# Supplemental Files for
# "Spying from Space: Reconnaissance Satellites and Interstate Disputes"

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- This robustness check re-estimates Table 1 using a penalized maximum logit estimator. This estimator is also robust when used to analyze data with low event occurrences and can also handle the presence of separation between the independent and dependent variables.

*Table A4: Probit Analyses of Reconnaissance Satellites' Impact on Salient MIDs*

- This robustness check re-estimates Table 1 using a probit estimator

*Table A5: Analyses of Reconnaissance Satellites' Impact on Salient MIDs Using Seeming Unrelated Bivariate and Multivariate Probit Regression with Robust Standard Errors*

- This table provides a robustness check of Model 4 from Table 1 if we employ a system of probit regressions with robust standard errors to endogenize the possession of reconnaissance satellites with the occurrence of Salient MIDs. Models 1-2 employ bivariate probit individually for reconnaissance satellite possession by either dyad member. Model 3 employs multivariate probit to include equations for satellite possession by both the aggressor and target. For the satellite possession portions of the mhe base model for the determinants of reconnaissance satellite proliferation is drawn from Early (2014).

  Additional data for the variables included within the reconnaissance satellite models were drawn from:
  - Barro, Robert and Jong-Wha Lee. 2010. "A New Data Set of Educational Attainment in the World, 1950-2010." NBER Working Paper 15902. Cambridge: National Bureau of Economic Research.
  - Early, Bryan, Nolan Fahrenkopf, Ozlem Savas, and Robert Spice. 2015. *National Space and Ballistic Missile Data Set Codebook, v2.0.* Albany, NY: University at Albany.
  - Gleditsch, Kristian S. 2002. "Expanded Trade and GDP Data." *Journal of Conflict Resolution* 46: 712-24.
  - Marshall, Monty G. and Keith Jaggers. 2009. *Polity IV Project: Political Regime Characteristics and Transitions, 1800-2007*. (Arlington, Virginia: Polity IV Project).

*Table A6: Seeming Unrelated Multivariate Probit Analyses on Reconnaissance Satellites' Impact on the Initiation of Salient Conflicts*

- Conducts a three-equation model that simultaneous estimates the possession of reconnaissance satellites by the aggressor and target and their likelihood of engaging in a salient MID in a given year

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- This table provides a robustness check of Table 1 if we only include dyads in which one member acquired re99con satellites at some point during our sample

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- This table provides a robustness check of Table 1 if we exclude the measures of economic development

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- Re-estimates *Table 1 using CINC scores instead of national military spending values*

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- Re-estimates Table 1 including a Power-Share variable [(CINC1) / (CINC1+CINC2)] and a contiguity variable

*Table A11: Analyses of Reconnaissance Satellites' Impact on the Initiation of MINOR MIDS*

- This table re-estimates Table 1 using an alternative dependent variable that includes MIDs with no or low fatality levels (fatlevel of 0-2) from the Maoz et al. (2019) data instead of only the most salient ones. As such, this model includes a much larger pool of conflict events and also disputes that only involved very low levels of hostility. We argue that our theoretical explanation should not be well equipped to predict the occurrence of low-intensity MIDs and do not expect to see our hypotheses supported within this analysis.

*Table A12: Analyses of Reconnaissance Satellites' Impact on the Initiation of Salient Conflicts – Using a DV with a Lower Fatality Cut Point*

- This table re-estimates Table 1 using an alternative dependent variable that includes MIDs that caused 25+ casualties and above to evaluate whether the choice of 100+ battle deaths was an appropriate cutpoint.

*Table A13: Analyses of Reconnaissance Satellites' Impact on the Initiation of Salient Conflicts Using a Fixed Effects Estimator*

- This table re-estimates Table 1 using a fixed effects estimator that seeks to focus solely on the within-unit effects of the variables. It also eliminates all directed dyads in which a salient MID did not occur, dramatically shrinking the sample used.

**Table A1: Summary Statistics for the Full Sample, 1950-2010**

| *Variable* | *Obs* | *Mean* | *Std. Dev.* | *Min* | *Max* |
|---|---|---|---|---|---|
| SALIENT MIDS | 136194 | 0.00 | 0.03 | 0 | 1 |
| RECON SAT – AGGRESSOR | 136194 | 0.25 | 0.43 | 0 | 1 |
| RECON SAT – TARGET | 136194 | 0.25 | 0.43 | 0 | 1 |
| POST-2000 | 136194 | 0.25 | 0.43 | 0 | 1 |
| MILITARY SPENDING - AGGRESSOR | 131756 | 14.00 | 4.02 | 0 | 20 |
| MILITARY SPENDING -TARGET | 131756 | 14.00 | 4.02 | 0 | 20 |
| AGGRESSOR GDPP/C | 135615 | 8.72 | 1.28 | 5 | 13 |
| TARGET GDPP/C | 135615 | 8.72 | 1.28 | 5 | 13 |
| DISTANCE | 136194 | 6.60 | 3.16 | 0 | 9 |
| AGGRESSOR - DEMOCRACY | 123281 | 0.47 | 0.50 | 0 | 1 |
| TARGET - DEMOCRACY | 123281 | 0.47 | 0.50 | 0 | 1 |
| BOTH DEMOCRACIES | 111578 | 0.23 | 0.42 | 0 | 1 |
| DEFENSE PACT WITH TARGET | 136194 | 0.18 | 0.38 | 0 | 1 |
| STRATEGIC RIVALS | 136194 | 0.04 | 0.19 | 0 | 1 |
| NO MID YEARS | 136194 | 24.04 | 16.41 | 0 | 60 |

