

In-depth discussion of control variables

We include several control variables into the analysis. First, interstate relations are far more likely to change during international *system-level shocks*. Those periods might also be more likely see changes in patterns of water-related interactions between states and hence confound the effect of our independent variable. In line with Dreyer (2012), this study identifies the periods 1956-1962 (decolonisation) and 1989-1992 (end of the Cold War) as system shock periods.

Second, we expect changes in interstate relations to be a function of past interactions between those states. Rapprochements should be more likely between states that can look back at a long history of peaceful coexistence. Those states, we would argue, are also more likely to intensify water cooperation (Swain 2016). Hence, we include a measure of the *number of consecutive years a dyad has experienced negative peace at least*. Peace years are computed based on the Correlates of War Militarized Interstate Dispute Data v.4 (Palmer et al. 2015). For each dyad-year, we count the number of years since the last dispute in the dyad that reached the level of ‘use of force’ or ‘war’ (Kenwick et al. 2013). For dyad-years without prior disputes we simply count the number of years the dyad has been in existence (i.e. both members of the dyad have been part of the international system).

A possible issue with this variable is that the end of a militarised interstate dispute, in itself, constitutes an improvement of interstate relations and is likely to be followed by further improvements, as former enemies resume peaceful exchanges. Thus the first years after a militarised dispute are almost certain to experience better diplomatic relations in comparison to previous years. This effect is however likely to fade away over time and be gradually replaced by a positive effect of peace years on the likelihood of an improvement in interstate relations. To account for such a u-shaped relationship, we further include a measure of the *squared number of peace years* into our models.

Third, we expect participation in *interstate armed conflicts* outside of the dyad to provide incentives for rapprochement between states within the dyad, as fighting on several fronts is costly (Rasler et al. 2013). We use a dummy variable that takes the value ‘1’ if at least one of the states in the dyad fights an interstate armed conflict with another member of the international system in the respective year, and ‘0’ otherwise. Data on internal and interstate armed conflicts are from the UCDP armed conflict dataset v.4 (Melander et al. 2016).

Fourth, liberal theorists claim that common membership in *international governmental organisations* (IGOs) helps states to reduce uncertainties, resolve conflicts and coordinate policies, hence making more peaceful relations more likely (Oneal and Russett 1999). This study uses a measure of shared membership in international institutions based on the Correlates of War International Governmental Organizations Data Set v2.1 (Pevhouse et al. 2004). In a similarly liberal logic, high trade volumes between two states indicate a strong interdependence, which should increase the likelihood of more peaceful relations. We include *logged trade data for the last ten years* for every dyad-year into our analysis.

Trade data are from the Correlates of War Project Trade Data v.4 (Barbieri et al. 2009) and measure smoothed bilateral trade flows between dyad members in current U.S. dollars.

Fifth, also following a liberal argumentation, *democratic states* might have constituencies demanding a peace dividend and environmental protection as well as civil societies engaged in cross-border activities, hence facilitating peacemaking and water cooperation (Bennett 1998). We use the polity2 score of the polityIV project (Marshall et al. 2016) to determine whether a dyad consists of two democratic states or not (i.e. states with a polity2 score above 3).

Furthermore, according to a realist logic, *relative military capabilities* matter for several reasons. Equally strong states are less likely to engage in armed conflicts (Bennett and Stam 2004). But large power differences also provide opportunities for exploitation by the stronger state (Zeitoun and Mirumachi 2008), hence undermining pacifying effects. Data on the military capabilities of states are provided by the Correlates of War National Material Capabilities Data v.5 (Singer et al. 1972).

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