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Kinds of Blue*

Diversity in U.N. Peacekeeping Missions and Civilian Protection

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Abstract

For a given number of troops in a peace operation, is it advisable to have soldiers from one country, or should the U.N. recruit peacekeepers from a variety of donors? Since 1990, the number of contributors to peace operations has grown threefold and most operations have carried the mandate to protect civilians. We explore the effect of diversity in the composition of a mission, measured by fractionalization and polarization indices, on its performance in protecting civilians in Africa in the period 1991-2008. We find that diversity decreases the level of violence against civilians, a result that holds when geographic and linguistic distances between countries are considered.

Keywords: Peacekeeping, Civilians Protection, Mission Composition

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1 Introduction

The 1990s and 2000s were marked by two opposite but hardly unrelated trends: a sharp decline in most deadly civil conflicts and an increase of external interventions, particularly those sponsored by the U.N. These opposite trends have sparked an ongoing debate on the impact of peacekeeping.¹ Although most studies focus on violence between the military forces of two parties, civilians have increasingly become the victims of armed conflict and the U.N. has expanded the scope of peacekeeping to include the protection of civilians. Since 1990, the U.N. has launched close to 50 missions while the number of peacekeepers world-wide has grown sevenfold to 100,000. A recent contribution by Hultman et al.² finds that the sheer size of U.N. missions can substantially diminish civilian casualties in domestic conflict. Yet, the very composition of U.N. peacekeeping operations (henceforth PKOs) in recent years bears little resemblance to what it looked like in the aftermath of the Cold War. In 1990 the U.N. relied on a pool of 46 donor countries, but in 2010 some 120 countries effectively contributed to peace operations around the globe (See Figure 1). The total size of U.N. contingents (solid trend line) and the total number of donor countries (bars) convey two related, yet different pieces of information, on the capacity of U.N. PKOs to reduce the level of violence between belligerents, and to protect civilians, and they do not always move together, as in the period 1995-2001. The unabated growth in the pool of donors has brought new organizational challenges and coordination problems. At the same time, diversity has also produced a new mix

¹See e.g., Doyle & Sambanis (2000).

²Hultman *et al.* (2013)

of complementary perspectives, skills and solutions.

[Figure 1 about here]

Yet, no attention has been paid to the composition of those missions. Auerswald & Saideman³ provide a recent and very interesting contribution on NATO's performance in Afghanistan and the issue of military adaptation. They claim that the domestic politics of NATO members (i.e., their form of government and political leaderships) are critical determinants of the conduct of national task forces. They find that presidential or single-party governments are less likely to impose caveats than coalitions. Yet, this study only focuses on NATO and revolves around the issue of members' governmental form. The lack of attention to the composition of peacekeeping forces is all the more remarkable as the implications of diversity, i.e., the degree of homogeneity within a group, is one of the fastest-growing fields of research in social science. For any given number of troops in an operation, is it advisable to have all soldiers from a single country, or should the U.N. attempt to recruit peacekeepers from a variety of countries? Using comprehensive and disaggregated data on personnel commitments to United Nations PKOs, collected by Kathman⁴ for the period 1990 to 2011, we investigate whether diversity is "good" or "bad" for the performance of the missions in terms of civilian protection, a core purpose of PKOs in the last 20 years.⁵

This article shifts the focus of the recent debate on peacekeeping away from whether the presence and the size of a mission influence violence dynam-

³Auerswald & Saideman (2014).

⁴Kathman (2013)

⁵See e.g., Wills (2009); Bellamy & Williams (2010).

ics⁶ to how characteristics of a U.N. mission can affect the conflict resolution process. If peacekeeping works, how does the composition of a mission affects its performances? Moreover, while the number of donor countries can be put forward as evidence of the commitment of the international community to tackle one-sided violence,⁷ we expand the range of perspectives on diversity beyond questions of political legitimacy at the international level to operational outcomes in the field.⁸

Horwitz and Horwitz⁹ recall how diversity is often portrayed as a “double-edged sword”. Although heterogeneity can potentially create a positive organizational synergy, and hence positive outcomes, the same idiosyncratic expertise and experience can result in coordination problems and intergroup conflict. Diversity within a mission may improve the performance of the operations, as soldiers from different backgrounds bring along their various skills, experiences, and abilities in day-to-day interactions. Yet, heterogeneous work environments may give rise to coordination problems (e.g. due to language diversity) and thus raise transaction costs, create incompatible expectations while cultural barriers and lack of trust may reduce the capabilities of a mission. Whether the gains from diversity outweigh its costs should be considered as an empirical question.

⁶E.g., Hultman *et al.* (2013); Ruggeri *et al.* (2013)

⁷There are many additional political and economic considerations affecting the size of countries’ contribution to PKOs, including the public opinion and media pressure (the so-called “CNN effect”) and the salience of the conflict (see Bove & Elia, 2011).

⁸We thank Philip Cunliffe for pointing this out.

⁹Horwitz & Horwitz (2007, p.988)

We use two alternative indices to measure diversity, fractionalization and polarization, using the country of origin of peacekeepers as identifying characteristic, and develop theoretical arguments to anticipate negative and positive effects. We first compute fractionalization and polarization as functions of the relative share of each country's contribution to an operation. Our empirical results reveal that diversity tends to improve the performance of the operation. We then take into account the degree of distinctiveness between different countries by incorporating linguistic and geographic distances. After distances between donor countries are accounted for, the effect of diversity on civilian casualties is substantially stronger.

We proceed as follows. We begin Section 2 with a short overview of the possible effects of diversity on peacekeeping outcomes. Section 3 formalizes the degree of diversity within a mission. Section 4 describes the dataset and discusses the empirical strategy. Section 5 presents our empirical results and Section 6 provides concluding remarks.

2 Civilian Protection and Mission Composition

Civilians are often the main victims of civil wars and a number of studies have explored how and why governments and rebel groups decide to directly target civilians.¹⁰ Understanding why powerful actors kill defenceless civilians cannot be isolated from a clear analysis of how the international community

¹⁰See Kalyvas (2006); Eck & Hultman (2007).

can effectively organize PKOs to reduce civilian fatalities. We fill a notable gap in the quantitative literature on peacekeeping effectiveness, which has rarely considered organizational issues within an operation, but has mostly looked at whether the very presence of peacekeepers affects a number of outcomes, in particular the duration of peace.¹¹ The U.N. has in recent years expanded the aims and scope of peacekeeping missions to include the protection of civilians. We believe that this outcome is among the most sensible and important and one which deserves further investigation.

