tank
Human Rights	-0.08 (0.12)	0.11 (0.13)	0.20 (0.13)	0.04 (0.10)	-0.02 (0.07)	0.12 (0.10)
Dependency	2.92** (0.84)	4.97** (0.75)	4.25** (0.63)	2.01** (0.57)	2.81** (0.49)	3.87** (0.49)
Importer Polity	-0.05 (0.04)	-0.02 (0.05)	-0.02 (0.03)	-0.05 (0.04)	-0.03 (0.02)	-0.05 (0.03)
GDP (Log)	0.46** (0.10)	0.50** (0.12)	0.38** (0.07)	0.19 (0.14)	0.28** (0.06)	0.30** (0.07)
Defense Pact	-0.39 (0.76)	-1.18 (0.72)	-0.21 (0.40)	-0.09 (0.55)	-0.46 (0.34)	-0.87* (0.42)
Intl. Conflict	-0.11 (0.14)	-0.10 (0.13)	0.03 (0.08)	0.16 (0.15)	0.19** (0.06)	0.30** (0.10)
Civil Conflict	-0.24 (0.51)	-0.85 (0.78)	-0.88 (0.58)	0.37 (0.43)	0.16 (0.19)	-0.63 (0.34)
Cold War	-0.26 (0.50)	0.08 (0.44)	0.70 (0.50)	2.74** (0.81)	0.88** (0.31)	0.85* (0.36)
Post-9/11	-1.94* (0.83)	-1.33 (0.89)	-0.49 (0.69)	0.15 (1.28)	-0.51 (0.32)	-0.83 (0.66)
Constant	-7.26** (1.42)	-9.94** (1.57)	-6.92** (0.99)	-6.66** (1.88)	-3.15** (0.84)	-5.07** (0.99)
Observations	5144	5144	5147	5145	5203	5150

Standard errors in parentheses

* p<0.05 ** p<0.01

Table A6: UK Land

	Gun	Miss	OAV	Tank
Human Rights	-0.70 (0.43)	-0.15 (0.27)	-0.07 (0.11)	-0.25 (0.13)
Dependency	7.14** (1.02)	-1.97 (2.21)	1.90* (0.95)	2.85** (0.81)
Importer Polity		-0.04 (0.10)	-0.10* (0.05)	-0.11** (0.04)
GDP (Log)	0.53** (0.04)	1.64 (0.89)	0.33** (0.08)	0.19 (0.14)
Defense Pact		2.55 (1.90)	-1.06 (0.98)	-2.84* (1.34)
Intl. Conflict		-0.14 (0.16)	0.14 (0.15)	0.15 (0.15)
Civil Conflict		1.89 (1.13)	0.01 (0.30)	0.07 (0.59)
Cold War	-1.27 (1.83)	2.17* (1.02)	-0.47 (0.54)	0.20 (0.71)
Post-9/11		-3.72** (1.24)	-0.65 (0.94)	-1.18 (1.19)
Constant	-10.87** (1.47)	-25.19 (13.17)	-4.39** (0.97)	-2.77 (1.81)
Observations	3366	5144	5150	5145

Standard errors in parentheses

* p<0.05 ** p<0.01

Table A7: France Land

	Gun	Missile	Towed	SP	OAV	Tank
Human Rights	-0.04 (0.14)	-0.19 (0.12)	0.06 (0.20)	-0.15 (0.13)	-0.15 (0.09)	-1.03 (0.69)
Dependency	3.75** (1.25)	1.82 (0.99)	4.29** (1.12)	2.36** (0.72)	1.85** (0.40)	2.18 (1.34)
Importer Polity	-0.24 (0.19)	-0.02 (0.05)	-0.40 (0.30)	-0.06 (0.04)	-0.10** (0.03)	-0.15 (0.10)
GDP (Log)	0.29** (0.11)	0.47** (0.08)	0.46** (0.15)	0.39* (0.17)	0.23** (0.06)	0.18 (0.20)
Defense Pact	1.91 (1.89)	-1.96 (1.29)		0.90 (0.75)	0.07 (0.48)	
Intl. Conflict	0.54 (0.45)	0.66** (0.23)	0.32 (0.21)	-0.06 (0.15)	0.04 (0.09)	-0.30 (0.46)
Civil Conflict	1.11 (0.60)	0.09 (0.51)	1.04* (0.41)	0.22 (0.64)	0.45* (0.21)	
Cold War		1.07 (0.84)	2.08 (1.07)	-0.90 (0.66)	1.04** (0.37)	-1.55 (1.30)
Post-9/11		0.42 (1.25)	1.97 (1.36)	-0.94 (0.72)	-0.06 (0.48)	
Constant	-8.16** (2.98)	-9.59** (0.87)	-13.91** (4.35)	-6.43** (2.06)	-3.57** (0.73)	-1.46 (1.51)
Observations	1579	5147	4603	5143	5174	3333

Standard errors in parentheses

* p<0.05 ** p<0.01

Table A8: Germany Land

	Gun	Missile	Towed	SP	OAV	Tank
Human Rights	0.32 (0.20)	-0.25 (0.33)	0.43** (0.16)		-0.06 (0.13)	0.18 (0.13)
Dependency	1.62 (3.04)	4.13* (2.06)		-261.95** (71.85)	1.43 (1.58)	1.62 (1.87)
Importer Polity	0.17* (0.08)	0.13 (0.15)	1.08** (0.27)	2.92** (1.00)	0.08 (0.04)	0.21* (0.09)
GDP (Log)	0.02 (0.15)	0.06 (0.26)	-0.35 (0.24)	0.61* (0.25)	0.17 (0.09)	0.19 (0.11)
Defense Pact	3.49* (1.41)	1.36 (1.36)	3.95** (1.31)	-4.81** (1.51)	0.40 (0.64)	1.76* (0.73)
Intl. Conflict	-0.30 (0.38)	0.38** (0.09)	0.13 (0.26)	0.22 (0.30)	0.13 (0.12)	-0.06 (0.11)
Civil Conflict		-1.57 (1.07)	1.51** (0.54)		0.35 (0.36)	-0.29 (0.48)
Cold War	1.10 (0.97)	-1.16 (1.12)	-0.67 (1.10)	0.81 (1.53)	0.45 (0.57)	0.32 (0.55)
Post-9/11	-1.30 (1.16)	-0.25 (1.08)	-0.05 (0.95)	-2.90* (1.24)	-0.19 (0.59)	0.15 (0.52)
Constant	-5.86** (1.64)	-5.49 (2.94)	-10.68** (3.06)	-36.03** (11.21)	-2.40** (0.66)	-4.84** (1.15)
Observations	5164	5164	5164	5164	5186	5171

Standard errors in parentheses

* p<0.05 ** p<0.01

Additional Sample Specification:

Ordered Logits with Split Samples Based on Time Periods

Data

The data used in the tests in the article are split into five different samples to show that the models presented above are consistent. The samples split by time are: All transfers, Cold War, 1992-2010, 1992-2001, and 2002-2010.

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Table A9: Time Split Samples – United States

Table A10: Time Split Samples – United Kingdom

Table A11: Time Split Samples – France

Table A12: Time Split Samples – Germany

Table A13: Country Dummy Split Samples – Land

Table A14: Country Dummy Split Samples – Air

Table A15: Country and Time Dummies – All Weapons

Results

While the previous tests have dummy variables for the Cold War period and post-9/11 period it is also useful to conduct split samples as many argue that the behavior, or at the very least the rhetoric, of states has changed across time with respect to arms transfers (Erickson 2011; De Soysa and Midford 2012). Beyond rhetoric there are also systemic reasons relating to the distribution of power to justify the splits as well as shifts in the arms market over time. The time periods we use in the split samples are the Cold War (1976-1991), 1992-2010, post-Cold War (1992-2001), and post-9/11 (2002-2010).

The separation of the Cold War period is quite obvious – it was a bipolar system where the conventional wisdom is states pursued their own security interests, even with arms transfers. However, the specific period of time we have data for during the Cold War is from the beginning of thawing until the end. The late 1970s also saw bilateral and multilateral negotiations between the democracies in our sample and the Soviet Union seeking to limit the transfer of conventional weapons – while unsuccessful in the end, the fact these talks occurred highlights that states

were cognizant about the effect their transfers were having. Lastly, during this period, more states were producing major weapon systems leading the market to begin its shift from a seller's market to a buyer's market.

The post-Cold War period (and 1992-2010) saw the shift from a seller's market to a buyer's market coalesce. Defense budgets were being reduced and producers (and the labor unions representing the workers) argued that supply lines must be maintained in order to maintain security. The result was that the push to export grew while human rights rhetoric grew as well.

