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# Rising, Arming, and a Screening Effect of Alliances

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$\Leftarrow$ formal model and statistical analysis

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Literature: alliances are costly signaling. They solve an information problem over a patron's intention (Morrow, 1995; Smith, 1995)

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My argument: alliances have a *screening effect* on a protégé's intention

# Model

Overview

- a rising state ($A$) chooses to invest in its military capability with some costs ($K = k > 0$)
- a declining state ($B$) wants to prevent it if the rising state is a revisionist, but not if it is SQ-oriented
- revisionism is private information ($r \in \{1, p\}$)
- a patron ($E$) as a SQ power has a choice of intervention

Then, I investigate how introducing the alliance changes the preventive war motives

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In this screening effect, alliances can simultaneously

- deter a preventive attack
- constrain the arming by a protégé

# Hypothesis

I test two implications

- **H1**: Defensive alliances decrease the probability of preventive war, especially when expected power shifts are large
- **H2**: Defensive alliances make allies sensitive to internal arming costs

# Empirical Strategy 1

To test H1, I

- follow Bell and Johnson (2015) and (re)calculate the expected power shifts
- regress war on the interaction of the expected power shifts and alliances
- with some control variables[1] and fixed effects

[1] mutual democracy, foreign policy similarity, contiguity, distance, and up-to-cubic polynomial of peace years

# Result 1

The results show that

- the expected power shifts are positively associated with war
- alliances mitigate this positive correlation
- this mitigation effect becomes larger as the expected power shifts get larger

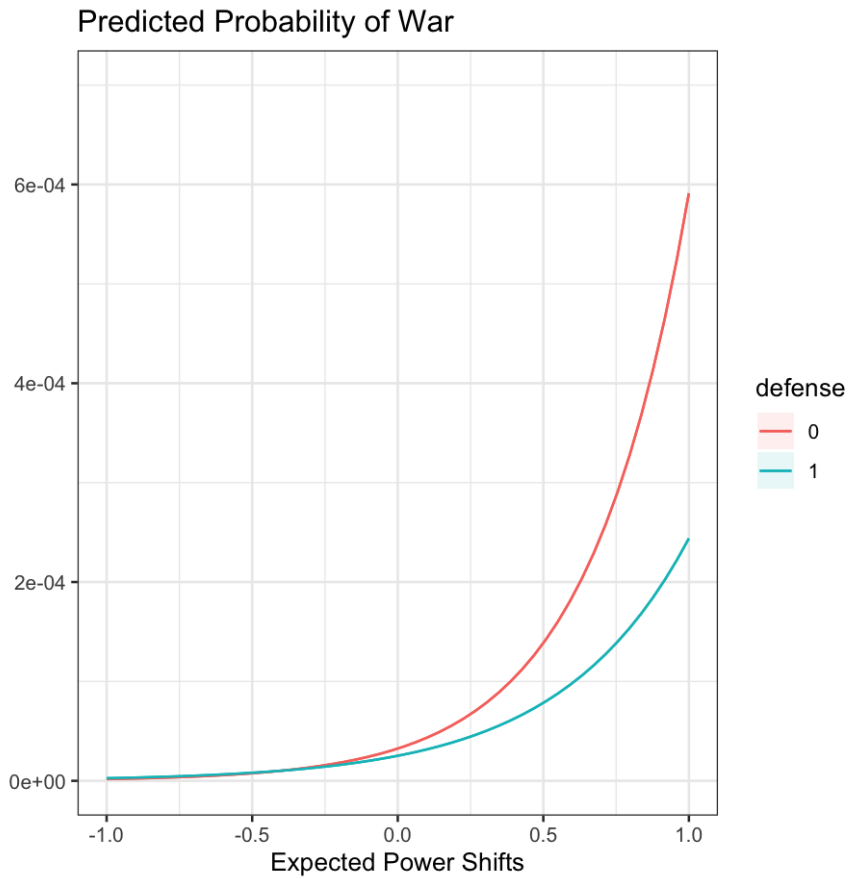



Figure: Predicted Probability of War

# Empirical Strategy 2

To test H2, I

- follow Chapman et al. (2015) to operationalize the internal arming costs as the size of opposition groups[2]
- regress military expenditure on the interaction of the arming costs and alliances
- with some control variables[3] and fixed effects

