Appendix for

“Do U.S. Troop Withdrawals Cause Instability? Evidence from Two Exogenous Shocks on the Korean Peninsula,” *Journal of Global Security Studies*

Paul C. Avey, Jonathan N. Markowitz, Robert J. Reardon

This appendix presents additional robustness checks for our analysis. We include our troop and conflict data in separate Excel and Stata files. First, we address the objection that the withdrawals from South Korea were not fully exogenous if U.S. policymakers withdrew foreign-deployed troops from South Korea rather than other locations because they believed South Korea was relatively more stable. We show there is little reason to believe that was the case. Second, we discuss why we did not include the 1957-58, 1965-66 or 1991-92 reductions. In two cases we find little evidence that the withdrawals were exogenously-driven (1957-58, 1991-92) and thus we cannot include them in the analysis to examine the effects of exogenously-driven redeployments on instability. The 1965-66 withdrawal is better considered an accounting anomaly than any real reorganization. Third, we utilize an alternative measure to MIDs for conflict to examine if the results are sensitive to the specific data. Finally, we examine the annual relationship between U.S. troop levels and MIDs. One final note: we exclude from consideration the deployment of U.S. non-strategic nuclear weapons in South Korea. The U.S. nuclear deployments either did not appreciably change (1969-71), or the weapons had already been removed (after 1991).[[1]](#footnote-1)

***Relative Instability***

 As we state in the article: “The greatest threat to the validity of our design is that a decrease in the expected level of instability is causing U.S. policymakers to withdraw troops.” We also noted, though, that it could be that a lower expected level of instability in the region *relative* to other regions is causing U.S. policymakers to withdraw troops. In other words, the concern is that facing a shock that requires troop redeployments decision-makers select from the region that is relatively more stable. While the impetus for the withdrawal from South Korea would still be exogenous there would be an endogenous reason for why U.S. policymakers selected to pull troops from South Korea in particular: the Korean peninsula was viewed as better than alternatives.

 We find little evidence for this concern. As we note in the article, U.S. policymakers did not expect the situation to improve in the near to medium-term on the Korean peninsula during either drawdown. Thus, if U.S. leaders believed that other regions were improving or stable in general then it is reasonable to believe that decision-makers did not view the situation on the Korean Peninsula as relatively more stable. This is in fact what we find. In addition, we find in the 2004-05 case the choice was not drawing from South Korea or other regions, but rather the U.S. military drew from multiple regions. In the rest of this section we offer some evidence to support these claim. We first establish the basis for Europe as the key comparison region. Next, we show that U.S. leaders believed the situation was stable or improving in Europe during the 1969-1971 period. Finally, we discuss the U.S. forces in Europe during the 2000s.

The main alternative source of foreign-deployed troops from which the United States could draw in each period was Europe, specifically the Federal Republic of Germany (FRG) in terms of both numbers and ground combat formations. Figures 1 and 2 show the deployment of U.S. Army and Marine forces in the United States homeland, FRG, Japan, and South Korea during the 1968-1972 and 2003-2006 periods, respectively. These are the major concentrations of U.S. forces outside of combat areas (Vietnam, Iraq) or troops deployed specifically for those operations (e.g., the large number of U.S. troops in Thailand during the Vietnam War). The FRG and South Korea also contained major combat units. Throughout the 1968-1972 period the United States had two full corps committed to West Germany that included the 3rd and 4th Armored Divisions, the 3rd and 8th Mechanized Divisions, the 2nd and 14th Armored Cavalry Regiments, and elements of the 24th (1968-1969) and 1st Mechanized (1970-72) Divisions. An additional infantry brigade remained in West Berlin. The United States deployed 2nd and 7th Infantry Divisions to South Korea until the withdrawal of the 7th ID in 1970-71.[[2]](#footnote-2) During the 2003-2006 period elements of the 1st Armored and 1st Infantry Divisions rotated between Germany and Iraq. The last major element of the 1st Infantry withdrew from Germany in 2008 to be followed by the 1st Armored the following year.[[3]](#footnote-3) Partially offsetting the reductions was the deployment of the 2nd Stryker Cavalry Regiment deployment to Germany in 2006.[[4]](#footnote-4) Thus while the overall number of troops in Germany remained relatively constant during the Iraq War the United States was regularly drawing on the combat units to serve in Iraq.