In what follows we claim that the composition of a mission, in particular its degree of heterogeneity, has an indirect impact on the capacity of the mission to limit violence against civilians by affecting three crucial functions relating peacekeeping to violence at the local level: *deterrence*, *commitment* and *information*.¹² First, peacekeeping deterrence prevents conflict from spilling over into non-combatant areas, thus preventing the violence against civilians. Second, as a ceasefire may provide opportunities for government and rebel authorities to increase their bargaining power, the local presence of peacekeepers matters because it commits leaders to follow previously agreed rules, including the combatants' interdiction from civilian areas. Third, information flows can be crucial as government and rebel leaders often lack information about their relative strength. By providing (local) information

¹¹The quantitative research has operationalized effectiveness in terms of conflict recurrence (Doyle & Sambanis, 2000), peace spells after ceasefire (Fortna, 2004), the risk of conflict in neighboring countries (Beardsley, 2011), the prevention of genocides (Melander, 2009) or the level of cooperation toward the peacekeepers (Ruggeri *et al.* , 2013).

¹²See Ruggeri *et al.* (2014).

peacekeepers can assist the peace process. Furthermore, peacekeepers get vital information through their frequent interactions with civilians, which allows them to become more proactive in protecting them. Figure 2 summarizes our theoretical framework.

[Figure 2 about here]

In the following paragraphs we explore how internal diversity in U.N. peacekeeping missions can positively or negatively influence the effectiveness of multinational operations through the mechanisms we have briefly discussed. Identifying the effect of diversity on performances remains a challenging research problem and the contemporary organizational theory gives little guidance on the very direction of the impact. Therefore our inventory of possible mechanisms is not meant to be exhaustive.

2.1 Positive Effects of Diversity

A number of recent studies have investigated whether the overall performance of a team of workers is fostered by the heterogeneity of its members' cultural or national backgrounds. The vast majority of recent studies find a positive effect of diversity on a number of outcomes, thus suggesting that a more diverse pool of workers increases the portfolio of skills, talents, and interests on which to draw and facilitates mutual learning.¹³ Following this literature, we start with this positive direction, and claim that the diversity in U.N. peacekeeping missions may facilitate effective work and the appropri-

¹³E.g., Van Praag & Hoogendoorn (2012).

ate management of difficult situations through the above mechanism, called complementarity and monitoring.

2.1.1 Complementarity

In a seminal work on multi-cultural firms, Lazear argues that whether teams that span cultures carry costs or benefits hinges crucially on the degree of homogeneity of workers. In fact, advantages may be obtained from “using complementary factors that are more easily or cheaply obtained by hiring from a different culture”.¹⁴ A diverse mix of complementary perspectives and skills, and the appropriate combination of these skills can produce new solutions, and can positively effect the outcome. Put differently, if peacekeepers from country A have good communication and negotiating skills, while troops from country B are relatively more combat-capable, there are important gains to an operation of deploying troops from both countries rather than filling the ranks exclusively from country A or country B. We believe that the complementarity can be a crucial added-value in the context of peacekeeping operations.

According to the UNA-CANADA¹⁵ , “the ideal peacekeeper not only needed to be combat capable and multi-purpose, but also required additional skills in the areas of negotiation and mediation, general knowledge of the UN system and mandates, a thorough understanding of rules of engagement, understanding of civil-military cooperation and humanitarian assistance, as well as mission-specific knowledge such as local customs, culture and language”.

¹⁴?, p.40.

¹⁵UNA-Canada (2007, p.16)

As those characteristics are unlikely to belong to a single contingent and as some skills, knowledge or even ability to fulfill certain aspects of the mandate might be country-specific, operations whose troops represent a diverse range of countries will have greater collective knowledge and skills.

Complementarity can positively influence the capacity of peacekeepers to commit the belligerents and deter uncooperative and violent behaviors as it makes range of skills and instruments available to the operation. The Under-Secretary General for U.N. PKO, interviewed by Crook¹⁶ laments that “[w]hen we have a mandate to protect civilians over huge territories where there is no real infrastructure such as eastern DRC or Darfur, the mobility and agility of the force and the mission as a whole is a key factor. So helicopters, and in particular tactical helicopters, are key.” As Spearin¹⁷ points out, “the increased proportion of troops from developing countries increased the likelihood that peacekeepers would arrive in theatre lacking necessary equipment”.¹⁸ Given the complexity faced by missions, contributors from developed countries may at times make important equipment available for specific missions, such as tactical helicopters or surveillance technology, including airborne forward-looking infra-red cameras (FLIR) and ground radars to enable early warning.¹⁹

Moreover, the increased use of intelligence and advanced technologies on the battlefield in recent years brings the requirement for more information

¹⁶Crook (2011).

¹⁷Spearin (2011, p.197).

¹⁸Cunliffe (2013) explores in great details the implications that this “globalization of UN peacekeeping” has on the global costs of security and the effectiveness of UN deployments.

¹⁹Crook (2011).

technology equipment and appropriately trained personnel from more advanced countries. According to Bensahel,²⁰ Operation Desert Storm demonstrated a technology gap between coalition partners (many of them rich economies) and many participating countries were required to use US satellite communications equipment down to battalion level to ensure connectivity.

This is not to say that a mission staffed exclusively by a mix of developed countries can be more efficient. Some of the most disastrous peacekeeping failures such as Somalia or Rwanda have been popularly explained by invoking the evidence that some countries are reluctant to provide troops that might be placed at risk.²¹ A mix of contributors with different degree of risk aversion can improve mission effectiveness by allocating the contingents to different tasks. In a detailed account of the U.N. mission in Somalia in 1994, Polman²² describes how the Blue Helmet contingents were camped “according to country of origin on their own plots of ground. The poorer the country, the closer to the beset outer wall of the base its contingent is placed.” In the words of the officer in charge of the Pakistani contingent, “Western countries are selective in what they are prepared to do for the U.N.. We are not... We are ready to die for the U.N. if need be. Here too, when we lost 24 men in one go during a disarming operation, it did not occur to us to say No to any more off-base service”.²³

To sum up, a higher degree of diversity increases the chances of having more technical capabilities and more recent campaigning experience within

²⁰Bensahel (2003, p.136).