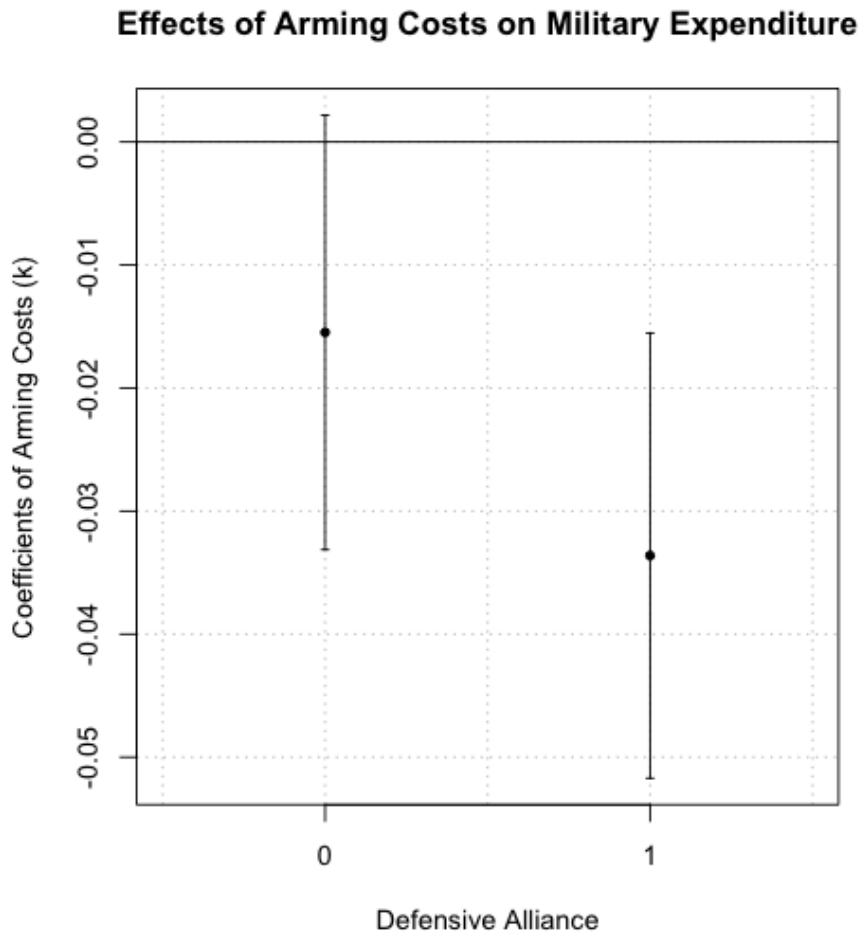
[2] The robustness is checked with a state capacity index

[3] International/civil war, nuclear weapon, rivalry, democracy, GDP, GDP growth, population, and population growth

# Result 2

The results show that

- The arming costs decrease the military expenditure
- This negative effect becomes stronger when a state has an alliance



# Conclusion

This paper

- investigates whether alliances deter preventive war
- proposes a *screening effect* of alliances *w*ith some empirical evidence
- suggests that alliances as a tool to sustain the world order even in the context of power shifts

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Thank you for listening!