**Table A2: Correlation Matrix for the Full Sample, 1950-2010**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Salient MIDs | 1.00 | | | | | | | | | | | | | | |
| 2. Recon Sat – Aggressor | -0.01 | 1.00 | | | | | | | | | | | | | |
| 3. Recon Sat – Target | -0.01 | -0.17 | 1.00 | | | | | | | | | | | | |
| 4. Post-2000 | -0.01 | 0.23 | 0.23 | 1.00 | | | | | | | | | | | |
| 5. Military Spending - Aggressor | -0.01 | 0.61 | -0.20 | 0.16 | 1.00 | | | | | | | | | | |
| 6. Military Spending -Target | -0.01 | -0.20 | 0.61 | 0.16 | -0.24 | 1.00 | | | | | | | | | |
| 7. Aggressor GDPp/c | -0.02 | 0.38 | -0.08 | 0.18 | 0.63 | -0.06 | 1.00 | | | | | | | | |
| 8. Target GDPp/c | -0.01 | -0.08 | 0.38 | 0.18 | -0.06 | 0.63 | 0.08 | 1.00 | | | | | | | |
| 9. Distance | -0.03 | 0.25 | 0.25 | 0.18 | 0.27 | 0.27 | 0.20 | 0.20 | 1.00 | | | | | | |
| 10. Aggressor - Democracy | -0.02 | 0.20 | -0.06 | 0.11 | 0.40 | -0.07 | 0.64 | 0.03 | 0.18 | 1.00 | | | | | |
| 11. Target - Democracy | -0.01 | -0.06 | 0.20 | 0.11 | -0.07 | 0.40 | 0.03 | 0.64 | 0.18 | 0.05 | 1.00 | | | | |
| 12. Both Democracies | -0.02 | 0.05 | 0.05 | 0.14 | 0.14 | 0.14 | 0.35 | 0.35 | 0.04 | 0.59 | 0.59 | 1.00 | | | |
| 13. Defense Pact with Target | 0.00 | -0.07 | -0.07 | -0.02 | -0.05 | -0.05 | 0.05 | 0.04 | -0.36 | 0.06 | 0.05 | 0.21 | 1.00 | | |
| 14. Strategic Rivals | 0.06 | -0.07 | -0.07 | -0.06 | -0.07 | -0.07 | -0.08 | -0.08 | -0.31 | -0.10 | -0.10 | -0.08 | 0.10 | 1.00 | |
| 15. No MID Years | -0.02 | 0.29 | 0.29 | 0.45 | 0.28 | 0.28 | 0.19 | 0.18 | 0.15 | 0.13 | 0.12 | 0.16 | 0.05 | -0.06 | 1.00 |