²¹Van der Meulen & Soeters (2005)

²²Polman (2003, p.40)

²³Polman (2003, p.52).

the operation that can be passed on to other militaries.²⁴ The presence of a more capable and skilled mix of peacekeepers can discourage local actors to use violence and can resolve commitment problems that emerge between belligerents by manipulating their incentives to use force.

Furthermore, complementarity improves the capacity of peacekeepers to get the necessary information. Most of the conflict countries are culturally diverse environments, which are very demanding as cultural fragmentation within the host population adds significantly to the challenges of establishing trust and a professional relationships between peacekeepers and the local communities. According to Rubinstein et al.²⁵ the success in a mission hinges crucially on the ability of peacekeepers to correctly interpret what they encounter and to interact in a culturally positive manner. Peacekeepers from different nationalities have their own hidden cultural approaches and competencies in intercultural communication and in the management of multicultural contexts. Consequently, the deployment of a mix of peacekeepers who are capable of working and communicating effectively within a dynamic, multifaceted and multicultural environment may have an important impact on the success of the operation.²⁶

²⁴Even if a mission is composed of different nationalities, it does not follow that different nationalities will have to work and cooperate together. However, several illustrative examples suggest that inter-national cooperation within U.N. mission happens very often (see a recent report from the U.N., 2010).

²⁵Rubinstein *et al.* (2008)

²⁶See e.g., Odoi (2011).

2.1.2 Monitoring Misconduct

U.N. peacekeeping missions have been the subject of allegations of corruption and misconduct in recent years. A recent report argues that “peacekeeping and other conflict-related missions [...] are seriously affected by corruption” and “endemic corruption is an issue that directly affects the success of the mission, and that failure to act allows it to be more deeply embedded”.²⁷ Similarly, sexual abuse and exploitation committed by peacekeepers were first documented in Bosnia, Herzegovina and Kosovo in the early 1990s, and later in Mozambique, Cambodia, East Timor and Liberia.²⁸ Misconducts in any form have a number of unfortunate consequences. As we stressed above, a constant information flow is crucial for the effectiveness of a U.N. mission.²⁹ However, if the bond of trust between locals and the peacekeepers is damaged by the Blue Helmets’ misconducts, the U.N. mission can be denied the relevant and substantial information about local dynamics, thus damaging the effectiveness of the mission in protecting civilians.

Recent research by Beber³⁰ shows that, if not monitored, peacekeepers are liable to commit serious sexual misconduct. Monitoring, in the form of whistleblowing, i.e., when it is meant to expose misconduct, alleged dishonest or illegal activity occurring in an organization, is essential to limit and punish misconducts that can endanger the legitimacy and effectiveness of a mission. When perceived as legitimate, monitoring can prevent certain behaviors and

²⁷TransparencyInternational (2013, p.3), available online ([http : //www.ti - defence.org](http://www.ti-defence.org))

²⁸(Defeis, 2008).

²⁹Howard (2008).

³⁰Beber (2013).

can be a positive incentive for coordination and productivity.³¹

When the peacekeeping environment is characterized by the presence of multiple nationalities, the chances that peacekeeping forces are complicit in misconducts should be reduced by the mutual monitoring among contingents. In fact, according to the United Nations, individual peacekeepers are above all accountable to their national field commander and troop-contributing countries bear the primary responsibility for maintaining discipline among their contingents deployed in peacekeeping missions.³² Therefore, peacekeepers are more likely to monitor the (mis)behaviour of each other in diverse missions. Additionally, an elaboration of this mechanism based on the role of media and public opinion³³ suggests that a diverse mission brings media attention from different countries and, therefore, a higher probability of reporting misconducts.

2.2 Negative Effects of Diversity

Diversity in multinational units may increase effectiveness; but it can also present potential friction. An international and heterogeneous mix of peacekeepers can be difficult to turn into a cohesive team given the presence of different cultures, languages and legal systems. As the number of actors increases, the coordination among them and the implementation of the correct strategies become more difficult. Moreover, when coordination is based on communication and sharing similar preferences or norms, the internal diver-

³¹Schnedler & Vadovic (2011).

³²U.N. (2011).

³³Auerswald & Saideman (2014, p.19-22) provide an overview on research about public opinion and countries' performance in alliances.

sity of the group can become a significant hurdle to communication efforts.

Spearin³⁴ reports the contention made by the International Peace Operations Association (IPOA) before members of the US House of Representatives: U.N. peacekeeping depends upon a “hodgepodge of militaries and [m]ilitary coordination is the exception not the rule. And, as among NATO contributors in Afghanistan, mandate interpretation varies dramatically between different nationalities.” We identify one broad mechanism that can negatively influence the task of protecting the civilians: coordination problems that limit what troops can do.³⁵

2.2.1 Coordination problems

Countries have different cultures, languages, norms and institutions. All of these potential barriers between countries can create considerable misunderstanding and miscommunication. According to Luft³⁶ the active participation of women in the U.S. Army during the Operation Desert Storm caused frictions between Saudi Arabia and the US due to different views about the role of women. Neighbouring countries are not immune to this issue. Keller and Tomford³⁷ examines the German-Italian cooperation in Kosovo. While the working language was English, language deficiencies on both sides caused barriers in the communication process during meetings and caused difficulties in decision making (Keller & Tomford, 2007, p.152).

Furthermore, given that individual countries may have different rules of

³⁴Spearin (2011, p.198).

³⁵See Auerswald & Saideman (2014) on NATO multilateral cooperation in Afghanistan.