 American officials believed that the situation in Europe was stable or improving during the 1969-1972 period. The concern generated by the 1968 Soviet armed intervention in Czechoslovakia and the broader Brezhnev Doctrine did not create lasting expectations of heightened danger in Western Europe. A CIA National Intelligence Estimate in February 1969 argued that Soviet intervention in Czechoslovakia was “primarily defensive … the leading motive for it was precisely a fear for the eventual security of the Soviet regime itself.”[[5]](#footnote-5) To be sure, the Soviet-American relationship remained tense, but as the CIA noted a few months later, the “USSR has also showed a relatively restrained approach to Western Europe.” Soviet leaders sought to solidify the status quo of a divided Germany with Soviet dominance in Eastern Europe, but they were not “ready to dramatize their views through provocative acts, as for example, in Berlin.”[[6]](#footnote-6) The assessment of trends in Europe continued. “The USSR’s security concerns in Eastern Europe, its own economic weaknesses, and growing preoccupation with the Chinese have turned it away from a policy of crisis and confrontation in Europe,” a NIE observed in 1972. It added that “Moscow is coming to accept that, assuming continuation of present trends in East-West relations in Europe, it could safely withdraw some of its forces from Eastern Europe, particularly from the large contingent in East Germany.”[[7]](#footnote-7) Estimates of the effects of future U.S. troop withdrawals from Europe highlighted that West Europeans might question the U.S. commitment but did not predict any new Soviet aggression as a result.[[8]](#footnote-8) In contrast to the stability in Europe, analysts believed Soviet leaders saw Asia as an environment of more dynamic competition with the United States.

 The relatively sanguine view of the situation in Europe is unsurprising given the broader policies pursued by top policymakers. The Richard Nixon administration expanded upon the emerging détente, a general lessening of tensions with the Soviet Union, begun under Presidents Kennedy and Johnson.[[9]](#footnote-9) To be sure, Nixon and his National Security Advisor Henry Kissinger did not conceive of détente as ending competition with the Soviet Union. And détente failed in the 1970s to achieve a lasting reduction in global tensions.[[10]](#footnote-10) That should not obscure the general sense that relations with the Soviets were improving, particularly in Europe, during the early 1970s. On negotiations surrounding West Berlin, the flashpoint of Soviet-U.S. tensions from 1948-1961, Nixon noted in a private meeting with West German Chancellor Willy Brandt “that the Soviets, while taking a very hard position at the beginning, have come much further toward our direction and yours, than we have gone toward theirs.”[[11]](#footnote-11) The subsequent Quadripartite Agreement on Berlin signed on September 3, 1971 sought to normalize the status of a divided Berlin and committed each side to avoid unilateral changes to the area. The Basic Treaty negotiated the next year resulted in de facto recognition of the borders of West and East Germany by each Germany. 1972 also witnessed the signing of the Basic Principles between the United States and Soviet Union which obligated each side to “exercise restraint” in their relations and “recognize that efforts to obtain unilateral advantage at the expense of the other … are inconsistent with these objectives.”[[12]](#footnote-12)

 During the 2004-05 drawdown from South Korea there are two primary reasons to discount that U.S. leaders drew on troops from South Korea because they believed it necessary to maintain U.S. forces in Germany due to greater relative instability in Europe. First, the United States did draw liberally from U.S. combat forces in the 1st Armored and 1st Infantry that were stationed in Germany for service in Iraq.[[13]](#footnote-13) Thus it was not the case that U.S. leaders drew from South Korea rather than Germany because they thought the situation more stable in South Korea. Rather, U.S. leaders drew forces form *both* South Korea and Germany to meet the requirements.