Lastly, it is important to consider whether or not the post-9/11 period differs from the immediate post-Cold War period. Arguments to why the period is different revolve around the start of the Global War on Terror. In order to combat extremist Islamic terror groups there is the argument that you cannot be as selective with your partners in the fight; thus, arms transfers to non-democratic states to keep friendly dictators and parties in power could occur. The other argument is that the previous argument only applies to the United States, but the other democratic suppliers can use those reasons to pursue their economic interests with arms exports.

In turn, we ran the same tests on each supplier split in the different time periods. However, as stated before, arms transfers are rare events, which become rarer in split samples. Tables A9 and A9 along with Figures A2-A5 present the split sample and marginal effects for the United States and the United Kingdom; France and Germany are not included here due to the lack of significance – statistical and substantive – in all models and graphs.¹

Examination of the split samples for the United States in Table A9 highlight important distinctions between time periods. Within the land model columns, the only significant coefficient for human rights violations is during the Cold War and it is negative. This result supports the hypothesis in that time period only. The statistically significant coefficients in the models for aircraft transfers are negative in both the Cold War and post-Cold War models. This indicates that the factors which are driving aircraft sales (whether R&D costs, strategic goals, symbolic gestures, or some combination of these factors) have been consistent across these time periods. Such a finding may support the view of those scholars who see arms transfers as being

¹ The tables and figures for France and Germany are in the online appendix for reference.

consistent with power politics in general. It could also reflect something about the calculations that decision-makers use when thinking about how rights are violated.

Furthermore, we have the opportunity here to compare the post-9/11 results with those from Blanton (2005); however, we acknowledge the findings are not directly comparable due to the data and unit of analysis she considers.

Figure A2 and A3 present the graphs of the substantive effects for the United States transfer of land weapon and air weapons, respectively. The only time period where there is clear substantive significance for human rights violations for either type of weapons is the Cold War. With all four categories of land weapons there is a negative slope as human rights violations in the importer increase. The biggest shifts occur in weapons with low capabilities to violate human rights and the highest capabilities to violate human rights. In both categories there are two clear bands between the top two levels of human rights violations and the lower end of the spectrum.

The Cold War aircraft graphs have a positive slope similar to Figure 2 – the only substantive significance that is present is between the minimum level of human rights violations and the maximum. The implication of the importance of the Cold War period as opposed to the others is a question for further research. The question as to whether this finding is being driven by the politics of the Cold War and superpower competition and the use of arms to try to win support from non-aligned regimes is fundamental here. In other words, is this result driven as much by recipient demand - or potential demand - as it is by supplier policy? This is a question that has potential for clarifying the relationship between the provision of arms and other policy aims.

Table A10 reports the split samples for the United Kingdom's transfer of land and air weapons. While the coefficients for human rights violations in the United Kingdom land transfer model was insignificant in Table 1, it is significant in two of the tests in Table A10 – 1992 on and post-Cold War. In these models the coefficients are negative, which supports the hypothesis. In the air models, the human rights coefficient is significant at the 0.10 level and only during the Cold War Period. Traditional arguments about the economic necessity for arms transfers for non-superpower states support a view that the United Kingdom would export indiscriminately. The negative coefficient during the Cold War in this case may be a result of a restricted market based

on superpower competition and subsidized aircraft sales to poorer states rather than an indication of United Kingdom export preferences during this period.

Figure A4 and Figure A5 show United Kingdom exports of land and air weapons, respectively. Once again only the real variation across human rights violations occurs during the Cold War period; however, despite the statistical significance of the land weapon coefficients in the post-Cold War model and 1992 on models for land weapons there is no substantive effect. The implication of this finding is that arguments about normative concerns in arms export do not really apply in the case of the United Kingdom.

The last area of consideration that needs to be addressed is the comparison of the probability of transfers across the categories of weapon systems transferred. When looking at the highest level of human rights violations across the four categories of weapon systems we can see that the probability of a transfer occurring is rather consistent. What this similarity means is when human rights considerations are at work in the decision-making process, the type of weapons transferred weapons are less important. Thus, *if* an importer that is violating human rights is eligible for arms transfers they are eligible for all types of arms, which does not directly counter the hypothesis, but raises additional questions about decision-making.

Table A9: Ordered Logit of United States Arms Transfers

	Land Cold War	Land >1992	Land Post- CW	Land Post- 9/11	Air Cold War	Air >1992	Air Post- CW	Air Post- 9/11
Human Rights	-0.14** (0.04)	0.05 (0.05)	0.04 (0.06)	0.11 (0.10)	0.18** (0.03)	0.07* (0.03)	0.15** (0.04)	-0.02 (0.06)
Dependency	2.08** (0.22)	3.60** (0.29)	3.60** (0.35)	3.08** (0.54)	2.11** (0.16)	2.22** (0.19)	2.29** (0.24)	2.02** (0.35)
Importer Polity	-0.05** (0.01)	-0.06** (0.02)	-0.07** (0.02)	-0.02 (0.03)	0.02** (0.01)	-0.01 (0.01)	0.04** (0.01)	-0.09** (0.02)
GDP (Log)	0.15** (0.04)	0.15* (0.06)	0.13^ (0.07)	0.36** (0.12)	0.15** (0.03)	0.30** (0.04)	0.30** (0.05)	0.41** (0.07)
Defense Pact	-0.09 (0.16)	0.15 (0.23)	0.21 (0.27)	-0.24 (0.42)	0.56** (0.11)	0.85** (0.14)	0.45** (0.17)	1.68** (0.26)
Intl. Conflict	0.16** (0.03)	0.10* (0.05)	0.11* (0.06)	-0.06 (0.10)	0.03 (0.03)	-0.14** (0.03)	-0.21** (0.04)	-0.11^ (0.06)
Civil Conflict	0.03 (0.13)	-0.54* (0.24)	-0.56* (0.28)	-0.63 (0.52)	0.06 (0.09)	0.35** (0.13)	0.00 (0.16)	0.94** (0.24)
Cut 1	4.25** (0.44)	5.92** (0.68)	5.44** (0.80)	8.59** (1.38)	4.21** (0.33)	6.24** (0.41)	6.04** (0.52)	7.75** (0.77)
Cut 2	4.71** (0.45)	6.42** (0.68)	5.98** (0.80)	8.98** (1.39)	4.36** (0.33)	6.37** (0.42)	6.17** (0.52)	7.90** (0.77)
Cut 3	4.87** (0.45)	6.45** (0.68)	6.01** (0.80)	9.01** (1.39)	5.16** (0.34)	7.08** (0.42)	6.87** (0.53)	8.66** (0.78)
Cut 4	5.20** (0.45)	6.70** (0.68)	6.32** (0.80)	9.14** (1.39)	5.76** (0.34)	7.45** (0.42)	7.27** (0.53)	9.01** (0.78)
Observations	2704	3137	1775	1362	2704	3137	1775	1362
Pseudo R-squared	0.081	0.180	0.185	0.162	0.119	0.165	0.162	0.207

Standard errors in parentheses

^ p<0.10 * p<0.05 ** p<0.01

Table A10: Ordered Logit of United Kingdom Arms Transfers

	Land Cold War	Land >1992	Land Post- CW	Land Post-9/11	Air Cold War	Air >1992	Air Post-CW	Air Post- 9/11
Human Rights	-0.01 (0.08)	-0.39** (0.12)	-0.42** (0.14)	-0.29 (0.28)	-0.17* (0.07)	-0.19* (0.08)	-0.13 (0.10)	-0.19 (0.15)
Dependency	3.29** (0.56)	4.69** (1.12)	4.74** (1.29)	3.41 (3.07)	2.22** (0.49)	2.07* (1.01)	1.41 (1.22)	2.74 (1.98)
Importer Polity	-0.03 (0.02)	-0.10** (0.03)	-0.11** (0.03)	-0.05 (0.06)	0.03 (0.02)	-0.02 (0.02)	-0.01 (0.03)	-0.04 (0.04)
GDP (Log)	0.12^ (0.07)	0.28* (0.12)	0.32* (0.13)	0.26 (0.27)	0.22** (0.06)	0.52** (0.09)	0.56** (0.11)	0.50** (0.16)
Defense Pact	-0.58 (0.52)	-2.15^ (1.16)	-2.04 (1.25)	-18.00 (6047.43)	-0.75* (0.32)	-1.06* (0.49)	-0.75 (0.60)	-1.67 (1.12)
Intl. Conflict	0.07 (0.07)	-0.07 (0.13)	-0.11 (0.14)	0.06 (0.34)	-0.02 (0.06)	-0.06 (0.09)	-0.07 (0.11)	-0.24 (0.18)
Civil Conflict	0.09 (0.26)	1.04* (0.49)	1.15* (0.53)	-15.99 (4871.46)	0.37 (0.23)	0.66* (0.33)	0.13 (0.44)	1.44** (0.52)
Cut 1	5.07** (0.74)	6.69** (1.29)	6.75** (1.43)	7.42* (3.07)	4.98** (0.60)	9.25** (0.99)	9.63** (1.22)	9.34** (1.86)
Cut 2					5.01** (0.60)	9.30** (0.99)	9.71** (1.22)	9.68** (1.87)
Cut 3	5.24** (0.74)	6.88** (1.30)	6.94** (1.43)	7.64* (3.07)	5.92** (0.61)	9.76** (1.00)	10.23** (1.23)	10.66** (1.90)
Cut 4	5.74** (0.74)	7.26** (1.30)	7.35** (1.44)	7.93* (3.09)	7.83** (0.69)	10.85** (1.03)	11.40** (1.27)	
Observations	2194	2842	1579	1263	2194	2842	1579	1263
Pseudo R-squared	0.051	0.115	0.129	0.085	0.062	0.085	0.099	0.095