³⁶Luft (2002)

³⁷Keller & Tomford (2007).

engagement, programming approaches and *caveats*, they may not be inclined to follow a common *modus operandi*.³⁸ Even a basic task, such as policing the streets, may become a challenge as lamented by Dziedzic and Bair³⁹ in their account of the United Nations Mission in Bosnia Herzegovina, where some contributing nations showed a lack of familiarization with “democratic” ways of policing. The PKO in Lebanon in 2006 was staffed by European and Arab countries, each of them with its own set of motivations and national goals. At the tactical level these differences were mirrored by the divergent interpretations of the rules of engagement and the level of national caveats imposed on units such as the unwillingness to move beyond specific areas, to engage in combat and to come to the aid of other nations’ troops.⁴⁰ These different approaches can affect the cohesion among contingents and in turn hamper the mission’s overall goals, such as the civilian protection. In DRC many troop contributors seldom agreed to use force to protect civilians, despite orders from the UN Force Command in Kinshasa to do so.⁴¹ This was not just due to the difference in military cultures, but “national caveats of troop contributors often stand in the way of a consistent robust approach, although Security Council Resolution 1925 authorizes the mission to use all necessary means to carry out its tasks.”⁴²

Another hurdle to co-ordination, and therefore to the accomplishment of the PKO’s crucial functions, is the so-called “veto players scenario”,⁴³

³⁸Auerswald & Saideman (2014)

³⁹Dziedzic & Bair (1998).

⁴⁰Elron (2007, p.98).

⁴¹Kjeksrud & Ravndal (2011).

⁴²Kjeksrud & Ravndal (2011, p.7)

⁴³See Tsebelis (2002)

where veto players, i.e., individuals or collective actors whose agreement is required for a change in policy, can make significant policy changes difficult or impossible. When two or more donor countries have a substantial weight in terms of troop contribution, they can easily become veto players and hold, prevent, or procrastinate decision making and the implementation of important actions.⁴⁴

We claim that coordination problems can negatively affect the protection of civilians since rapid decisions and proactive strategies are essential to protect civilians.⁴⁵ In fact, coordination issues can affect the capacity of peacekeepers to deter belligerents from defecting as they make peacekeepers more likely to disagree on tactics to control spoilers and to limit their ability to target civilians. At the same time, divergences on goals and rules of engagements undermine the ability of peacekeepers to commit belligerents to act in line with agreed principles by e.g., facilitating the mobilization of rebel groups and spoilers. All these hurdles to coordination are intensified by the complex environment in which the operation takes place. Whether the operations try to achieve coherent tasks, such as carrying out effective humanitarian relief efforts or implementing a cease-fire, the task is usually extremely complex. Thus, coordinated activities among peacekeepers most often take place in difficult, challenging environments, with great uncertainty as to the correct course of action. A lack of coordination severely undermines the capability of peacekeepers to deter and contain violence against civilians

⁴⁴See also Cunningham (2006) for a study on veto players among rebel groups and how the polarization of their preferences can endanger the conflict resolution process.

⁴⁵Cammaert (2008).

and to commit parties to the peace process at the local level. Before turning to the data, we operationalize the concept of diversity.

3 Measuring diversity: What Index?

To capture the degree of diversity within a mission, we use two indices: fractionalization and polarization. Most empirical economic studies of diversity use the so-called “Ethnolinguistic fractionalization (ELF) Index” or simply fractionalization index, which measures the probability of two randomly selected individuals in society belonging to different groups.⁴⁶ This index is a variation of the Herfindahl-Hirschman concentration index (HHI). In general any index of fractionalization can be written as

$$FRAC = 1 - \sum_{i=1}^N \pi_i^2 = \sum_{i=1}^N \pi_i(1 - \pi_i) \quad (1)$$

where π_i is the proportion of people who belong to the group i , and N is the number of groups. In our case, π_i is the proportion of peacekeepers from a certain country i , and N is the total number of countries contributing to the mission.

Yet, while this measure of heterogeneity has attracted a fair amount of attention, a number of scholars have suggested an alternative index of diversity, called polarization, originally introduced by Reynal-Querol⁴⁷ as

⁴⁶See Desmet *et al.* (2009) for a thorough discussion.

⁴⁷Reynal-Querol (2002).

$$RQ = 4 \sum_{i=1}^N \pi_i^2 (1 - \pi_i) \quad (2)$$

The original purpose of this index is to capture how far the distribution of the groups is from a bipolar distribution e.g., $1/2, 0, 0, \dots, 0, 1/2$, which in fact is the highest level of polarization i.e., RQ attains its maximum value when there are two groups of equal size. RQ index is multiplied by 4 so as to make it range between 0 and 1. While in the case of two groups, the fractionalization and the polarization take up the same value,⁴⁸ when we move from two groups to three groups, the relationship between those indexes breaks down.⁴⁹

As illustrative example, we compare the United Nations Mission in Liberia (UNMIL) and the United Nations Assistance Mission for Rwanda (UNAMIR). UNMIL is a peace-keeping force established in 2003 to monitor a ceasefire agreement following the resignation of President Charles Taylor and the conclusion of the Second Liberian Civil War. As of December 2003, out of 8837 troops, the donor countries were Bangladesh (19%), Benin (3%), China (1%), Ethiopia (13%), Gambia (2%), Ghana (3%), Guinea -Bissau (8%), Ireland (6%), Jordan (1%), Mali (3%), Netherlands (3%), Nigeria (19%), Pakistan (12%), Philippines (2%), Senegal (3%) and Togo (2%). The mission had a very high level of fractionalization (0.90) and a low degree of

⁴⁸In case of two groups, the RQ index is equal to the index FRAC up to a scalar.

⁴⁹See Figure A.1. in the online Appendix.

polarization (0.38).⁵⁰ UNAMIR was meant to end the Rwandan Civil War. As of July 1994, out of 926 troops, there were only two donor countries, Canada and Ghana, contributing 40% and 60% of the total number, respectively. The mission was clearly highly polarized (0.95), while the level of fractionalization was much lower (0.48). The decomposition of the standard deviation of our diversity indices into between and within variation in our dataset shows that the sizes of the two standard deviations are similar, which means that diversity varies between missions as well as over time within the mission.

3.1 Weighting for Distances

The indices explored above are based on the binary criteria of “belonging” or “not belonging” to a particular nation. As soon as two nationalities are different, they are assigned a distance of 1, otherwise the distance is 0. However, differences between countries fit more easily along a continuum rather than within clearly distinct boxes. Treating different nations as having the same distance is problematic. For example, if the coordination problem is at play, should we consider Argentinian and Brazilian soldiers as members of different linguistic groups in the same way as peacekeepers of Argentina and China? And if the complementarity mechanism is at play, we implicitly claim that the higher the degree of overlap between the ability and knowl-

⁵⁰We exclude 13 donor countries, as each of them contributed less than 1% of the total. However, the polarization and fractionalization indices were calculated using also these countries.

edge sets of countries A and B, the lower the gains from deploying a diverse force are.⁵¹ Therefore, shall we consider the degree of overlap between the knowledge sets of Argentinian and Brazilian in the same ways as the degree of overlap between skills and cultural approaches of Argentinian and Chinese troops? These two pairs are culturally different.