Second, the United States was engaged in a longer force drawdown from Germany and Europe as a result of the end of the Cold War and the presumed decrease in danger in Europe. Access to internal documents remain more limited than the 1969-71 period, but it is reasonable to conclude that most saw the situation in Europe as stable if not improving in 2003-2005. For example, the 2002 National Security Strategy, while noting various obstacles, was optimistic in its assessment of U.S.-Russian relations. “With Russia,” the report argues, “we are already building a new strategic relationship based on a central reality of the twenty-first century: the United States and Russia are no longer strategic adversaries.”[[14]](#footnote-14) Outside analysts generally shared this view. The International Institute for Strategic Studies concluded in 2003-04 that “Despite disagreement over the US-led action in Iraq, the bilateral relationship between Washington and Moscow remains firm.”[[15]](#footnote-15) The Russian invasion of Georgia would not occur until 2008 and Russian intervention in the Ukraine and annexation of the Crimea did not occur until 2014. Since that time perceptions of stability in Europe have declined resulting in the 2016 announcement by the Obama administration that the United States would begin rotating the equivalent of an armored brigade combat team in Eastern European countries.[[16]](#footnote-16)

***Non-Exogenous Withdrawals Greater than 10%***

 In the article we sought to examine all exogenously-driven troop reductions greater than 20%. In this section we show that the 1957-58 and 1965-66 reductions were unlikely exogenously-driven. In the article we also noted that we performed a sensitivity-analysis by changing the threshold to a 10% reduction. We identified one additional case that met that threshold: 1991-92. Upon closer examination we determined these cases did not meet the criteria for exogenously-driven withdrawals.

 We exclude the 1957-58 withdrawal of approximately 35% because it was not driven by an exogenous event but rather decisions that U.S. forces could be reorganized to remain combat effective. U.S. army forces globally were undergoing significant changes as the army shifted to the pentomic division structure and the United States began deploying non-strategic nuclear weapons abroad.[[17]](#footnote-17) This created fluctuations in the number of total U.S. forces in South Korea, though the apparent downturn in the late 1950s partially erased itself over the next two years (see Figure 1, article). At the same time, President Eisenhower and his top advisors determined to maintain the core U.S. force of two army divisions and one supporting fighter-bomber wing in South Korea. During a July 1957 meeting with General Lyman Lemnitzer who had commanded U.S. forces in Korea until that month, Eisenhower explained that “he was not thinking of pulling out either of these divisions. He did, however, insist that with the coming of modern weapons the units can be streamlined, and that divisions should be modernized and reorganized.” Lemnitzer replied that “the new organization is being placed in effect in Korea, and is proving to be a ‘shot in the arm.’”[[18]](#footnote-18)

 We exclude the 1965-66 reduction because there is little to suggest that an actual reduction took place. The apparent drawdown is likely an artifact of the Defense Department data reporting troop strength on September 30 of each year. If for some reason a portion of a unit is in rotation but not withdrawing on that date it might appear as if a major change in strength was taking place. First, data show that U.S. troop strength in South Korea in 1965 was approximately 58,600, 47,000 in 1966, 55,000 in 1967, and 62,400 in 1968. Thus to the extent there was any reduction it was remarkably short-lived and North Korean planners would have witnessed preparations for new military personnel at the same time they were witnessing some leaving, if they observed a change at all. Second, in the large literature on U.S. troops in Korea we found no reference to any systematic withdrawal taking place during this period. There was a major reorganization in the summer of 1965. The 1st Cavalry Division was re-designated the 2nd Infantry Division and the apparent change in U.S. military personnel could reflect changes in support staff. It is important to note that the division itself was simply renamed.[[19]](#footnote-19) There was concern that U.S. forces in South Korea were understrength throughout this period, both before and after the apparent drawdown in 1965-66.[[20]](#footnote-20) The debate was about further increasing U.S. strength on the peninsula rather than reducing troops, however. For instance, in 1968 – after U.S. troops had returned to a much higher level – the National Security Council staff noted that “U.S. forces in Korea, although understrength, should not be built up at this time.”[[21]](#footnote-21)