Standard errors in parentheses

^ p<0.10 * p<0.05 ** p<0.01

Table A11: Ordered Logit of French Arms Transfers

	Land Cold War	Land >1992	Land Post-CW	Land Post-9/11	Air Cold War	Air >1992	Air Post- CW	Air Post- 9/11
Human Rights	-0.12* (0.06)	-0.22* (0.10)	-0.31* (0.13)	-0.04 (0.15)	0.03 (0.04)	0.02 (0.06)	0.04 (0.08)	0.03 (0.10)
Dependency	2.80** (0.37)	1.84* (0.78)	1.25 (1.05)	2.70* (1.18)	2.88** (0.32)	2.24** (0.64)	2.27** (0.86)	2.07* (0.98)
Importer Polity	-0.06** (0.02)	-0.10** (0.03)	-0.15** (0.03)	-0.05 (0.04)	-0.01 (0.01)	0.01 (0.02)	0.01 (0.02)	0.01 (0.03)
GDP (Log)	0.15** (0.05)	0.37** (0.09)	0.44** (0.12)	0.32* (0.15)	0.13** (0.04)	0.50** (0.07)	0.56** (0.09)	0.46** (0.10)
Defense Pact	-0.66^ (0.39)	0.42 (0.48)	0.91 (0.62)	-0.26 (0.89)	-0.39 (0.28)	0.10 (0.30)	0.44 (0.41)	-0.14 (0.48)
Intl. Conflict	0.00 (0.05)	0.14 (0.09)	0.01 (0.12)	0.24 (0.15)	0.11** (0.04)	-0.14* (0.07)	-0.23* (0.09)	-0.09 (0.11)
Civil Conflict	0.14 (0.19)	-0.14 (0.48)	-0.22 (0.73)	-0.26 (0.68)	-0.23 (0.16)	0.26 (0.25)	0.28 (0.30)	-0.01 (0.46)
Cut 1	4.50** (0.56)	7.83** (1.01)	8.14** (1.32)	8.09** (1.66)	4.09** (0.45)	9.12** (0.75)	9.72** (1.00)	8.85** (1.19)
Cut 2	4.85** (0.57)	8.01** (1.01)	8.29** (1.33)	8.36** (1.67)	4.10** (0.45)	9.16** (0.75)	10.04** (1.00)	8.93** (1.19)
Cut 3	4.90** (0.57)	8.31** (1.01)	8.55** (1.33)	8.70** (1.67)	4.29** (0.45)	9.42** (0.75)	10.27** (1.01)	9.11** (1.19)
Cut 4	4.97** (0.57)	8.41** (1.02)	8.71** (1.33)		4.69** (0.46)	9.59** (0.76)		9.22** (1.20)
Observations	2290	2844	1576	1268	2290	2844	1576	1268
Pseudo R-squared	0.073	0.102	0.127	0.095	0.050	0.092	0.113	0.078

Standard errors in parentheses

^ p<0.10 * p<0.05 ** p<0.01

Table A12: Ordered Logit of German Arms Transfers

	Land Cold War	Land >1992	Land Post- CW	Land Post-9/11	Air Cold War	Air >1992	Air Post- CW	Air Post- 9/11
Human Rights	0.32** (0.09)	-0.06 (0.06)	0.00 (0.08)	0.01 (0.07)	0.03 (0.08)	-0.16* (0.06)	-0.14^ (0.07)	-0.06 (0.07)
Dependency	-0.60 (1.06)	1.37 (0.85)	1.65^ (0.87)	1.32 (0.88)	2.24** (0.73)	3.72** (0.67)	3.57** (0.70)	3.26** (0.71)
Importer Polity	0.07* (0.03)	0.08** (0.02)	0.09** (0.03)	0.05* (0.02)	0.01 (0.02)	-0.00 (0.02)	0.00 (0.02)	-0.01 (0.02)
GDP (Log)	0.16^ (0.09)	0.24** (0.06)	0.17* (0.07)	0.25** (0.07)	0.15* (0.07)	0.10^ (0.06)	0.07 (0.07)	0.12^ (0.07)
Defense Pact	2.50** (0.43)	1.07** (0.23)	1.17** (0.29)	1.45** (0.30)	0.31 (0.37)	0.13 (0.31)	0.15 (0.34)	0.39 (0.35)
Intl. Conflict	0.26** (0.08)	0.04 (0.05)	0.11^ (0.06)	0.03 (0.07)	0.02 (0.07)	0.01 (0.06)	0.02 (0.07)	-0.01 (0.07)
Civil Conflict	-0.62^ (0.33)	-0.07 (0.26)	-0.14 (0.29)	-0.16 (0.31)	0.25 (0.24)	0.57** (0.22)	0.50* (0.23)	0.57* (0.22)
Cut 1	7.39** (0.97)	6.81** (0.63)	6.44** (0.77)	7.12** (0.80)	5.35** (0.78)	4.80** (0.63)	4.37** (0.68)	5.13** (0.72)
Cut 2	7.57** (0.97)	7.04** (0.64)	6.66** (0.77)	7.34** (0.80)	5.39** (0.78)	4.87** (0.63)	4.45** (0.68)	5.18** (0.72)
Cut 3	7.59** (0.97)	7.09** (0.64)	6.72** (0.77)	7.37** (0.80)	5.76** (0.78)	5.24** (0.64)	4.86** (0.69)	5.53** (0.72)
Cut 4	7.98** (0.98)	7.46** (0.64)	7.07** (0.78)	7.74** (0.81)	6.24** (0.79)	5.58** (0.64)	5.24** (0.69)	5.86** (0.73)
Observations	2202	4920	3633	3324	2202	4920	3633	3324
Pseudo R-squared	0.250	0.138	0.144	0.140	0.037	0.037	0.034	0.039