When using equations 1 and 2, we deliberately decide to assign the same distance to both pairs. Thus, as Desmet et al.⁵² points out, when data are highly detailed, like in our case, the problem of correctly identifying groups arises. Indices 1 and 2 can be generalizable, whereby continuous measures of distances between different groups are taken into account. In particular, the index of fractionalization (1) can be generalized as

$$G = \sum_{i=1}^N \sum_{j=1}^N \pi_i \pi_j d_{ij} \quad (3)$$

where d is a positive distance from nation i to nation j . This index was first introduced by Greenberg.⁵³ Similarly, the index of polarization (2) becomes

$$ER = \sum_{i=1}^N \sum_{j=1}^N \pi_i \pi_j^2 d_{ij} \quad (4)$$

⁵¹See ?.

⁵²Desmet *et al.* (2009).

⁵³Greenberg (1956).

This is a special case of the polarization index in Esteban and Ray⁵⁴ and includes the distances between groups. If distances between all groups are the same, it is perfectly correlated with 2.

In practical terms, without accurate information on distances between groups (e.g., linguistic or geographical distance), one has to assign a distance of either zero or one between Argentina and Brazil. The introduction of 3 and 4 may resolve the group identification problem as we do not need to make choices about whether Argentinians and Brazilians belong to different groups. By using detailed dyadic distances, we keep Argentinians and Brazilians as two distinct groups, but assign a small distance between the two, smaller than the distance between the dyad Argentina-China. We compute for every single contributor in a mission the dyadic distance, both linguistic and geographical, with all other contributors, and we use these distances as weights in equations 3 and 4. We refer the reader to the online supplementary materials for a graphical representation of the difference between weighted and unweighted fractionalization (Figure A.2). Moreover, in the same appendix, we use a simple matrix to sum up the possible mechanisms in place and further elaborate on the difference between fractionalization and polarization.

4 Data and Empirical Strategy

To explore whether peacekeepers diversity has any effect on the level of one-sided violence, we use the general model below:

⁵⁴Esteban & Ray (1994).

$$OSV_{it} = f(OSV_{it-1}; Conflict_{it}; PKO_{it}; Diversity_{it}) \quad (5)$$

where the subscripts i and t refer to operation i and month t , respectively. The outcome variable is the number of civilian killed each month. In essence, the performance of an operation in any given month is a function of the lagged dependent variable (to account for temporal dependence), the characteristics of the conflict, those of the operation and the level of diversity, our variable of interest. The conflict variable includes the monthly number of battle-related deaths, the conflict duration (in number of months), whether the war is fought over territorial or government control and the host country population number. The PKO's features include the number of armed troops, police units and observes deployed and the total number of countries contributing to the mission. The first three factors are control variables that allow us to isolate the impact of our focus variable, the degree of peacekeepers diversity. Moreover, the inclusion of this set of conflict variables mitigates the endogeneity from omitted variable bias. Table A.2 in the appendix contains the summary statistics.

To take into account the cultural distance between countries, we use an index of linguistic proximity taken from Melitz and Toubal⁵⁵ (lp1BR), who calculate it on the basis of the Ethnologue classification of language trees between trees, branches and sub-branches. As robustness checks, we use two alternative indices. We take from Melitz and Toubal a measure of the lexical similarity between 200 words in a list which was first compiled by Swadesh⁵⁶

⁵⁵Melitz & Toubal (2012).

⁵⁶Swadesh (1952).

and subsequently refined (lp2BR). We normalize the values so that they range from 0 to 1. Moreover, as the series indicate proximity rather than distance, we take the reciprocal of the original data. As a second alternative weight for distance between contributors, we also take dyadic data on geographic distances provided by Gleditsch and Ward⁵⁷ and normalise it.

We build our econometric specification on Hultman et al.⁵⁸ Accordingly, as the dependent variable is a count of civilians killed, we use a count model given the possibility of inefficient, inconsistent, and biased estimates of counts when standard linear regression is employed.⁵⁹ Moreover, to deal with the possibility of heterogeneity and contagion in the data, we use a negative binomial model.⁶⁰ Finally, as our coefficient of diversity is likely to be contaminated by endogeneity from uncontrolled confounding variables, we estimate a panel with mission fixed effects. We use robust standard errors clustered by conflict.

Note that our main explanatory variables, fractionalization and polarization, are unlikely to suffer from the issue of reverse causality i.e., they are affected by the severity of the conflict, for two reasons. First, when the Security Council approves the creation of a mission, the Department of Peacekeeping Operations seeks contributions from member nations, as the U.N. has no standing army of its own, and member states are invited to contribute military personnel for each operation. Therefore the composition of

⁵⁷Gleditsch & Ward (2001).

⁵⁸Hultman *et al.* (2013).

⁵⁹Cameron & Trivedi (2013).

⁶⁰See Hultman *et al.* (2013) for a short discussion.

the mission is not centrally planned by the U.N.⁶¹ While some countries may be more or less likely to contribute to certain missions, and therefore the nationality of the contributors may depend on characteristics of the operation, the degree of diversity should be considered as an exogenous variable, since it does not depend on the particular nationality of the peacekeepers.⁶² Second, it is the number of contributing countries, rather than the diversity in the composition of the mission, which may respond to the number of civilian casualties. By duly controlling for the number of donor countries in our models, we are explicitly taking care of this source of endogeneity. This cannot however completely rule out the possibility that other time-varying unobservable co-determinants of diversity and violence are still in place. Note finally that while our measure of fractionalization is increasing in the number of groups, our polarization is maximized when two groups are of equal size.

⁶¹Boutros-Ghali, former Secretary General of the U.N., has often described his task as “[g]oing begging around the capitals of the world... To be clear: I have no power and I am not independent.... The Member States are free to make troops available or not. To be able to do my job, I am dependent on your goodwill.” *International Herald Tribune*, 18/10/1993.