The approximately 11% withdrawal from 1991 to 1992 was not the result of an exogenous shock. The withdrawal was not driven by the 1990-91 war with Iraq but rather by broader perceptions of global and regional stability. As Cold War tensions lessened and U.S. perceptions of global stability increased leaders sought to reduce defense spending. In June 1990 then Defense Secretary Richard Cheney sent to Congress plans to reduce the U.S. military by approximately 25% over five years.[[22]](#footnote-22) The improved global threat environment also created pressure from American legislators for the Defense Department to review and reduce American troop deployments in East Asia.[[23]](#footnote-23) On the Korean peninsula in particular, as William Tow pointed out at the time, “North Korea was economically devastated by the loss of its traditional Soviet support base.”[[24]](#footnote-24) Moreover, South Korea was growing much more capable economically and militarily relative to the North. In short, American policymakers perceived a general improvement in the strategic environment which led them to reduce U.S. forces. In an April 1990 report to the Congress, then, the Defense Department wrote that “In the Republic of Korea … we will begin to draw down ground presence and modify command structures so as to transition from a leading to a supporting role for U.S. forces.”[[25]](#footnote-25) It specified that within 1-3 years “U.S. ground force modernization will permit some streamlining of the 2d Infantry Division while preserving its combat capabilities intact. Overall, by the end of this phase, we envision a force reduction of about 7000 personnel including 2,000 Air Force personnel and approximately 5000 ground force personnel.”[[26]](#footnote-26) Actual U.S. withdrawals closely matched this plan, with U.S. forces in South Korea decreasing from approximately 41,300 in 1990 to 34,800 in 1993 (figure 1 in article). The major ground combat element reduction as part of ‘streamlining’ was the 3rd brigade of the 2d ID, which withdrew in December 1992.[[27]](#footnote-27) Thus, in contrast to the case a little over a decade later, conflict with Iraq did not cause a redeployment. U.S. reductions came after combat operations were completed and were already planned prior to the war itself.

***Alternative Conflict Data***

In the main analysis we relied upon MIDs. The main alternative, the International Crisis Behavior dataset, codes only 10 crises involving some combination of the United States, South Korea, and North Korea from 1955 to 2013, compared to 93 dyadic MIDs involving South Korea or North Korea.[[28]](#footnote-28) This was too few from which to draw reliable inferences. However, it is possible to use data on North Korean Belligerent Military Activities (BEMA) from 1998-2010 as a robustness check. This data also captures North Korean proliferation-related activity.[[29]](#footnote-29) BEMA data attempts to capture North Korean activity that meets two criteria: “a) if the action was decided on at a strategic level and b) if it was pursued with the intent of eliciting some sort of policy or behavioral change from North Korea’s foreign audience.” Though of limited temporal coverage, the data are useful to include because they capture many North Korean nuclear proliferation-related activities (such as missile and nuclear tests) that MIDs do not. As we outlined in the paper, U.S. troop withdrawals were associated with changes in nuclear program activity in some cases. We reiterate that nuclear proliferation may be stabilizing or destabilizing in the short and long-term. Thus the most appropriate test is not to count proliferation events but rather examine if there is change in likelihood of war that follows from proliferation, which we did in the main body of the paper with MIDs and historical analysis.[[30]](#footnote-30) Nevertheless, the BEMA data allows us to address possible critiques that we should code North Korean nuclear activities as intrinsically destabilizing.