**Table A3: Penalized Maximum Logit Analyses of Reconnaissance Satellites' Impact on Salient MIDs**

| | Model 1 | Model 2 | Model 3 | Model 4 |
|---|---|---|---|---|
| RECON SAT – AGGRESSOR | -1.13*** | -1.50** | -0.93*** | -0.96** |
| | (0.34) | (0.68) | (0.29) | (0.47) |
| RECON SAT – TARGET | -1.25*** | -0.96** | -1.36*** | -1.10** |
| | (0.36) | (0.49) | (0.35) | (0.46) |
| POST-2000 | (0.00) | (0.00) | (0.00) | (0.00) |
| | | | -1.15*** | -0.28 |
| MILITARY SPENDING - AGGRESSOR | | | (0.42) | (0.46) |
| | | 0.19*** | | 0.19*** |
| MILITARY SPENDING -TARGET | | (0.05) | | (0.05) |
| | | 0.10** | | 0.10** |
| AGGRESSOR GDPP/C | | (0.05) | | (0.05) |
| | | -0.56*** | | -0.51*** |
| TARGET GDPP/C | | (0.12) | | (0.11) |
| | | -0.11 | | -0.16 |
| DISTANCE | | (0.12) | | (0.11) |
| | | -0.07* | | -0.07* |
| AGGRESSOR - DEMOCRACY | | (0.04) | | (0.04) |
| | | 0.37 | | 0.39 |
| TARGET - DEMOCRACY | | (0.35) | | (0.32) |
| | | 0.75*** | | 0.70** |
| BOTH DEMOCRACIES | | (0.28) | | (0.28) |
| | | -1.69*** | | -1.92*** |
| DEFENSE PACT WITH TARGET | | (0.65) | | (0.64) |
| | | -0.40 | | -0.41 |
| STRATEGIC RIVALS | | (0.32) | | (0.31) |
| | | 2.24*** | | 2.25*** |
| NO CONFLICT YEARS | | (0.28) | | (0.27) |
| | -0.05 | -0.07 | -0.06 | -0.06 |
| NO CONFLICT YEARS $^2$ | (0.05) | (0.06) | (0.04) | (0.05) |
| | 0.00 | 0.00 | 0.00 | 0.00 |
| NO CONFLICT YEARS $^3$ | (0.00) | (0.00) | (0.00) | (0.00) |
| | 0.00 | -0.00 | 0.00 | 0.00 |
| CONSTANT | -5.72*** | -4.30*** | -5.71*** | -4.29*** |
| | (0.21) | (1.17) | (0.19) | (1.12) |
| N | 102716 | 79274 | 136194 | 105032 |

*Notes*: *,**,*** respectively denote statistical significance at the 90%, 95%, and 99% levels using two-tailed tests.

**Table A4: Probit Analyses of Reconnaissance Satellites' Impact on Salient MIDs**

| | Model 1 | Model 2 | Model 3 | Model 4 |
|---|---|---|---|---|
| RECON SAT – AGGRESSOR | -0.35*** | -0.47** | -0.28*** | -0.29** |
| | (0.10) | (0.21) | (0.08) | (0.13) |
| RECON SAT – TARGET | -0.37*** | -0.30** | -0.40*** | -0.33** |
| | (0.10) | (0.15) | (0.10) | (0.14) |
| POST-2000 | | | -0.34*** | -0.07 |
| | | | (0.10) | (0.12) |
| MILITARY SPENDING - AGGRESSOR | | 0.07*** | | 0.07*** |
| | | (0.01) | | (0.01) |
| MILITARY SPENDING -TARGET | | 0.04*** | | 0.04*** |
| | | (0.01) | | (0.01) |
| AGGRESSOR GDPP/C | | -0.19*** | | -0.17*** |
| | | (0.04) | | (0.04) |
| TARGET GDPP/C | | -0.05 | | -0.07** |
| | | (0.04) | | (0.03) |
| DISTANCE | | -0.03*** | | -0.03*** |
| | | (0.01) | | (0.01) |
| AGGRESSOR - DEMOCRACY | | 0.12 | | 0.12 |
| | | (0.12) | | (0.11) |
| TARGET - DEMOCRACY | | 0.28*** | | 0.26*** |
| | | (0.10) | | (0.09) |
| BOTH DEMOCRACIES | | -0.52*** | | -0.58*** |
| | | (0.20) | | (0.19) |
| DEFENSE PACT WITH TARGET | | -0.16 | | -0.15 |
| | | (0.10) | | (0.10) |
| STRATEGIC RIVALS | | 0.78*** | | 0.77*** |
| | | (0.09) | | (0.08) |
| NO CONFLICT YEARS | -0.02 | -0.03 | -0.02* | -0.02 |
| | (0.01) | (0.02) | (0.01) | (0.02) |
| NO CONFLICT YEARS $^2$ | 0.00 | 0.00 | 0.00 | 0.00 |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| NO CONFLICT YEARS $^3$ | 0.00 | -0.00 | 0.00 | 0.00 |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| CONSTANT | -2.73*** | -2.24*** | -2.73*** | -2.25*** |
| | (0.07) | (0.36) | (0.06) | (0.34) |
| N | 102716 | 79274 | 136194 | 105032 |

*Notes*: *,**,*** respectively denote statistical significance at the 90%, 95%, and 99% levels using two-tailed tests.