Standard errors in parentheses

^ p<0.10 * p<0.05 ** p<0.01

Figure A2: United States Split Sample – Land Weapons

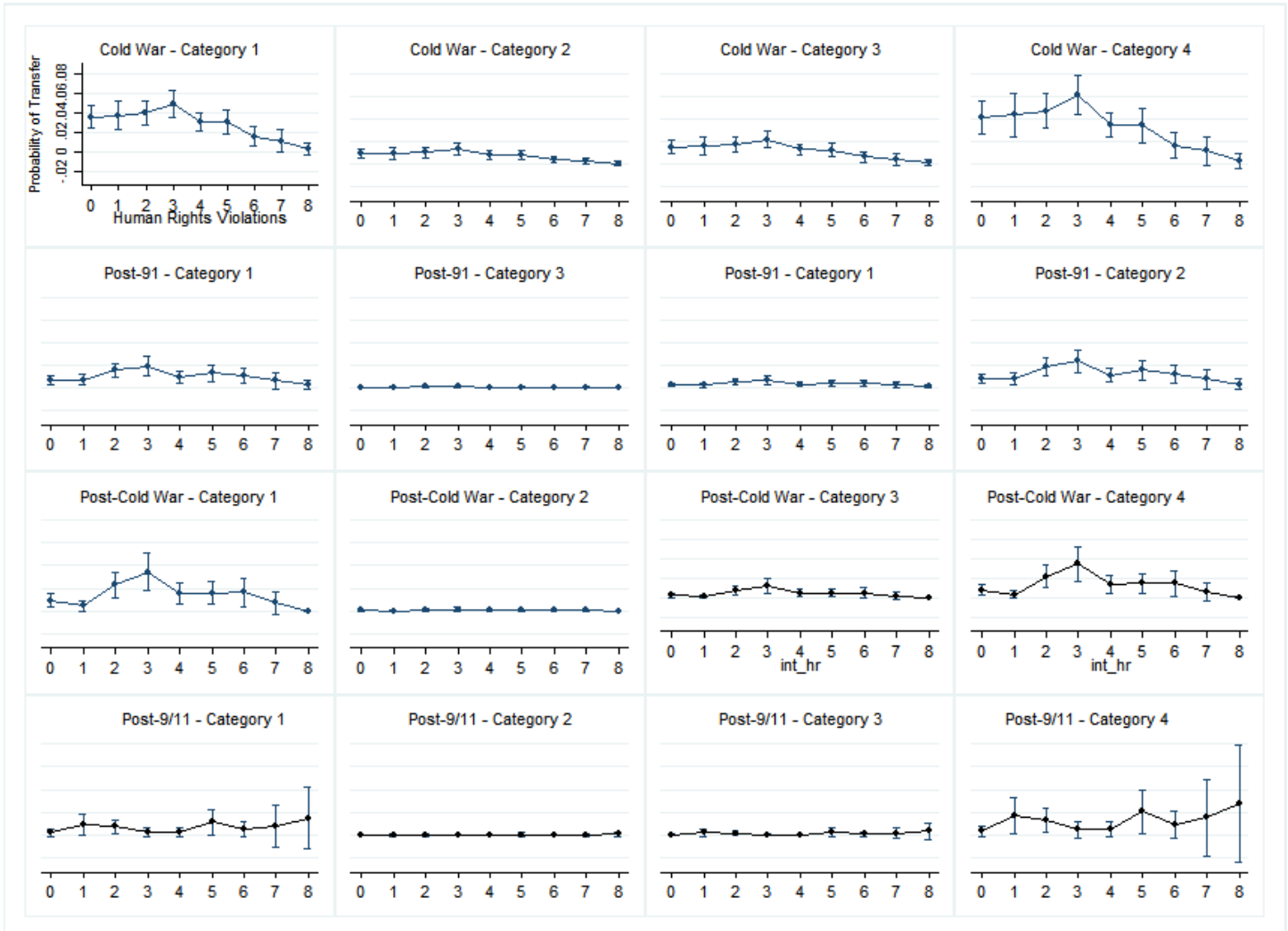


Figure A3: United States Split Sample – Air Weapons

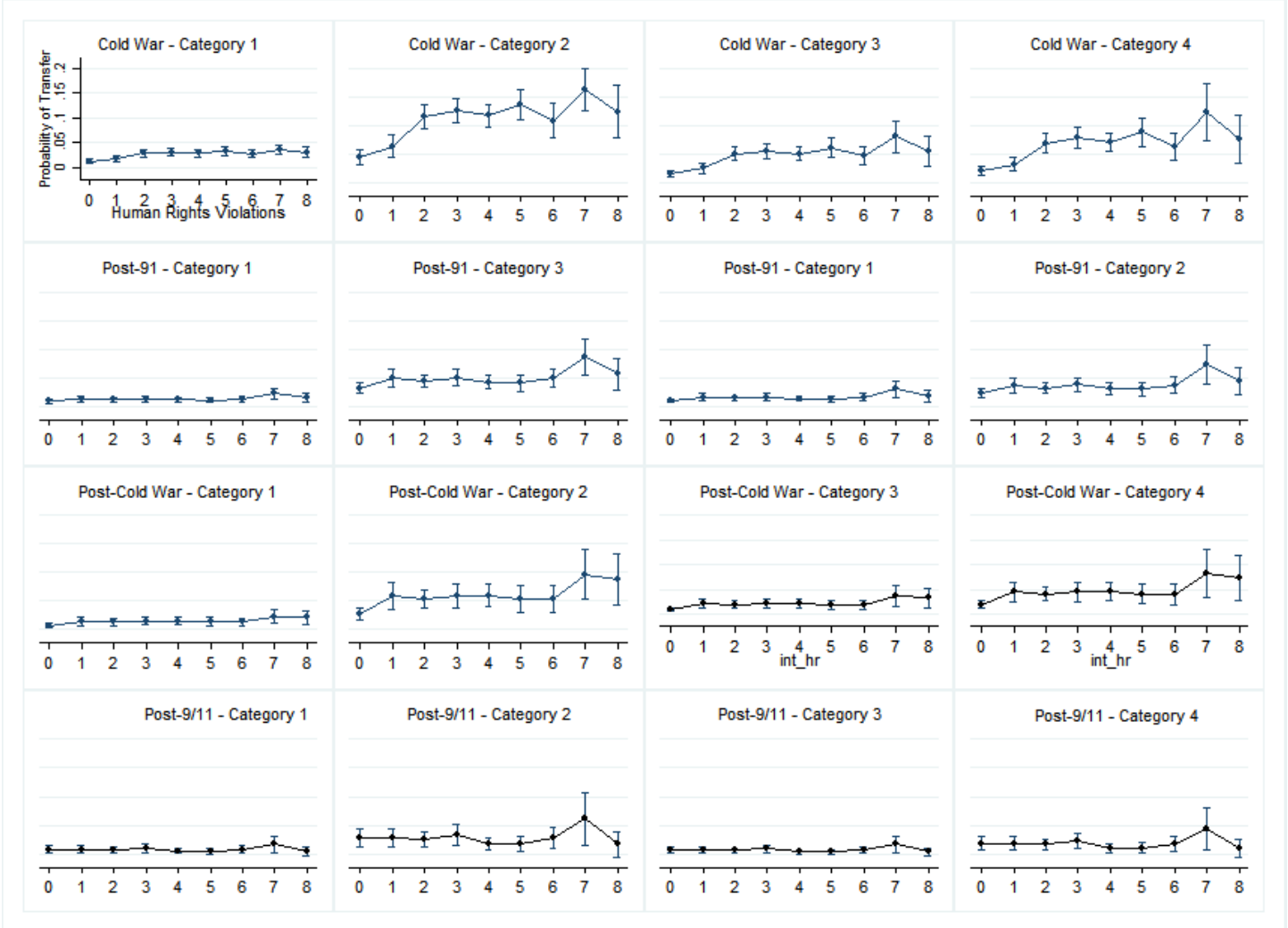


Figure A4: United Kingdom Split Sample – Land Weapons

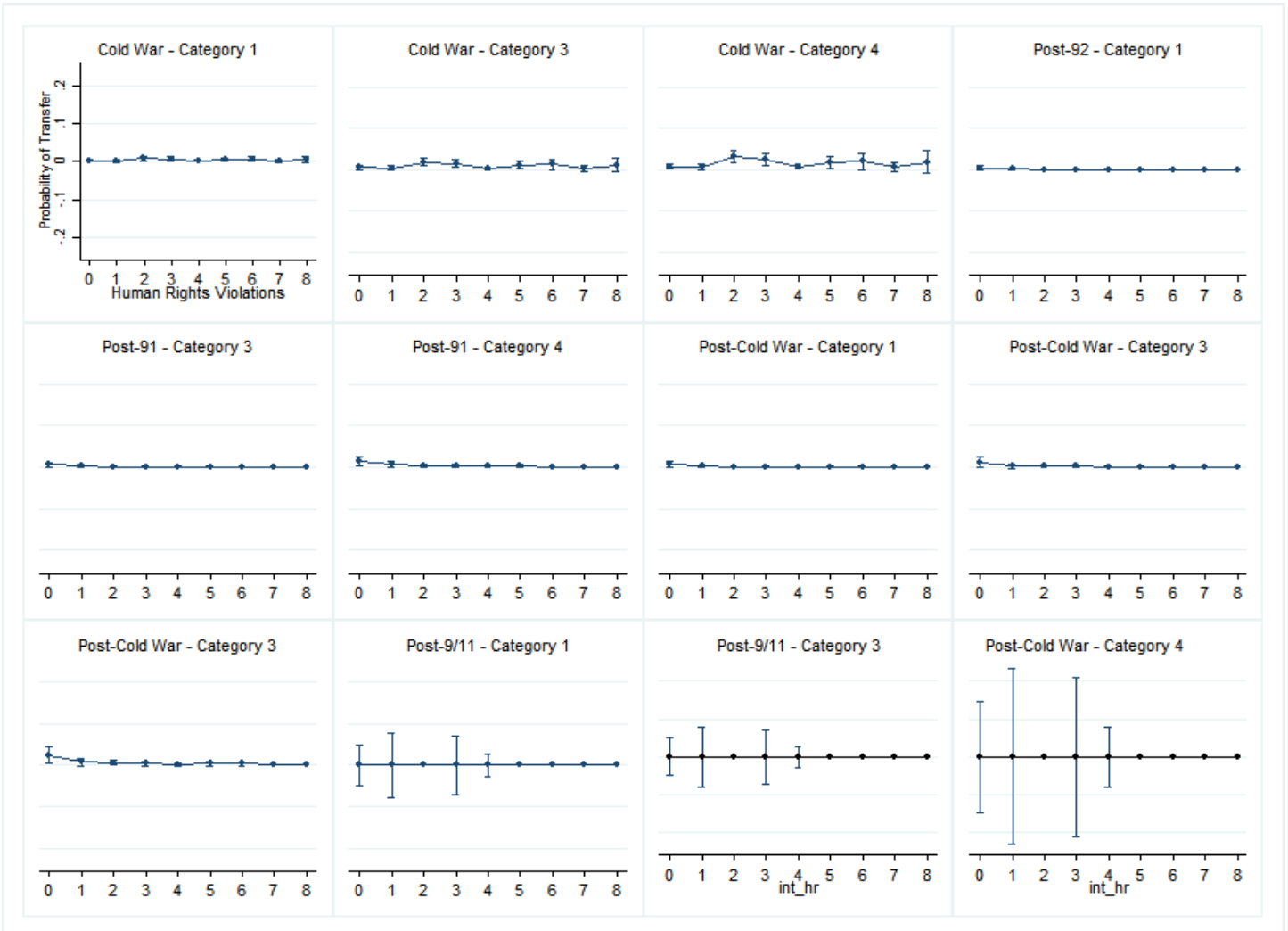


Figure A5: United Kingdom Split Sample – Air Weapons

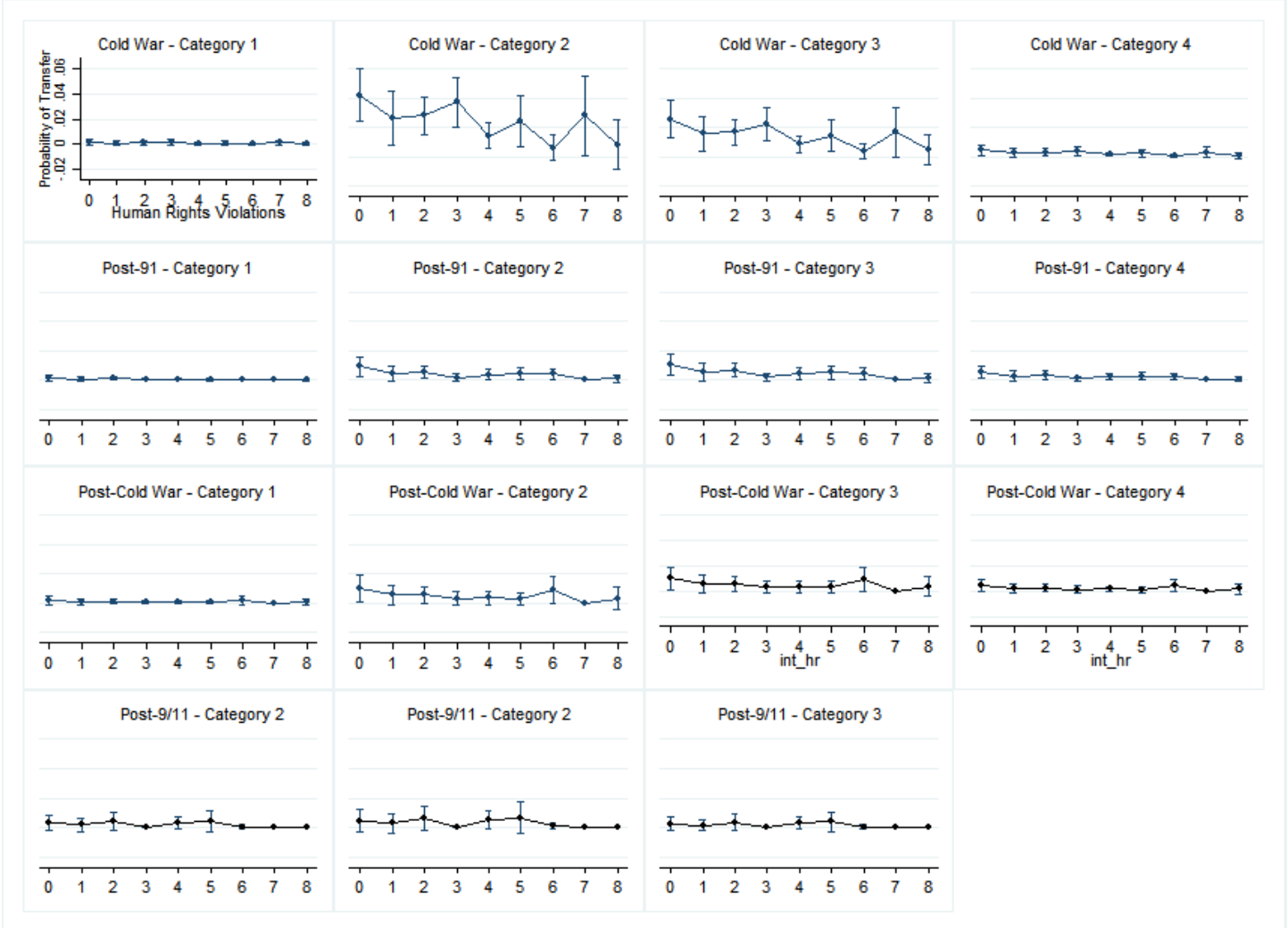


Figure A6: France Split Sample – Land Weapons

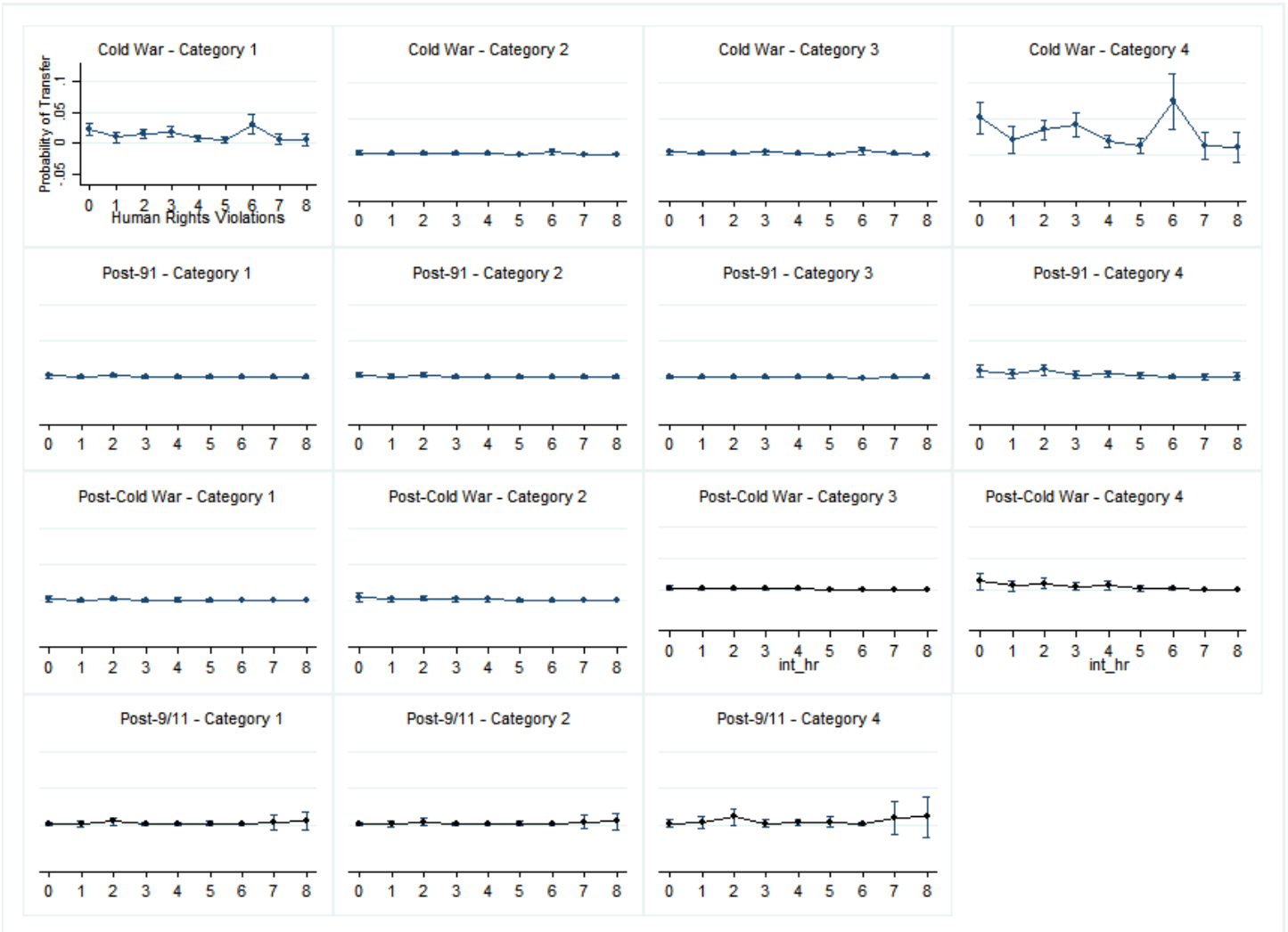


Figure A7: France Split Sample – Air Weapons

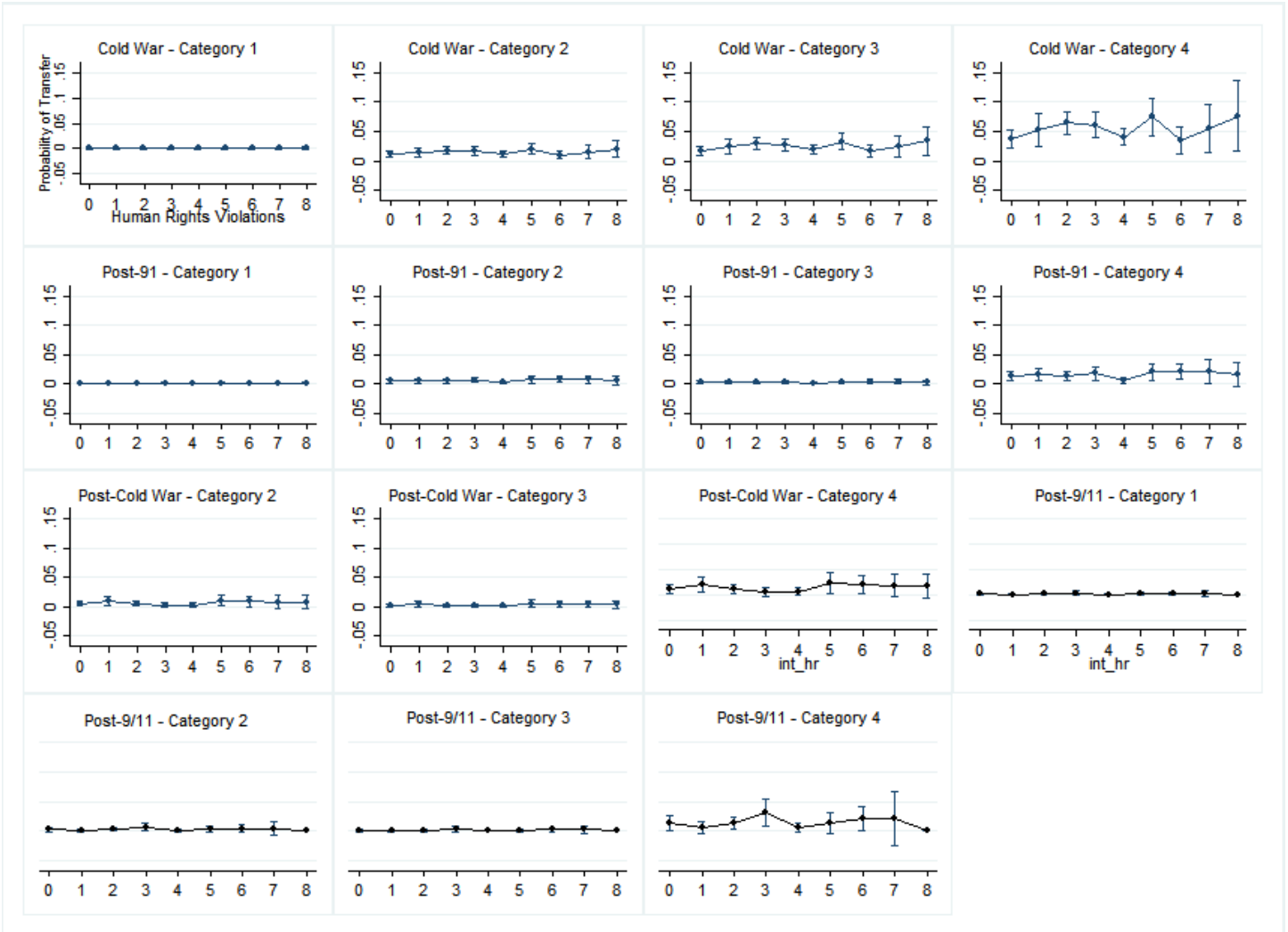


Figure A8: Germany Split Sample – Land Weapons

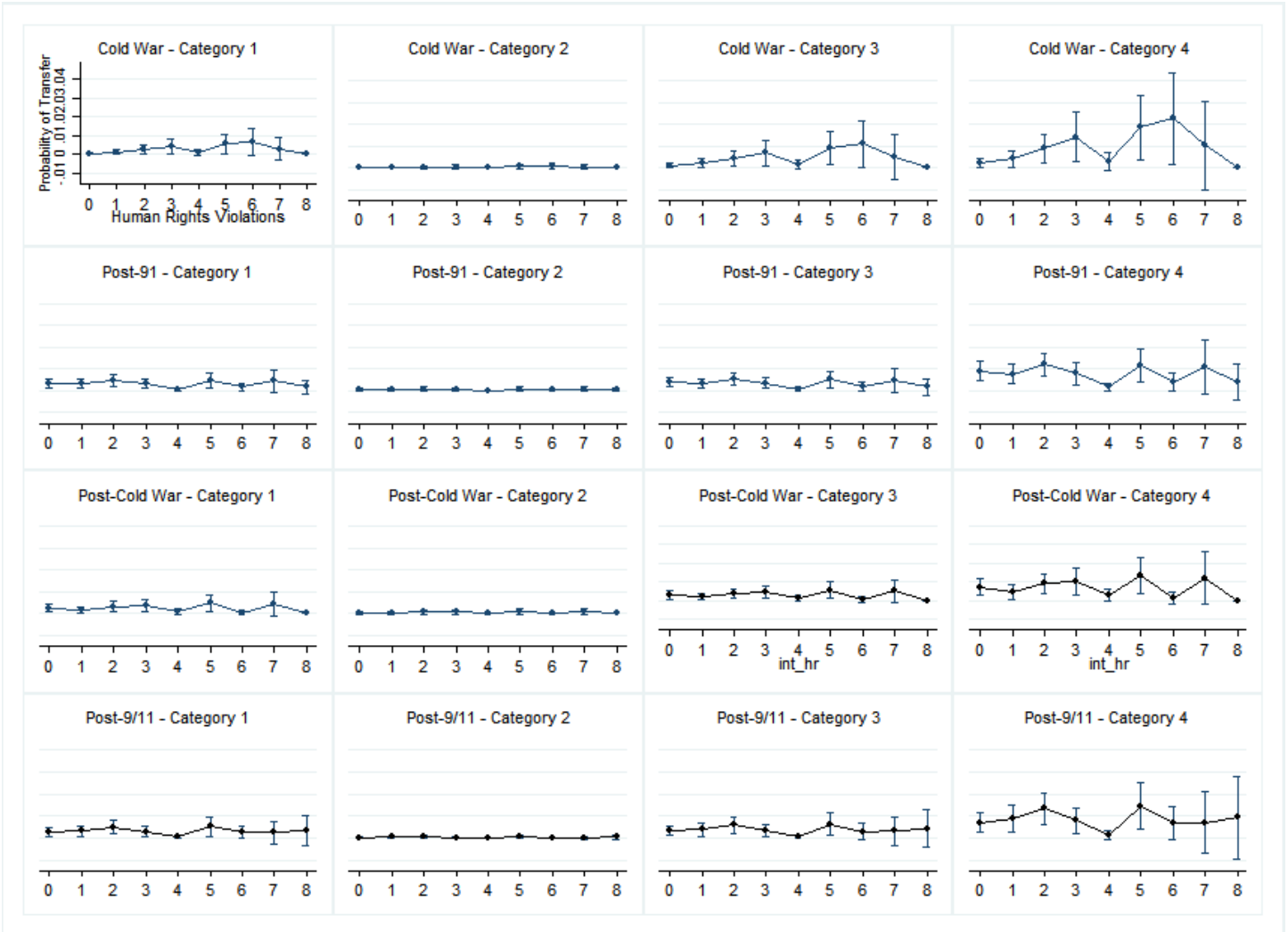
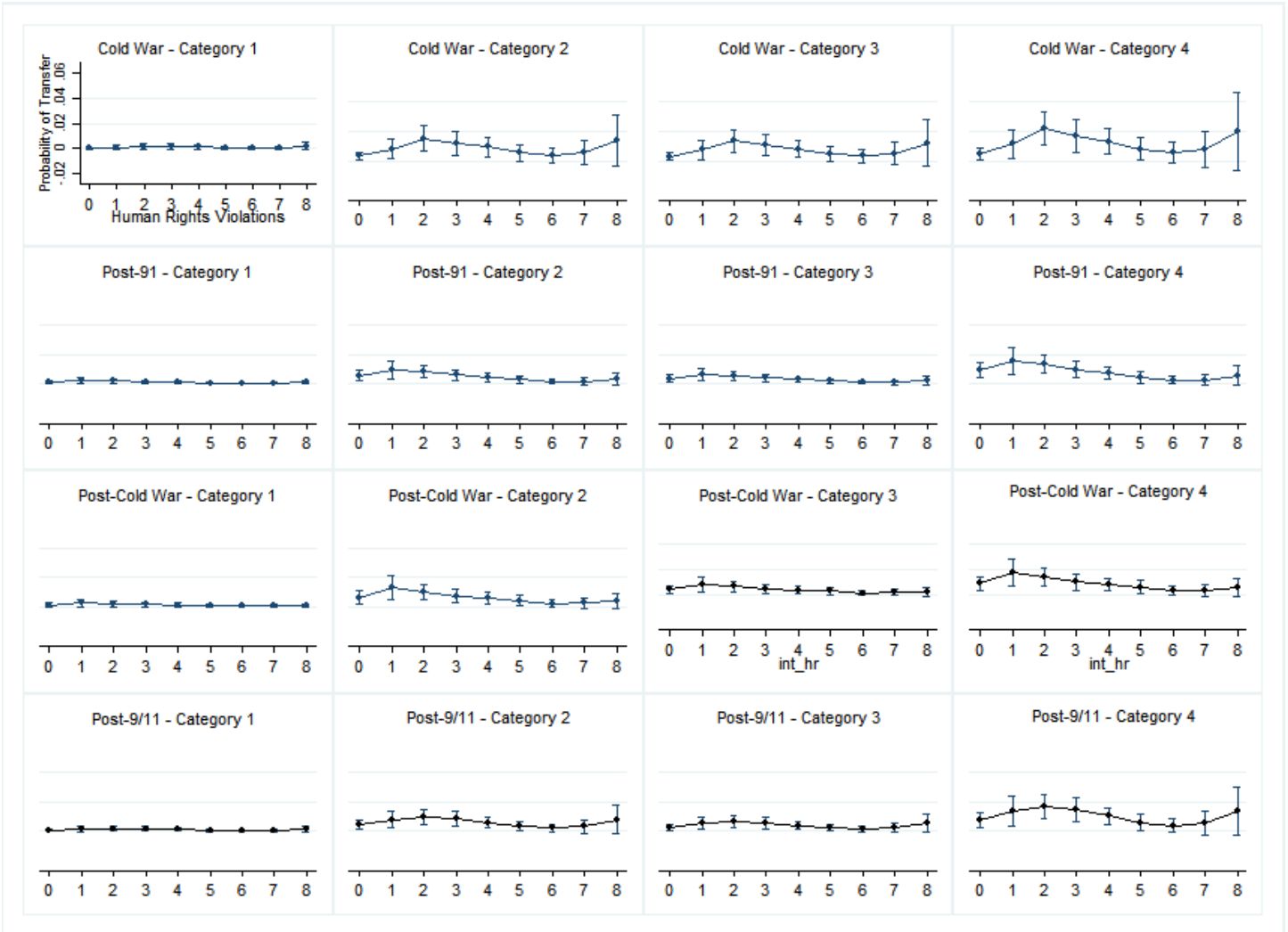