⁶²We run models to estimate whether conflict characteristic prior to the U.N. mission deployment could predict both fractionalization and polarization. None of the possible confounding variables, such as conflict intensity, previous violence on civilians or mission mandate, was statistically significant.

5 Results

Our empirical results are reported in Tables 1 - 3 and replicate the main model in Hultman *et al.* (2013), where the dependent variable is the monthly count of civilians killed, and include our measures of U.N. mission diversity. We also use alternative measures of diversity, whose results are shown in the appendix. Table 1 contains the baseline fixed effects negative binomial models where diversity is calculated as in equations 1 and 2. Table 2 aggregates the troop contribution of NATO members and consider NATO as a single entity, given the degree of homogeneity in military procedures (e.g., rules of engagement, communication) of the members of this military organization. Table 3 incorporates the linguistic distance between different countries when measuring diversity.

Before discussing our main explanatory variables, we briefly summarize the results with regard to the control variables. Even though we only include observations for which a PKO is deployed, which means that we are using a much smaller sample, our results do not differ from the main and most important findings reported in Hultman *et al.*⁶³ In particular, military troops and police reduce civilian killings, though only troops is within conventional levels of statistical significance, while the presence of U.N. observers has the opposite effect, increasing the level of victimization. The number of months since the beginning of the conflict (conflict duration) is also positive and reaches conventional level of statistical significance. War fought over government control (government conflict) seems to generate more civilian killing

⁶³Hultman *et al.* (2013).

than wars fought over territorial secession. High population is associated with a higher level of violence. As one would expect, the number of casualties on battlefield is positive and significant, and so is the lagged dependent variable given the inertia in the use of one-sided violence.⁶⁴

Our contribution lies in the identification of the impact of diversity in the composition of the mission on its effectiveness in protecting civilians. As for extreme levels of fractionalization and polarization, the indexes are correlated, following a number of previous economic studies⁶⁵, we include them first separately and then jointly. In fact, as Ager and Brückner⁶⁶ point out, including fractionalization or polarization individually implies that the estimates do not capture independent effects and suffer from an omitted variables bias. Table 1 shows that the index of fractionalization is negative and significant at conventional levels only in model (i). This result is not robust to the inclusion of the total number of donor countries (ii)⁶⁷ and to the index of polarization (iii). On the contrary, the level of polarization is consistently negative and statistically significant, even when we control for the number of countries participating to the operation (iv) and the corresponding level of fractionalization (v). This means that, even when conditional on a given degree of fractionalization and a given number of donor countries, more polarization decreases the level of one-sided violence.

⁶⁴Note that, following Hultman *et al.* (2013), we also use simple dummy indicators to capture whether violence was committed or not in the previous month

⁶⁵I.e., Alesina *et al.* (2003), Montalvo & Reynal-Querol (2005) and Ager & Brückner (2013).

⁶⁶Ager & Brückner (2013).

⁶⁷Note however that, similarly to the inclusion of both indexes together, controlling for the number of donor countries is likely to introduce an issue of multicollinearity.

This first round of results suggest that diversity has a positive impact on the performance of the operation by reducing the number of civilians killed. Tables 2 replicates Table 1 but consider NATO members as being part of the same entity. If our previous findings are correct, then we should find the same pattern when we aggregate the troops of homogeneous countries together according to the military organization they belong to. As we can see, results about our main explanatory variables do not change substantively, and both the size and the significance are virtually identical. Similarly, in the online appendix, Table A.3 considers NATO and ECOWAS (Economic Community of West African States) as separate individual donors, as ECOWAS is the second largest regional contributor to peacekeeping operations. Thus, we have NATO, ECOWAS and the remaining $N - 2$ donor countries. We find virtually the same results.⁶⁸

Whether including distances between countries is relevant for our understanding of the mission's impact is an empirical question. Table 3 includes the same regressions as Table 1, but use the indices in equations 3 and 4, which allow for distances between languages. We use two different measures of linguistic distance (see section 4) and find that linguistic distance provides a more robust and consistent picture when we look at the degree of fractionalization. In fact fractionalization appears to decrease the level of civilians victimization although, consistently with the previous tables, it is insignificant when we control for the number of donor countries. The effect of polarization is always negative and significant across different model spec-

⁶⁸We also repeat the same exercise with the biggest Asian contributing countries i.e., India, Pakistan, Bangladesh, Nepal and Fiji. We find very similar results.

ifications. Overall, this last Table increase the confidence in our findings on the positive impact of both indices on the capacity of the operation to reduce one-sided violence.

Given the ongoing debate about the optimal measure of linguist distance, we also use our second measure of linguistic distance in Table A.4 in our online appendix and results are very similar to those in Table 3. Another important question is whether linguistic distance is correctly picking up cultural distances, broadly defined. In Table A.5, in our online appendix, we provide another weighted index of diversity using the geographical distance between capitals. Results are weaker and less stable as fractionalization reaches conventional levels of statistical significance only when we do not control for the number of contributing countries or the corresponding level of polarization. Moreover, our measures of diversity fail to achieve significance when we include both of them in the same model. This suggests the importance of including polarization and fractionalization jointly in the regression model as a robustness check. While cultural distance increases the communication costs, the positive effect of linguistic and geographic distance outweighs the costs and may reflect differences in the way countries delegate to the commanders on the ground; more heterogeneous missions therefore may have a higher number of far-flung commanders able to “implement policy in ways that they, rather than their superiors back home, believe is best, given the absence of oversight”.⁶⁹

[Tables 1 - 3 about here]

⁶⁹Auerswald & Saideman (2014, p.9).

[Figure 3 about here]

Beyond statistical significance, Figure 3 illustrates the implied substantive effects of fractionalization and polarization, models 1 and 3 in Tables 1, 3 and A.5 . We compare the Average Marginal Effect (AME) of fractionalization and polarization over their different operationalization. This represents the marginal effect on the monthly number of civilians deaths of a change in fractionalization or polarization of 0.10 in a normalized scale from 0 to 1. We report confidence intervals at three standard levels 99% , 95%, 90%. The thicker the line the lower the statistically significant threshold. Unweighted fractionalization has a weaker marginal effect and the indexes weighted on geographic and linguistic distances are statistically significant at 90% level. In Figure 4, we show how different levels of fractionalization weighted on linguistic distance affect the number of civilians killings, holding the other variables at their means. We have simulated the effects only over real values of our sample (from 0 to 0.43) and we can see how the higher the fractionalization, the lower the number of civilians killed in a month. At the average level of fractionalization (0.22), a UN mission could save 10% more civilians per month.