Even using these more expansive criteria, there does not appear to be a major upswing in the number of incidents following the North Korean nuclear tests. Figure 3 shows a slight increase in BEMAs throughout entire period beginning before the redeployment and continuing to the highest point in 2009. Focusing on the redeployment specifically (figure 4) shows that there was a decline in instability one year after 2004-2005 compared to one year prior and also a decline three years after compared to the previous three years. The 2009 surge in BEMAs – which includes private announcements of the development of a nuclear weapon – leads to a small, but not statistically significant, increase in the number of North Korean belligerent military activities in the five years after the redeployment compared to the five prior years. Thus, in two of the three time periods there is a decline in instability and in one of the three there is an increase. North Korean proliferation may increase or decrease instability in the long-term. To date, though, the available evidence does not suggest that there is an increase in instability. Our findings remain robust even when explicitly accounting for proliferation activities.





***U.S. Troops and MIDs Annual Relationships***

Next, we examine the basic relationship between the number of U.S. troops and conflict involving North Korea or South Korea in every year. This dramatically increases the number of observations. While we note again that the main inferential leverage in this paper comes from the exogenously driven nature of the redeployments we are sensitive to the fact that we have limited observations. The following analysis cannot deal with the major endogeneity issue but does examine if there is any basic relationship between the number of U.S. troop deployed and instability. Our expectation based on the graphical analysis was that there would be no real relationship and the data confirms that.

Since our data has a count dependent variable observed in one series over time many standard cross-sectional time series and time series estimation techniques are inappropriate. We therefore use several count, ordinal, and binary response models while introducing various temporal and higher order terms to attempt to account for autocorrelation from year to year.[[31]](#footnote-31) First, we include a measure for the number of peace years since the last dispute along with the squared and cubed values.[[32]](#footnote-32) Second, we add a time variable that reports the decade in which the observation occurred (a variable for each year is impractical given the nature of the data that has only one observation per year). Third, we also lag the dependent variable to partially account for the possibility that expectations of lower conflict lead to troop reductions and include a variable for the number of militarized interstate disputes in the previous year. Our purpose is not to test all possible confounding factors (e.g. changes in relative power) but rather to examine if there is any basic relationship even without controlling for additional variables that might affect the results.

We present the results in table 1. In Models 1-4 we use a count dependent variable, and in each model there is no statistically significant relationship. In other words, consistent with our findings from the examination of the two troop redeployments, U.S. troop reductions do not seem to affect the expected number of MIDs. Model 2 shows, not surprisingly, that the number of past MIDs has a positive and significant relationship on the expected count for MIDs. In Model 3 we compare conflict by decade (with the reference category being the 1955-1960 period) and find that the 1970s do appear to be somewhat more stable. Again, this is consistent with our graphical analysis presented in the paper in which we identified the 1970s as the most pacific decade (which came on the heels of a massive U.S. troop reduction). Model 4 leads the troop levels to test whether the expectation of altered troop levels drove conflict. It finds no statistically significant relationship. The results are similar if we assume an ordinal relationship in the dependent variable (Model 5). Finally, Model 6 transforms the number of MIDs to a binary dependent variable that is coded as 1 if there were any MIDs (regardless of how many) and 0 otherwise. Using a logit model we again find no relationship between U.S. troop presence MIDs.

In sum, using an alternative measure that directly includes North Korean proliferation activities – rather than the consequence of those activities – does not lead us to conclude U.S. troop withdrawals lead to greater instability. Examining the general relationship between the number of MIDs and the number of U.S. troops also demonstrates a lack of strong U.S. troop impact on instability. This suggests that other factors are needed to explain when conflict is more or less likely. If one accepts that other factors in Korea are more important than U.S. troops then there is little debate between advocates of restraint and deep engagement, as the two sides disagree precisely on the unique role U.S. troops play. Other research that examines the number of U.S. troops as the main variable for analysis or as a control variable with other control variables across a wider variety of cases also find no statistically significant relationship with conflict.[[33]](#footnote-33)