# Appendix: Equilibria

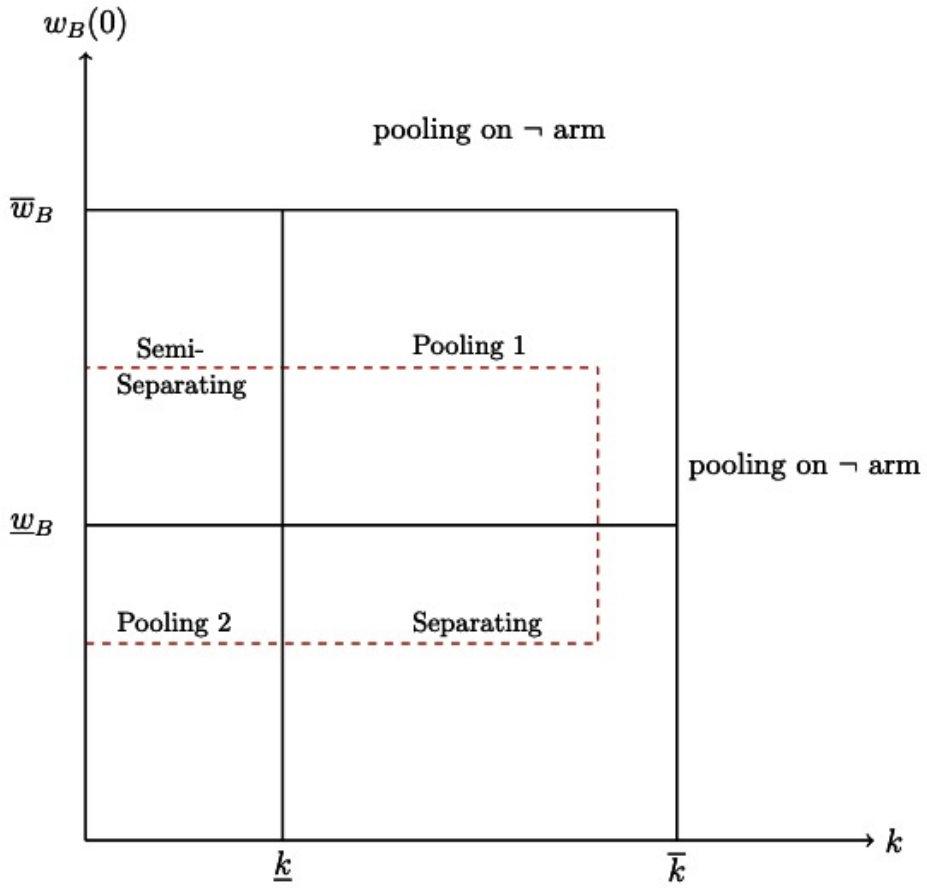



Figure: Equilibrium

# Appendix: Deterrence Effect and Constraining Effect

Figure: