

Appendix A:

This is the Appendix for the Geopolitical Topics and Key bigrams table in English.

Topics	Source	Key Bigrams
Goldstein Negative	Goldstein Paper	"military invasion", "military attack", "military clash", "military assault", "seize position"
Goldstein Negative	Goldstein Paper	"seize position", "nonmilitary destruction", "nonmilitary injury", "force mobilization", "force exercise"
Goldstein Positive	Goldstein Paper	"diplomatic recognition", "substantive agreement", "economic aid", "military assistance", "grant privilege"
Goldstein Positive	Goldstein Paper	"suspend sanctions", "call truce", "material assistance", "endorse position", "verbal support"
Cyber Warfare	Geo-Econ	"cyber attack", "cyber capabilities", "cyber defense", "cyber warfare", "cyber terrorism"
Oil Supply Shock	Geo-Econ	"oil crisis", "oil price", "petroleum exporting", "crude oil", "oil production"
US-China Relations	Geo-Econ	"China sea", "China relations", "China trade", "Thucydides Trap", "Taiwan sales"
Terrorism	Caldara Paper	"state terrorism", "counter terrorism", "terrorist attack", "political violence", "global terrorism"
Geopolitical Risk - General	Caldara Paper	"geopolitical risk", "geopolitical concerns", "geopolitical tension", "geopolitical uncertainty"
War Threats	Caldara Paper	"war risk", "war fear", "military threat"
Nuclear Threat	Caldara Paper	"nuclear weapons", "nuclear weapon", "ballistic missile", "nuclear conflict", "nuclear attack"

Table 1 This table contains the Topic, the source of the Key bigrams, and the bigrams themselves. Note that “Goldstein Positive” and “Goldstein Negative” have ten key bigrams to capture more potential emerging geopolitical events. “War Threats” and “Geopolitical Risks” have less than the typical five key bigrams as Caldara and Iacoviello [22], only included this amount terms in their topics. These key terms were translated for Spanish, French, Portuguese, Arabic, Japanese, and Korean