1. For evidence that foreign-nuclear deployments do not make challenges against the host state less likely, see Matthew Fuhrmann and Todd S. Sechser, “Signaling Alliance Commitments: Hand-Tying and Sunk Costs in Extended Nuclear Deterrence,” *American Journal of Political Science,* Vol. 58, No. 4 (October 2014), 919-935. For evidence that foreign-nuclear deployments rarely provoke crises, including on the Korean Peninsula, see Paul C. Avey, “The Historical Rarity of Foreign-Deployed Nuclear Weapon Crises,” *Security Studies,* Vol. 27, No. 1 (2018). [↑](#footnote-ref-1)
2. *The Military Balance,* (London: International Institute for Strategic Studies, annual editions for 1968, 1969, 1970, 1971, 1972). [↑](#footnote-ref-2)
3. Ibid, annual editions for 2003-2004, 2004-2005, 2005-2006, 2006. [↑](#footnote-ref-3)
4. History 2nd Cavalry Regiment, at http://www.2cr.army.mil/info/History/2SCR%20History.pdf [↑](#footnote-ref-4)
5. NIE 11-69, Basic Factors and Main Tendencies in Current Soviet Policy, February 27, 1969, *FRUS 1969-1976,* Vol. 12, 77. [↑](#footnote-ref-5)
6. SNIE 11-9-69, Current Soviet Attitudes Toward the US, July 17, 1969, *FRUS 1969-1976,* Vol. 12, 211. [↑](#footnote-ref-6)
7. NIE 11-72, Soviet Foreign Policies and the Outlook for Soviet-American Relations, April 20, 1972, *FRUS 1969-1976,* Vol. 14, 471-472. [↑](#footnote-ref-7)
8. NIE 20-1-69, Europe, the US, and the USSR, December 4, 1969, *FRUS 1969-1976,* Vol. 16, 88; NIE 20-72, Problem in US-West European Relations, December 14, 1972, 350-358, 370. [↑](#footnote-ref-8)
9. One can trace the lessening of tensions in Europe to President John F. Kennedy and the compromises over West Germany’s nuclear status. On this point see Marc Trachtenberg, *A Constructed Peace: The Making of the European Settlement, 1945-1963* (Princeton: Princeton University Press, 1999). [↑](#footnote-ref-9)
10. John Lewis Gaddis, *Strategies of Containment: A Critical Appraisal of American National Security Policy during the Cold War,* (Oxford: Oxford University Press, 2005[1982])*,* chaps. 9-10. [↑](#footnote-ref-10)
11. Conversation Among President Nixon, German Chancellor Brandt, Kissinger, and Bahr, June 15, 1971, *FRUS 1969-1976,* Vol. 40, 741. [↑](#footnote-ref-11)
12. Quoted in Gaddis, *Strategies of Containment,* 316. [↑](#footnote-ref-12)
13. 1st Armoured Division History, <https://www.bliss.army.mil/1AD/>; The History of the 1st Infantry Division, <http://www.riley.army.mil/About-Us/History/>; History of the United States Army, Europe, http://www.eur.army.mil/organization/history.htm. All accessed June 1, 2016. Various elements of each division rotated within Germany, the United States, and Iraq at different times. [↑](#footnote-ref-13)
14. The National Security Strategy of the United States of America, September 2002, 26, at http://www.state.gov/documents/organization/63562.pdf. [↑](#footnote-ref-14)
15. *The Military Balance,* 2003-2004, 16. [↑](#footnote-ref-15)
16. Mark Landler and Helene Cooper, “U.S. Fortifying Europe’s East to Deter Putin,” *New York Times,* February 1, 2016, http://www.nytimes.com/2016/02/02/world/europe/us-fortifying-europes-east-to-deter-putin.html?version=meter+at+0&module=meter-Links&pgtype=article&contentId=&mediaId=&referrer=https%3A%2F%2Fwww.google.com%2F&priority=true&action=click&contentCollection=meter-links-click [↑](#footnote-ref-16)