Deterrence Effect

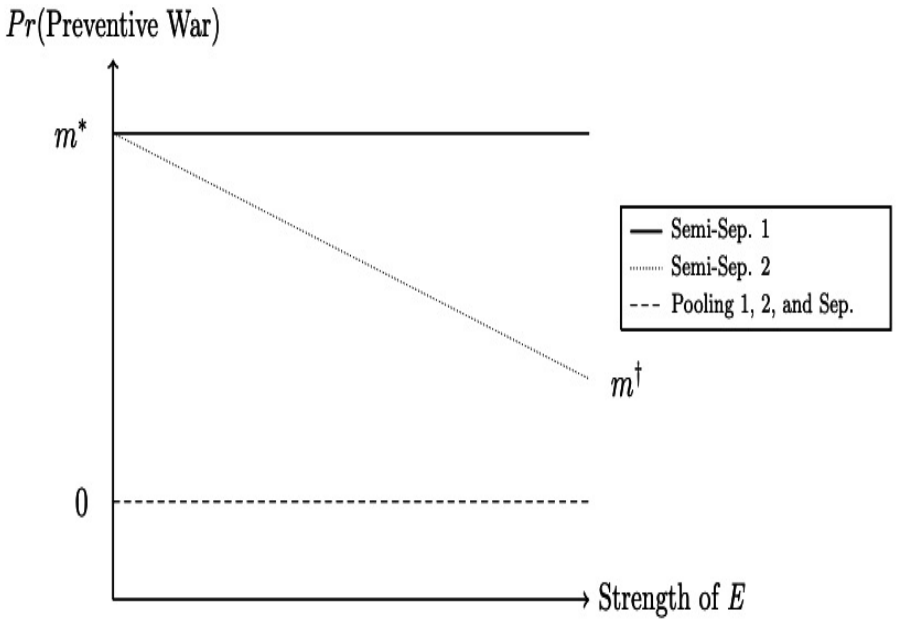
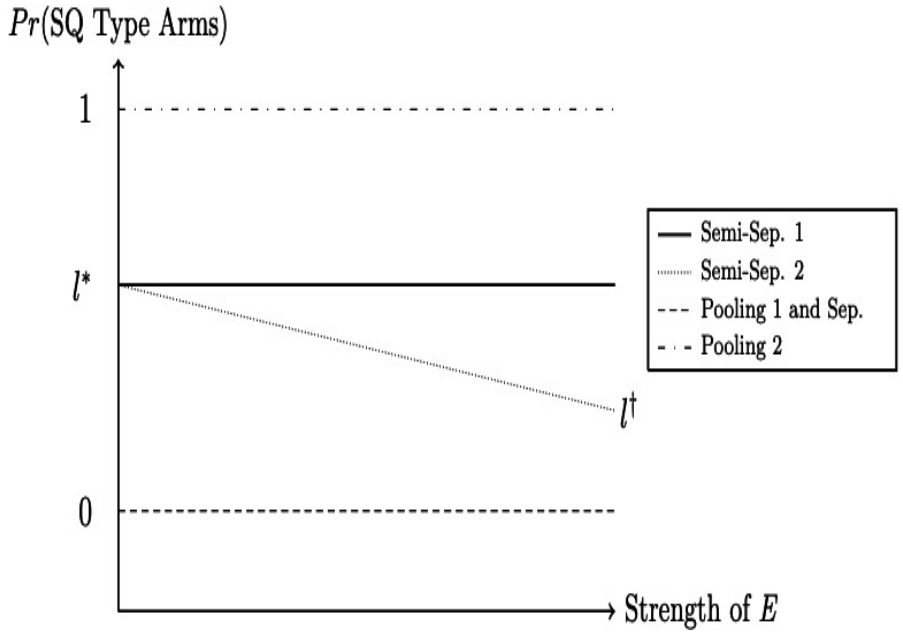
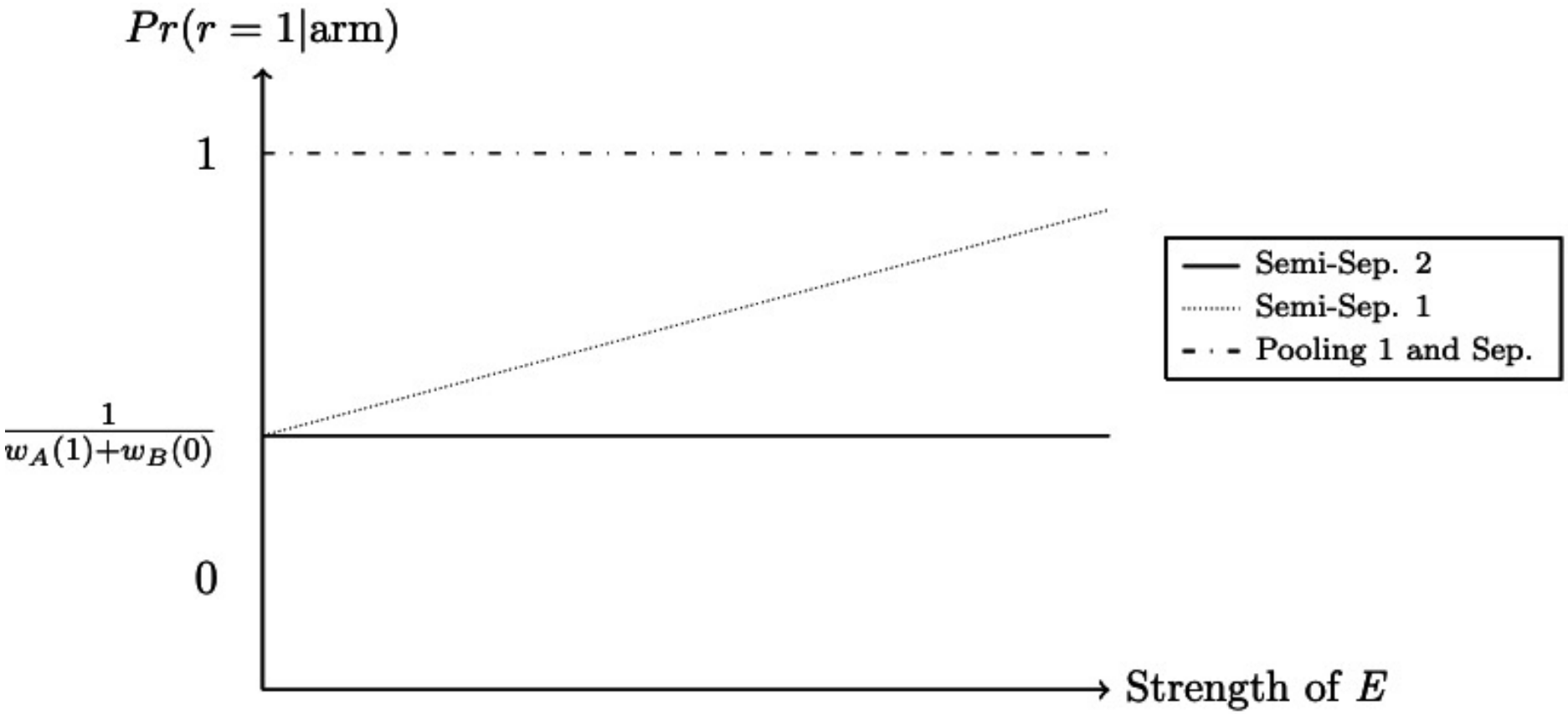