Figure A9: Germany Split Sample – Air Weapons



**Table A13: Ordered Logits for Transfers of Land Major Weapon Systems –
Country Dummy Split Sample**

	Cold War	>1992	Post- Cold War	Post- 9/11
Human Rights	-0.13** (0.03)	-0.04 (0.04)	-0.09 (0.05)	0.04 (0.07)
Dependency	0.03 (0.20)	1.21** (0.29)	1.09** (0.34)	0.98 (0.60)
Importer Polity	-0.04** (0.01)	-0.05** (0.01)	-0.08** (0.02)	-0.01 (0.02)
GDP (Log)	0.01 (0.03)	-0.05 (0.05)	-0.05 (0.06)	-0.06 (0.11)
Defense Pact	-0.10 (0.13)	0.02 (0.18)	0.15 (0.22)	-0.30 (0.32)
Intl. Conflict	0.08** (0.03)	0.14** (0.04)	0.17** (0.05)	0.12 (0.08)
Civil Conflict	-0.01 (0.11)	-0.48* (0.20)	-0.19 (0.23)	-1.27** (0.45)
United Kingdom	0.36* (0.17)	0.86** (0.28)	0.91** (0.33)	0.24 (0.61)
France	0.29* (0.14)	0.68** (0.24)	0.62* (0.30)	0.55 (0.42)