**Table A5: Seeming Unrelated Bivariate Probit Analyses on Reconnaissance Satellites' Impact on Salient MIDs**

| *Estimating Salient Conflict* | | |
|---|---|---|
| | Aggressor Satellites Model | Target Satellites Model |
| RECON SAT – AGGRESSOR | -0.43** | -0.40*** |
| | (0.19) | (0.14) |
| RECON SAT – TARGET | -0.37** | -0.64** |
| | (0.16) | (0.31) |
| POST-2000 | -0.10 | -0.06 |
| | (0.12) | (0.13) |
| MILITARY SPENDING - AGGRESSOR | 0.07*** | 0.07*** |
| | (0.02) | (0.02) |
| MILITARY SPENDING -TARGET | 0.04*** | 0.05*** |
| | (0.01) | (0.02) |
| AGGRESSOR GDPP/C | -0.16*** | -0.19*** |
| | (0.04) | (0.04) |
| TARGET GDPP/C | -0.07* | -0.04 |
| | (0.03) | (0.04) |
| DISTANCE | -0.02** | -0.03** |
| | (0.01) | (0.01) |
| AGGRESSOR - DEMOCRACY | 0.10 | 0.17 |
| | (0.11) | (0.12) |
| TARGET - DEMOCRACY | 0.25*** | 0.24** |
| | (0.09) | (0.10) |
| BOTH DEMOCRACIES | -0.57*** | -0.57*** |
| | (0.19) | (0.19) |
| DEFENSE PACT WITH TARGET | -0.14 | -0.21* |
| | (0.11) | (0.11) |
| STRATEGIC RIVALS | 0.76*** | 0.72*** |
| | (0.09) | (0.09) |
| NO CONFLICT YEARS | -0.02 | -0.03* |
| | (0.02) | (0.02) |
| NO CONFLICT YEARS $^2$ | 0.00 | 0.00 |
| | (0.00) | (0.00) |
| NO CONFLICT YEARS $^3$ | 0.00 | -0.00 |
| | (0.00) | (0.00) |
| CONSTANT | -2.35*** | -2.38*** |
| | (0.37) | (0.39) |

| | Aggressor Possession | Target Possession |
|---|---|---|
| HIGHER EDUCATION | 0.14*** | 0.14*** |
| | (0.01) | (0.01) |
| LN(GDP) | 0.55*** | 0.55*** |
| | (0.02) | (0.02) |
| HIGHER ED X LN(GDP) | -0.01*** | -0.01*** |
| | (0.00) | (0.00) |
| MAJOR POWER | 1.23*** | 1.22*** |
| | (0.05) | (0.05) |
| CIVIL SPACE AGENCY | -0.47*** | -0.46*** |
| | (0.03) | (0.03) |
| DEMOCRATIC GOVERNMENT | 0.00*** | 0.00*** |
| | (0.00) | (0.00) |
| MILITARY ROCKETRY R&D YEARS | 0.00 | 0.00 |
| | (0.03) | (0.03) |
| NO SATELLITE YEARS | -0.37*** | -0.37*** |
| | (0.01) | (0.01) |
| NO SATELLITE YEARS $^2$ | 0.01*** | 0.01*** |
| | (0.00) | (0.00) |
| NO SATELLITE YEARS $^3$ | -0.00*** | -0.00*** |
| | (0.00) | (0.00) |
| CONSTANT | -7.50*** | -7.51*** |
| | (0.20) | (0.20) |
| Rho | 0.30** | 0.57** |
| | (0.14) | (0.27) |
| N | 96573 | 96573 |

*Notes*: *,**,*** respectively denote statistical significance at the 90%, 95%, and 99% levels using two-tailed tests.

**Table A6: Seeming Unrelated Multivariate Probit Analyses on Reconnaissance Satellites' Impact on Salient MIDs**

| Salient MID Equation | |
|---|---|
| RECON SAT – AGGRESSOR | -0.39*** |
| | (0.15) |
| RECON SAT – TARGET | -0.38** |
| | (0.16) |
| POST-2000 | -0.17 |
| | (0.12) |
| MILITARY SPENDING - AGGRESSOR | 0.06*** |
| | (0.02) |
| MILITARY SPENDING -TARGET | 0.04*** |
| | (0.01) |
| AGGRESSOR GDPP/C | -0.20*** |
| | (0.04) |
| TARGET GDPP/C | -0.07** |
| | (0.04) |
| DISTANCE | -0.02** |
| | (0.01) |
| AGGRESSOR - DEMOCRACY | 0.17 |
| | (0.12) |
| TARGET - DEMOCRACY | 0.27*** |
| | (0.10) |
| BOTH DEMOCRACIES | -0.59*** |
| | (0.19) |
| DEFENSE PACT WITH TARGET | -0.19* |
| | (0.11) |
| STRATEGIC RIVALS | 0.79*** |
| | (0.09) |
| NO CONFLICT YEARS | -0.02 |
| | (0.02) |
| NO CONFLICT YEARS $^2$ | -0.00 |
| | (0.00) |
| NO CONFLICT YEARS $^3$ | 0.00 |
| | (0.00) |
| CONSTANT | -1.96*** |
| | (0.38) |
| Aggressor Satellite Possession Equation | |
| HIGHER EDUCATION | 0.15*** |