17. A.J. Bacevich, *The Pentomic Era: The US Army Between Korea and Vietnam,* (Washington, DC: National Defense University Press, 1986). [↑](#footnote-ref-17)
18. Memorandum of a Conference with the President, Washington, July 23, 1957, *FRUS 1955-57* Vol. 23, Part 2, 741. See also see Memorandum of Discussion at the 334th Meeting of the National Security Council, August 8, 1957, *FRUS 1955-1957* Vol. 23, Part 2, 480-489; NSC 5702/2, August 9, 1957, ibid., 489-498; Memorandum From the Deputy Secretary of Defense to the Secretary of the Army, December 24, 1957, ibid., 532-533; Letter from Sprague to Robertson, January 21, 1958, *FRUS 1958-1960* Vol. 18, 431; and Memorandum from Lay to the NSC, July 22, 1957, ibid., pp. 474-476 [↑](#footnote-ref-18)
19. History of the 2nd Infantry Division, http://www.2id.korea.army.mil/about/history.asp [↑](#footnote-ref-19)
20. See, for example, Daniel Borger, “Scenes from an Unfinished War: Low Intensity Conflict in Korea, 1966-1969,” *Leavenworth Papers,* 19, (1991), 25-27 [↑](#footnote-ref-20)
21. Memorandum From Alfred Jenkins of the National Security Council Staff to the President's Special Assistant, March 4, 1968, *FRUS 1964-68* Vol. 29, Part 1, 649. [↑](#footnote-ref-21)
22. Michael R. Gordon, “Cheney Gives Plan to Reduce Forces by 25% in 5 Years,” June 20, 1990, at: http://www.nytimes.com/1990/06/20/us/cheney-gives-plan-to-reduce-forces-by-25-in-5-years.html?pagewanted=all [↑](#footnote-ref-22)
23. William T. Tow, “Korea: Military Dimensions,” in Sheldon Simon, ed., *East Asian Security in the Post-Cold War Era,* (New York: M.E. Sharpe, 1993), 71. [↑](#footnote-ref-23)
24. Tow, “Korea,” 72. [↑](#footnote-ref-24)
25. Department of Defense, “A Strategic Framework for the Asian-Pacific Rim,” Report to Congress, (April 1990) 9. [↑](#footnote-ref-25)
26. Ibid, 11 [↑](#footnote-ref-26)
27. Kwang Sub Kwak, “The US-ROK Alliance, 1953-2004: Alliance Institutionalization,” PhD Dissertation, June 2006, Department of Political Science, Southern Illinois University, 94. [↑](#footnote-ref-27)
28. See <https://sites.duke.edu/icbdata/data-collections/>. Accessed January 24, 2017. [↑](#footnote-ref-28)
29. We thank Matthew Anderson, Andy Chiang, Luke Herman, Daniel Maliniak, and Jaesung Ryu for making this data available to us. [↑](#footnote-ref-29)
30. This is how the literature on the consequences of nuclear proliferation examines this issue: nuclear proliferation is the independent variable and instability is the dependent variable. See, for example, Rauchhaus,

Kroenig, and Gartzke, 2011; and Sagan and Waltz, 2013. [↑](#footnote-ref-30)
31. We thank Vipin Narang for this suggestion. [↑](#footnote-ref-31)
32. David B. Carter and Curtis S. Signorino, “Back to the Future: Modeling Time Dependence in Binary Data,” *Political Analysis,* Vol. 18, No. 3 (Summer 2010), 271-292. [↑](#footnote-ref-32)
33. See, for example, Fuhrmann and Sechser, “Signaling Alliance Commitments”; and Carla Martinez Machain and T. Clifton Morgan, “The Effect of US Troop Deployment on Host States’ Foreign Policy,” *Armed Forces and Society,* Vol. 31, No. 1 (2013), 102-123. [↑](#footnote-ref-33)