Germany	0.97** (0.19)	2.51** (0.25)	2.39** (0.33)	2.37** (0.43)
Cut 1	0.69^ (0.38)	0.77 (0.60)	0.61 (0.71)	0.77 (1.20)
Cut 2	1.15** (0.38)	1.29* (0.60)	1.15 (0.71)	1.26 (1.20)
Cut 3	1.26** (0.38)	1.39* (0.60)	1.25^ (0.71)	1.37 (1.20)
Cut 4	1.60** (0.39)	1.75** (0.60)	1.65* (0.72)	1.67 (1.20)
Observations	1854	1095	711	384
Pseudo R-squared	0.023	0.076	0.075	0.097

Standard errors in parentheses

^ p<0.10 * p<0.05 **

p<0.01

**Table A14: Ordered Logits for Transfers of Air Major Weapon Systems –
Country Dummy Split Sample**

	Cold War	>1992	Post- Cold War	Post- 9/11
Human Rights	0.16** (0.03)	0.05 (0.03)	0.07^ (0.04)	0.02 (0.06)
Dependency	0.02 (0.17)	-0.74** (0.24)	-0.53^ (0.29)	-0.96* (0.44)
Importer Polity	0.04** (0.01)	0.05** (0.01)	0.06** (0.01)	0.02 (0.02)
GDP (Log)	-0.03 (0.03)	-0.04 (0.04)	-0.01 (0.05)	-0.12 (0.09)
Defense Pact	-0.01 (0.11)	-0.04 (0.15)	-0.08 (0.18)	0.07 (0.28)
Intl. Conflict	-0.05^ (0.02)	-0.13** (0.03)	-0.15** (0.04)	-0.11^ (0.07)
Civil Conflict	0.02 (0.10)	0.34* (0.15)	0.18 (0.18)	0.58* (0.30)
United Kingdom	-0.40** (0.15)	-0.57* (0.23)	-0.60* (0.28)	-0.36 (0.45)
France	0.38** (0.13)	0.09 (0.20)	0.14 (0.25)	0.09 (0.34)
Germany	-0.46* (0.18)	-2.23** (0.25)	-2.09** (0.33)	-2.40** (0.41)
Cut 1				
	-0.62^ (0.33)	-1.50** (0.50)	-0.98 (0.60)	-2.80** (1.03)
Cut 2				
	-0.45 (0.33)	-1.25* (0.50)	-0.75 (0.60)	-2.50* (1.03)
Cut 3				
	0.50 (0.33)	-0.25 (0.50)	0.24 (0.60)	-1.47 (1.02)
Cut 4				
Observations	(0.33)	(0.50)	(0.60)	(1.02)
Pseudo R-squared				