| | |
|---|---|
| | (0.01) |
| LN(GDP) | 0.55*** |
| | (0.02) |
| HIGHER ED X LN(GDP) | -0.01*** |
| | (0.00) |
| MAJOR POWER | 1.26*** |
| | (0.05) |
| CIVIL SPACE AGENCY | -0.44*** |
| | (0.03) |
| DEMOCRATIC GOVERNMENT | 0.00*** |
| | (0.00) |
| MILITARY ROCKETRY R&D YEARS | 0.00 |
| | (0.03) |
| NO SATELLITE YEARS | -0.36*** |
| | (0.01) |
| NO SATELLITE YEARS $^2$ | 0.01*** |
| | (0.00) |
| NO SATELLITE YEARS $^3$ | -0.00*** |
| | (0.00) |
| CONSTANT | -7.50*** |
| | (0.21) |
| Target Satellite Possession Equation | |
| HIGHER EDUCATION | 0.15*** |
| | (0.01) |
| LN(GDP) | 0.55*** |
| | (0.02) |
| HIGHER ED X LN(GDP) | -0.01*** |
| | (0.00) |
| MAJOR POWER | 1.26*** |
| | (0.05) |
| CIVIL SPACE AGENCY | -0.44*** |
| | (0.03) |
| DEMOCRATIC GOVERNMENT | 0.00*** |
| | (0.00) |
| MILITARY ROCKETRY R&D YEARS | 0.00 |
| | (0.03) |
| NO SATELLITE YEARS | -0.36*** |
| | (0.01) |
| NO SATELLITE YEARS $^2$ | 0.01*** |
| | (0.00) |
| NO SATELLITE YEARS $^3$ | -0.00*** |
| | (0.00) |

| | |
|---|---|
| CONSTANT | -7.50*** |
| | (0.21) |
| Rho21 | 0.02 |
| | (0.03) |
| Rho 31 | 0.02 |
| | (0.02) |
| Rho 32 | 0.09*** |
| | (0.02) |
| Likelihood Rho21 Rho31= Rho32= 0<br>Prob > chi2 = 0.0019 | |
| N | 88944 |

**Table A7: Rare Events Logit Analyses of Reconnaissance Satellites' Impact on Salient MIDs with Sample of States That at Some Point Acquired Recon Satellites**

| | Model 1 | Model 2 | Model 3 | Model 4 |
|---|---|---|---|---|
| RECON SAT – AGGRESSOR | -1.06*** | -1.27* | -0.92*** | -0.81* |
| | (0.37) | (0.74) | (0.30) | (0.43) |
| RECON SAT – TARGET | -1.17*** | -0.81* | -1.36*** | -1.03** |
| | (0.38) | (0.49) | (0.39) | (0.50) |
| POST-2000 | | | -0.89** | 0.07 |
| | | | (0.42) | (0.44) |
| MILITARY SPENDING - AGGRESSOR | | 0.14*** | | 0.13** |
| | | (0.05) | | (0.05) |
| MILITARY SPENDING -TARGET | | 0.04 | | 0.04 |
| | | (0.05) | | (0.05) |
| AGGRESSOR GDPP/C | | -0.54*** | | -0.50*** |
| | | (0.13) | | (0.13) |
| TARGET GDPP/C | | -0.02 | | -0.09 |
| | | (0.11) | | (0.11) |
| DISTANCE | | -0.11** | | -0.10** |
| | | (0.04) | | (0.04) |
| AGGRESSOR - DEMOCRACY | | 0.22 | | 0.29 |
| | | (0.42) | | (0.38) |
| TARGET - DEMOCRACY | | 0.70** | | 0.66** |
| | | (0.31) | | (0.30) |
| BOTH DEMOCRACIES | | -1.38** | | -1.67** |
| | | (0.68) | | (0.67) |
| DEFENSE PACT WITH TARGET | | -0.43 | | -0.29 |
| | | (0.45) | | (0.42) |
| STRATEGIC RIVALS | | 2.11*** | | 2.16*** |
| | | (0.37) | | (0.36) |
| NO CONFLICT YEARS | -0.05 | -0.08 | -0.07* | -0.07 |
| | (0.05) | (0.06) | (0.04) | (0.05) |
| NO CONFLICT YEARS $^2$ | -0.00 | 0.00 | 0.00 | 0.00 |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| NO CONFLICT YEARS $^3$ | 0.00 | -0.00 | 0.00 | 0.00 |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| CONSTANT | -5.75*** | -3.28** | -5.71*** | -3.01** |
| | (0.22) | (1.30) | (0.21) | (1.26) |
| N | 85996 | 65168 | 114634 | 87428 |

*Notes*: *,**,*** respectively denote statistical significance at the 90%, 95%, and 99% levels using two-tailed tests.