Figure: Constraining Effect



# Appendix: Declining Country's Belief

Figure: B's Belief after arming



# Appendix: Regression Table 1

| Dependent Variable: | War | | | | | |
|---|---|---|---|---|---|---|
| Model: | (1) | (2) | (3) | (4) | (5) | (6) |
| *Variables* | | | | | | |
| Expected Power Shift | 10.39*** | 21.66*** | 10.92*** | 16.72*** | 3.515*** | 47.08*** |
| | (2.586) | (5.960) | (3.573) | (3.797) | (0.8440) | (18.27) |
| Alliance | | 1.660 | -0.4550 | -0.4003 | 0.1485 | 2.273 |
| | | (4.162) | (0.4944) | (1.036) | (0.6292) | (4.182) |
| Alliance × Expected Power Shift | | | -1.751 | -7.809** | -1.185 | -33.75** |
| | | | (3.768) | (3.501) | (2.013) | (16.95) |
| Mutual Democracy | | -3.842* | | -4.169*** | -1.705** | -6.581 |
| | | (2.169) | | (1.556) | (0.8537) | (5.700) |
| Foreign Policy Similarity | | -0.2545 | | -0.0245 | -2.369** | -0.0470 |
| | | (3.443) | | (1.056) | (0.9905) | (3.690) |
| Contingency | | 18.54*** | | 4.218*** | 1.816*** | 21.25*** |
| | | (2.805) | | (1.406) | (0.4424) | (4.119) |
| Distance | | -100.3 | | -33.78 | -0.6536*** | -264.1 |
| | | (745.3) | | (145.1) | (0.1419) | (683.5) |
| Peace Year | | 0.0831 | | -0.0101 | -0.0973* | 0.0929 |
| | | (0.1091) | | (0.0749) | (0.0499) | (0.0832) |
| Peace Year$^2$ | | 0.0027 | | 0.0017 | 0.0025** | 0.0031 |
| | | (0.0047) | | (0.0018) | (0.0012) | (0.0027) |
| Peace Year$^3$ | | $-2.52\times10^{-5}$ | | $-9.82\times10^{-6}$ | $-1.58\times10^{-5}$** | $-2.76\times10^{-5}$ |
| | | $(3.48\times10^{-5})$ | | $(1.07\times10^{-5})$ | $(7.84\times10^{-6})$ | $(2.07\times10^{-5})$ |

# Appendix: Regression Table 2

| Dependent Variable: | ln(Mil. Exp.) | | | |
|---|---|---|---|---|
| Model: | (7) | (8) | (9) | (10) |
| *Variables* | | | | |
| Arming Costs | -0.0271 | -0.0267*** | -0.0268*** | -0.0196** |
| | (0.0453) | (0.0078) | (0.0081) | (0.0094) |
| Alliance | | | 0.0737*** | 0.0702*** |
| | | | (0.0175) | (0.0172) |
| Alliance × Arming Costs | | | | -0.0116 |
| | | | | (0.0096) |
| International War | | 0.2237*** | 0.2216*** | 0.2203*** |
| | | (0.0333) | (0.0324) | (0.0324) |
| Civil War | | 0.1308*** | 0.1334*** | 0.1335*** |
| | | (0.0311) | (0.0315) | (0.0315) |
| $\ln(\text{Mil. Exp.})_{t-1}$ | | 0.8052*** | 0.8027*** | 0.8021*** |
| | | (0.0178) | (0.0177) | (0.0178) |
| Nuclear | | 0.0383 | 0.0472 | 0.0428 |
| | | (0.0367) | (0.0336) | (0.0330) |