[Figure 4 about here]

Finally, we submit our results to a further series of robustness checks: (i) we ask whether there exists a different functional relationship between diversity and civilian casualties i.e., whether diversity has a non-linear effect on violence; (ii) we control for the nature of the mandate; (iii) we run a

jackknife estimation; (iv) having identified two crucial outliers in the distribution of civilians killed by the government i.e., Rwanda and DRC, we run models without these two countries. Overall, our findings are robust and neither the size nor the significance of our variables of interest are substantially changed. Due to space limitations these results are not presented here, but are available upon request from the authors.

6 Conclusions

Anecdotal evidence suggests that the internal composition of peacekeeping mission can affect its capacity to protect civilians. Yet, there are no quantitative studies that evaluate whether peacekeeping missions' diversity can influence their capabilities and performances; our article aims to fill this important gap in the scientific study of peacekeeping. We investigate and disentangle several mechanisms through which diversity can positively or negatively influence U.N. peacekeeping outcomes. We argue that fractionalization could improve the information flow and therefore the mission performance through a bottom-up monitoring where peacekeepers have disincentives to misconduct. In fact, peacekeepers' misconduct can jeopardize the communication between civilians and Blue Helmets, and in turn make their capacity to protect civilian less effective. Furthermore, the complementarity between donor countries, which is a function of a mission's internal diversity, can bring a broad portfolio of skills crucial to the mission. In fact, a richer pool of skills, experiences and equipments enables the mission to commit and deter local actors. Yet, high fractionalization can have negative effects as it increases

coordination costs among the different national contingents. With regard to polarization, we argue that there could be positive effects due to strategic consistency within the U.N. mission, but also negative effects because of the presence of veto players.

Three novel results emerge: First, the level of diversity in the composition of a peacekeeping operation makes a substantial impact on the protection of civilian lives, and reduces the number of civilian casualties. Second, both indices of diversity, fractionalization and polarization, have similar negative effects, although the size of the effect of polarization is substantially bigger than the marginal impact of fractionalization. Third, accounting for distances seems to be a sensible choice. We find that weighted indices perform well and give similar results in terms of the statistical significance of the diversity measure. The explicit introduction of linguistic distances into the measure of diversity shows that the effect of diversity on civilian protection becomes highly significant, both statistically and substantially. Moreover, we do find that empirically polarization plays an important role for civilians protection, although its causal mechanisms need further exploration. Overall diversity matters: the higher the U.N. mission internal diversity, the lower the number of victims among civilians.

Previous works have provided evidence on the crucial role of peacekeepers in the protection of civilians and in enhancing the cooperative dynamics during a mission. Yet, there are no quantitative studies on how characteristics of a U.N. mission, in particular its composition, can affect the conflict resolution process. This is the first large-N study that goes beyond the study of the mere presence and size of a mission and analyses how the degree of diversity

within a mission, and therefore its organization, can affect its effectiveness in protecting civilians. Moreover, we expand the range of perspectives on diversity beyond questions of political legitimacy at the international level to operational outcomes in the field.

We acknowledge that our proposed mechanisms need further study. The monitoring mechanism assumes relevant interactions between different national contingents and we cannot, with the available data, disentangle this effect from the role of military leadership within each contingent. Another key issue is the presence of principal-agent dynamics. Auerswald & Saide-man⁷⁰ suggest that national military commanders have to deal with two principals, the international chain of command and their own governments. As their career depends on the latter, they usually give the priority to orders received by their own government. Future large-N studies should provide new data and evidence to tease out the mechanisms at play, in particular by including other possible distances and differences between national contingents in the U.N missions (e.g. in terms of military training, regime type and economic wealth). Moreover, the use of qualitative evidence will help to unpack the casual paths underpinning the findings of our large-N analysis. This is undoubtedly a promising avenue for future research.

⁷⁰Auerswald & Saideman (2014).

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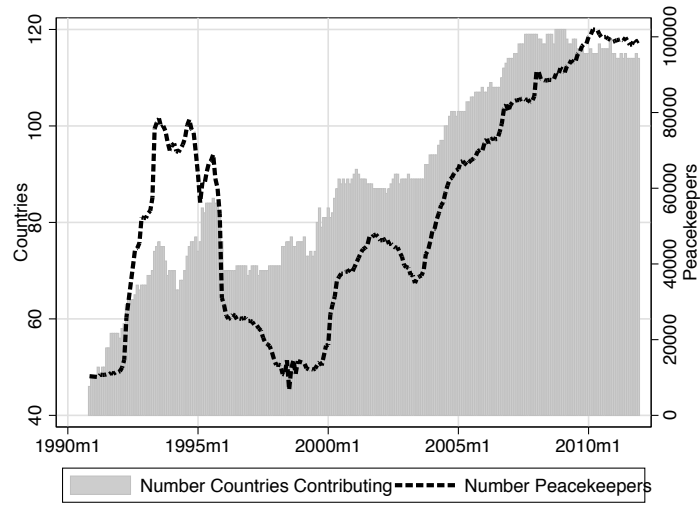