**Table A8: Rare Events Logit Analyses of Reconnaissance Satellites' Impact on Salient MIDs with No GDP Variables**

| | Model 1 | Model 2 | Model 3 | Model 4 |
|---|---|---|---|---|
| RECON SAT – AGGRESSOR | -1.13*** | -1.58** | -0.93*** | -1.08** |
| | (0.36) | (0.75) | (0.28) | (0.44) |
| RECON SAT – TARGET | -1.25*** | -0.90* | -1.36*** | -1.06** |
| | (0.37) | (0.50) | (0.36) | (0.49) |
| POST-2000 | | | -1.15*** | -0.44 |
| | | | (0.36) | (0.38) |
| MILITARY SPENDING - AGGRESSOR | | 0.12*** | | 0.12*** |
| | | (0.04) | | (0.04) |
| MILITARY SPENDING -TARGET | | 0.06 | | 0.06 |
| | | (0.04) | | (0.04) |
| DISTANCE | | -0.07* | | -0.07** |
| | | (0.04) | | (0.04) |
| AGGRESSOR - DEMOCRACY | | -0.27 | | -0.18 |
| | | (0.39) | | (0.35) |
| TARGET - DEMOCRACY | | 0.68** | | 0.58** |
| | | (0.27) | | (0.26) |
| BOTH DEMOCRACIES | | -1.69** | | -1.94*** |
| | | (0.67) | | (0.66) |
| DEFENSE PACT WITH TARGET | | -0.74** | | -0.74** |
| | | (0.31) | | (0.30) |
| STRATEGIC RIVALS | | 2.40*** | | 2.39*** |
| | | (0.28) | | (0.27) |
| NO CONFLICT YEARS | -0.05 | -0.08 | -0.06* | -0.07 |
| | (0.04) | (0.05) | (0.03) | (0.05) |
| NO CONFLICT YEARS $^2$ | 0.00 | 0.00 | 0.00 | 0.00 |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| NO CONFLICT YEARS $^3$ | 0.00 | -0.00 | 0.00 | 0.00 |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| CONSTANT | -5.72*** | -8.03*** | -5.71*** | -7.96*** |
| | (0.20) | (0.69) | (0.19) | (0.66) |
| N | 102716 | 79532 | 136194 | 105506 |

*Notes*: *,**,*** respectively denote statistical significance at the 90%, 95%, and 99% levels using two-tailed tests.

**Table A9: Rare Events Logit Analyses of Reconnaissance Satellites' Impact on Salient MIDs with CINC Scores Instead of Military Spending**

| | Model 1 | Model 2 |
|---|---|---|
| RECON SAT – AGGRESSOR | -1.23** | -0.79* |
| | (0.63) | (0.43) |
| RECON SAT – TARGET | -1.02* | -1.24** |
| | (0.53) | (0.52) |
| POST-2000 | | -0.37 |
| | | (0.34) |
| CINC SCORE - AGGRESSOR | 4.66** | 3.83** |
| | (1.87) | (1.82) |
| CINC SCORE -TARGET | 1.06 | 1.29 |
| | (2.41) | (2.42) |
| AGGRESSOR GDPP/C | -0.38*** | -0.32*** |
| | (0.11) | (0.11) |
| TARGET GDPP/C | -0.04 | -0.09 |
| | (0.10) | (0.09) |
| DISTANCE | -0.04 | -0.04 |
| | (0.04) | (0.04) |
| AGGRESSOR - DEMOCRACY | 0.17 | 0.29 |
| | (0.38) | (0.33) |
| TARGET - DEMOCRACY | 0.73*** | 0.69*** |
| | (0.25) | (0.25) |
| BOTH DEMOCRACIES | -1.54** | -1.92*** |
| | (0.66) | (0.66) |
| DEFENSE PACT WITH TARGET | -0.65** | -0.69** |
| | (0.29) | (0.29) |
| STRATEGIC RIVALS | 2.44*** | 2.43*** |
| | (0.27) | (0.25) |
| NO CONFLICT YEARS | -0.08* | -0.06 |
| | (0.05) | (0.04) |
| NO CONFLICT YEARS $^2$ | 0.00 | 0.00 |
| | (0.00) | (0.00) |
| NO CONFLICT YEARS $^3$ | -0.00 | 0.00 |
| | (0.00) | (0.00) |
| CONSTANT | -2.84*** | -2.92*** |
| | (0.98) | (0.94) |
| N | 83244 | 111054 |

*Notes*: *,**,*** respectively denote statistical significance at the 90%, 95%, and 99% levels using two-tailed tests.