Standard errors in parentheses

^ p<0.10 * p<0.05 **

p<0.01

Figure A10: Time Split Sample, Exporter Dummies – Land Weapons

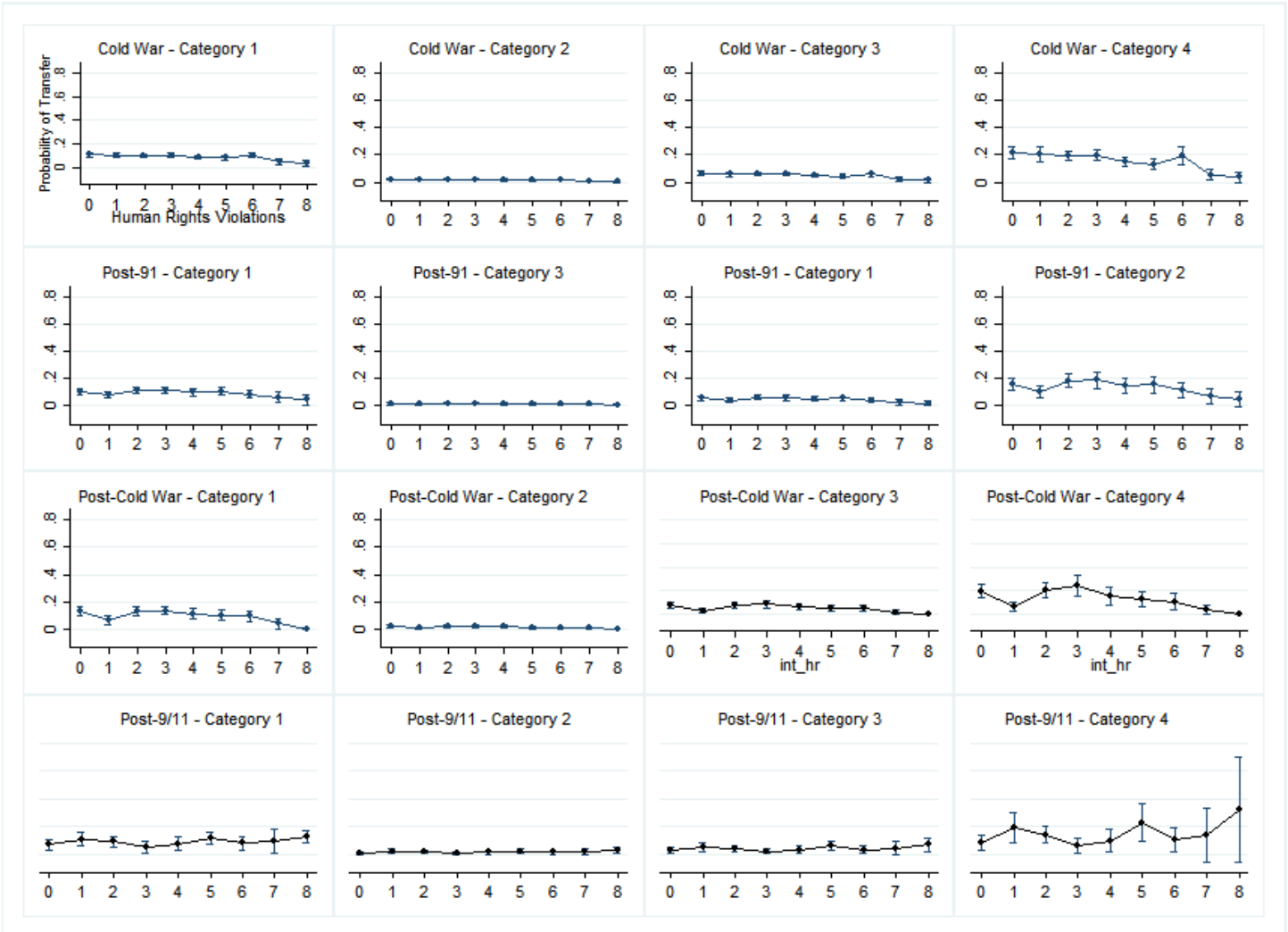


Figure A11: Time Split Sample, Exporter Dummies – Air Weapons

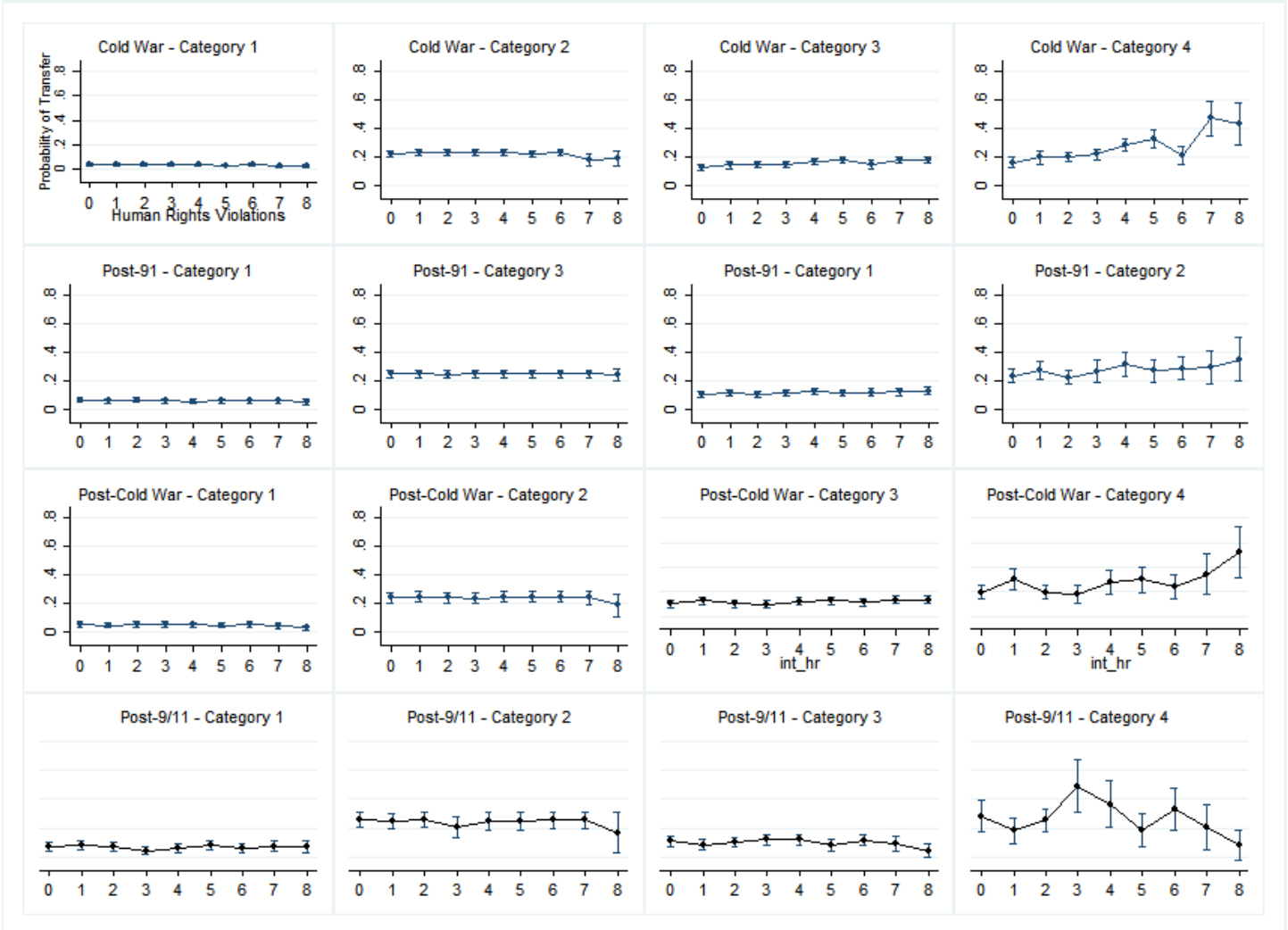


Table A15: Ordered Logits for Transfers of Major Weapon Systems – All Dummies

	Land	Air
Human Rights	-0.11** (0.02)	0.12** (0.02)
Dependency	0.41* (0.16)	-0.26^ (0.14)
Importer Polity	-0.04** (0.01)	0.04** (0.01)
GDP (Log)	-0.00 (0.03)	-0.03 (0.02)
Defense Pact	-0.13 (0.10)	0.02 (0.08)
Intl. Conflict	0.09** (0.02)	-0.07** (0.02)
Civil Conflict	-0.11 (0.10)	0.07 (0.08)
Cold War	-0.16 (0.10)	0.08 (0.09)
Post-9/11	-0.11 (0.14)	0.11 (0.12)
United Kingdom	0.48** (0.15)	-0.46** (0.13)
France	0.35** (0.12)	0.29** (0.11)
Germany	1.53** (0.15)	-1.12** (0.14)
Cut 1	0.65^ (0.33)	-0.85** (0.28)
Cut 2	1.12** (0.33)	-0.65* (0.28)
Cut 3	1.23** (0.33)	0.30 (0.28)
Cut 4	1.58** (0.33)	0.95** (0.28)
Observations	2949	2949
Pseudo R-squared	0.037	0.025

Standard errors in parentheses

^ p<0.10 * p<0.05 **

p<0.01

Figure A12: All Dummies – Land and Air Weapons