**Table A10: RE Logit Analyses of Reconnaissance Satellites' Impact on Salient MIDs with Power-Share and Contiguity Controls**

| | Model 1 | Model 2 |
|---|---|---|
| RECON SAT – AGGRESSOR | -1.41* | -0.97** |
| | (0.74) | (0.44) |
| RECON SAT – TARGET | -0.88* | -1.10** |
| | (0.50) | (0.49) |
| POST-2000 | | -0.16 |
| | | (0.36) |
| CINC SCORE - AGGRESSOR | 0.19*** | 0.16*** |
| | (0.07) | (0.06) |
| CINC SCORE -TARGET | 0.10 | 0.12* |
| | (0.07) | (0.06) |
| AGGRESSOR GDPP/C | -0.58*** | -0.51*** |
| | (0.13) | (0.12) |
| TARGET GDPP/C | -0.12 | -0.18* |
| | (0.10) | (0.10) |
| DISTANCE | -0.34** | -0.12 |
| | (0.16) | (0.14) |
| AGGRESSOR - DEMOCRACY | 0.38 | 0.38 |
| | (0.38) | (0.35) |
| TARGET - DEMOCRACY | 0.76*** | 0.72*** |
| | (0.27) | (0.27) |
| BOTH DEMOCRACIES | -1.69** | -1.91*** |
| | (0.66) | (0.66) |
| DEFENSE PACT WITH TARGET | -0.42 | -0.40 |
| | (0.31) | (0.31) |
| STRATEGIC RIVALS | 2.24*** | 2.26*** |
| | (0.28) | (0.26) |
| CAPABILITIES SHARE | -0.03 | 0.23 |
| | (0.71) | (0.68) |
| CONTIGUITY | -2.19* | -0.41 |
| | (1.26) | (1.20) |
| NO CONFLICT YEARS | -0.07 | -0.06 |
| | (0.05) | (0.05) |
| NO CONFLICT YEARS $^2$ | 0.00 | 0.00 |
| | (0.00) | (0.00) |
| NO CONFLICT YEARS $^3$ | -0.00 | 0.00 |
| | (0.00) | (0.00) |
| CONSTANT | -1.90 | -3.88** |
| | (1.89) | (1.95) |
| N | 79274 | 105032 |

*Notes*: *,**,*** respectively denote statistical significance at the 90%, 95%, and 99% levels using two-tailed tests.

**Table A11: RE Logit Analyses of Reconnaissance Satellites' Impact on Minor MIDs**

| | Model 1 | Model 2 | Model 3 | Model 4 |
|---|---|---|---|---|
| RECON SAT – AGGRESSOR | 0.05 | 0.06 | 0.12* | 0.08 |
| | (0.07) | (0.11) | (0.06) | (0.09) |
| RECON SAT – TARGET | -0.06 | 0.18 | -0.12* | -0.03 |
| | (0.08) | (0.11) | (0.07) | (0.10) |
| POST-2000 | | | 0.49*** | 0.59*** |
| | | | (0.07) | (0.09) |
| MILITARY SPENDING - AGGRESSOR | | 0.20*** | | 0.20*** |
| | | (0.01) | | (0.01) |
| MILITARY SPENDING -TARGET | | 0.14*** | | 0.14*** |
| | | (0.02) | | (0.01) |
| AGGRESSOR GDPP/C | | -0.24*** | | -0.28*** |
| | | (0.03) | | (0.03) |
| TARGET GDPP/C | | -0.14*** | | -0.16*** |
| | | (0.04) | | (0.03) |
| DISTANCE | | -0.17*** | | -0.16*** |
| | | (0.01) | | (0.01) |
| AGGRESSOR - DEMOCRACY | | 0.00 | | 0.08 |
| | | (0.10) | | (0.09) |
| TARGET - DEMOCRACY | | 0.26*** | | 0.17** |
| | | (0.09) | | (0.08) |
| BOTH DEMOCRACIES | | -1.07*** | | -0.99*** |
| | | (0.15) | | (0.13) |
| DEFENSE PACT WITH TARGET | | -0.08 | | 0.09 |
| | | (0.08) | | (0.07) |
| STRATEGIC RIVALS | | 1.23*** | | 1.13*** |
| | | (0.08) | | (0.07) |
| NO CONFLICT YEARS | -0.48*** | -0.44*** | -0.49*** | -0.44*** |
| | (0.02) | (0.02) | (0.02) | (0.02) |
| NO CONFLICT YEARS $^2$ | 0.02*** | 0.02*** | 0.02*** | 0.02*** |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| NO CONFLICT YEARS $^3$ | -0.00*** | -0.00*** | -0.00*** | -0.00*** |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| CONSTANT | -2.04*** | -2.92*** | -1.96*** | -2.53*** |
| | (0.04) | (0.32) | (0.04) | (0.29) |
| N | 102716 | 79274 | 136194 | 105032 |

*Notes*: *,**,*** respectively denote statistical significance at the 90%, 95%, and 99% levels using two-tailed tests.

**Table A12: RE Logit Analyses of Reconnaissance Satellites' Impact on Alternative Less Salient MIDs**

| | Model 1 | Model 2 | Model 3 | Model 4 |
|---|---|---|---|---|
| RECON SAT – AGGRESSOR | -1.22*** | -1.33** | -1.07*** | -0.94** |
| | (0.31) | (0.58) | (0.26) | (0.41) |
| RECON SAT – TARGET | -1.14*** | -0.63 | -1.26*** | -0.99** |
| | (0.31) | (0.41) | (0.30) | (0.42) |
| POST-2000 | | | -0.73** | -0.09 |
| | | | (0.30) | (0.35) |
| MILITARY SPENDING - AGGRESSOR | | 0.15*** | | 0.15*** |
| | | (0.04) | | (0.04) |
| MILITARY SPENDING -TARGET | | 0.09*** | | 0.11*** |
| | | (0.03) | | (0.03) |
| AGGRESSOR GDPP/C | | -0.42*** | | -0.40*** |
| | | (0.10) | | (0.10) |
| TARGET GDPP/C | | -0.16* | | -0.19** |
| | | (0.09) | | (0.08) |
| DISTANCE | | -0.09*** | | -0.09*** |
| | | (0.03) | | (0.03) |
| AGGRESSOR - DEMOCRACY | | 0.50 | | 0.54* |
| | | (0.31) | | (0.28) |
| TARGET - DEMOCRACY | | 0.90*** | | 0.81*** |
| | | (0.23) | | (0.22) |
| BOTH DEMOCRACIES | | -2.11*** | | -2.32*** |
| | | (0.57) | | (0.57) |
| DEFENSE PACT WITH TARGET | | -0.35 | | -0.35 |
| | | (0.26) | | (0.25) |
| STRATEGIC RIVALS | | 2.32*** | | 2.34*** |
| | | (0.24) | | (0.23) |
| NO CONFLICT YEARS | -0.13*** | -0.10** | -0.14*** | -0.11*** |
| | (0.04) | (0.04) | (0.03) | (0.04) |
| NO CONFLICT YEARS $^2$ | 0.00 | 0.00 | 0.00** | 0.00 |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| NO CONFLICT YEARS $^3$ | -0.00 | 0.00 | -0.00 | 0.00 |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| CONSTANT | -4.99*** | -3.89*** | -4.96*** | -3.91*** |
| | (0.14) | (0.86) | (0.13) | (0.82) |
| N | 102716 | 79274 | 136194 | 105032 |

*Notes*: *,**,*** respectively denote statistical significance at the 90%, 95%, and 99% levels using two-tailed tests.

**Table A13: Fixed Effects Logit Analyses of Reconnaissance Satellites' Impact on Salient MIDs**

| | Model 1 | Model 2 | Model 3 | Model 4 |
|---|---|---|---|---|
| RECON SAT – AGGRESSOR | -1.72*** | -3.45*** | -1.74*** | -2.76*** |
| | (0.49) | (1.06) | (0.46) | (0.79) |
| RECON SAT – TARGET | -1.32*** | -1.23* | -1.50*** | -1.23** |
| | (0.46) | (0.64) | (0.44) | (0.61) |
| POST-2000 | | | -1.70*** | -0.68 |
| | | | (0.46) | (0.63) |
| MILITARY SPENDING - AGGRESSOR | | -0.22 | | -0.23* |
| | | (0.14) | | (0.14) |
| MILITARY SPENDING -TARGET | | 0.22 | | 0.27* |
| | | (0.15) | | (0.15) |
| AGGRESSOR GDPP/C | | -1.71*** | | -1.64*** |
| | | (0.35) | | (0.35) |
| TARGET GDPP/C | | -1.30*** | | -1.47*** |
| | | (0.38) | | (0.37) |
| DISTANCE | | -0.29 | | 0.01 |
| | | (0.54) | | (0.14) |
| AGGRESSOR - DEMOCRACY | | -0.21 | | -0.26 |
| | | (0.71) | | (0.62) |
| TARGET - DEMOCRACY | | 0.05 | | -0.27 |
| | | (0.49) | | (0.48) |
| BOTH DEMOCRACIES | | -0.33 | | -0.46 |
| | | (1.07) | | (0.94) |
| DEFENSE PACT WITH TARGET | | -1.74* | | -2.14** |
| | | (1.00) | | (0.87) |
| STRATEGIC RIVALS | | 16.55 | | 17.57 |
| | | (602.47) | | (864.20) |
| NO CONFLICT YEARS | 0.00 | 0.07 | 0.01 | 0.13** |
| | (0.05) | (0.07) | (0.04) | (0.06) |
| NO CONFLICT YEARS $^2$ | -0.00 | 0.00 | -0.00 | -0.00 |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| NO CONFLICT YEARS $^3$ | 0.00 | 0.00 | 0.00* | 0.00 |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| N | 4681 | 3413 | 6148 | 4302 |

*Notes*: *,**,*** respectively denote statistical significance at the 90%, 95%, and 99% levels using two-tailed tests.