Figure 1: Countries Contributing and Number Blue Helmets

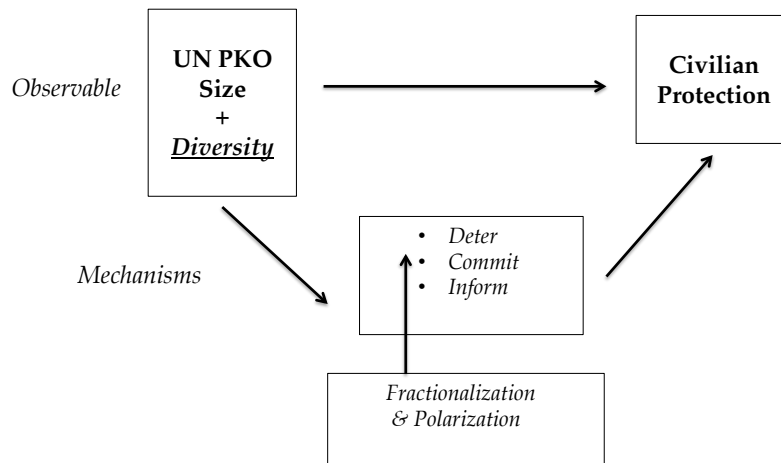


Figure 2: The relation between mission diversity and civilian protection

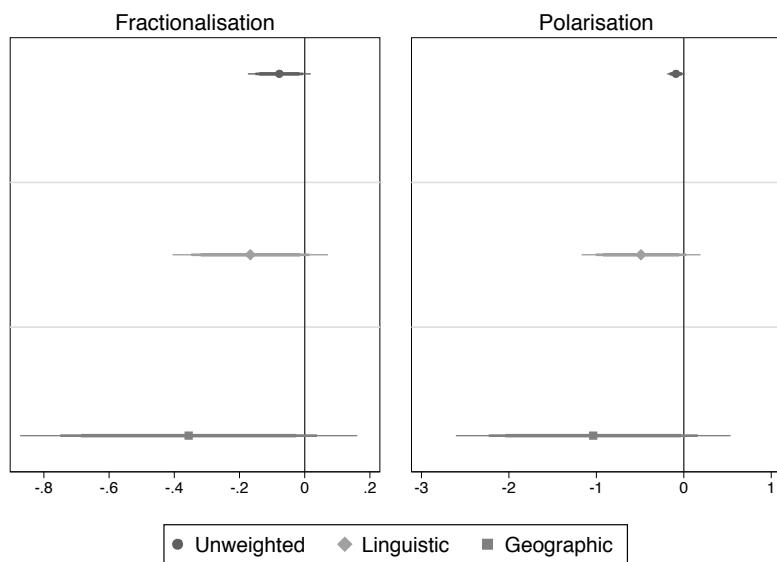


Figure 3: Marginal Impact

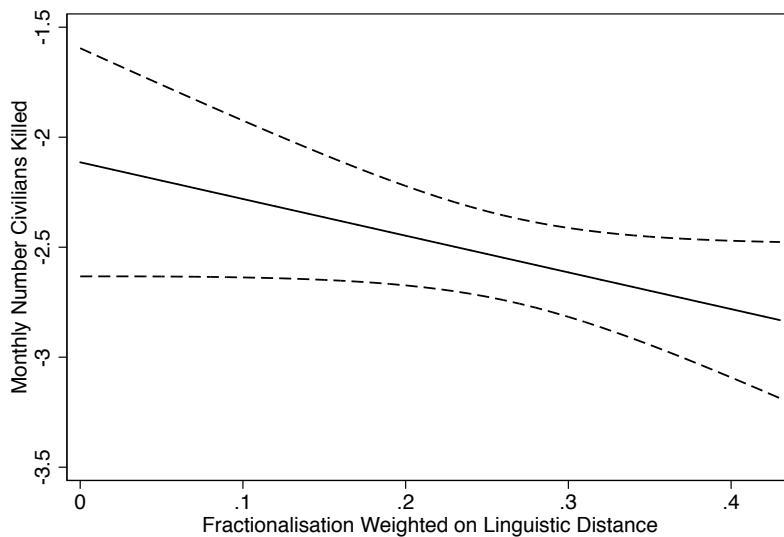


Figure 4: Effects of Linguistic Fractionalization on Civilians Killings

Table 1: Panel with Fixed Effects (Unweighted distances between countries)

	i	ii	iii	iv	v
DV: All OSV					
UN Troops(t-1)	-0.101** (0.041)	-0.101** (0.041)	-0.129*** (0.040)	-0.119*** (0.039)	-0.120*** (0.042)
UN Police(t-1)	0.327 (0.502)	0.267 (0.513)	0.528 (0.487)	0.289 (0.518)	0.293 (0.521)
UN Observers(t-1)	1.650** (0.684)	1.754** (0.699)	1.618** (0.692)	1.903*** (0.703)	1.909*** (0.709)
Conflict Duration	0.003** (0.001)	0.003** (0.002)	0.004** (0.002)	0.005*** (0.002)	0.005*** (0.002)
Government Conflict	0.766** (0.335)	0.800** (0.337)	0.641* (0.335)	0.720** (0.335)	0.718** (0.337)
Population	0.653*** (0.124)	0.677*** (0.130)	0.629*** (0.118)	0.721*** (0.132)	0.720*** (0.132)
All Battle Deaths(t-1)	0.003*** (0.001)	0.003*** (0.001)	0.003*** (0.001)	0.003** (0.001)	0.003** (0.001)
All OSV Dummy(t-1)	1.194*** (0.156)	1.185*** (0.157)	1.225*** (0.155)	1.191*** (0.156)	1.191*** (0.156)
Fractionalization	-0.779** (0.374)	-0.673 (0.413)			0.032 (0.554)
# Countries		-0.006 (0.011)		-0.015 (0.010)	-0.015 (0.012)
Polarization			-0.900** (0.385)	-0.915** (0.381)	-0.936* (0.528)
Observations	577	577	577	577	577

Robust standard errors are given in parentheses clustered by conflict

Table 2: Panel with Fixed Effects (NATO vs Non-NATO)

	i	ii	iii	iv	v
DV: All OSV					
UN Troops(t-1)	-0.104** (0.041)	-0.102** (0.041)	-0.130*** (0.040)	-0.120*** (0.041)	-0.130*** (0.044)
UN Police(t-1)	0.352 (0.501)	0.310 (0.513)	0.533 (0.489)	0.379 (0.518)	0.432 (0.526)
UN Observers(t-1)	1.648** (0.682)	1.708** (0.693)	1.606** (0.696)	1.761** (0.705)	1.798** (0.704)
Conflict Duration	0.003** (0.001)	0.003** (0.002)	0.004** (0.002)	0.004*** (0.002)	0.005*** (0.002)
Government Conflict	0.761** (0.334)	0.777** (0.334)	0.637* (0.337)	0.675** (0.336)	0.641* (0.338)
Population	0.637*** (0.123)	0.654*** (0.129)	0.650*** (0.120)	0.700*** (0.131)	0.696*** (0.130)
All Battle Deaths(t-1)	0.003*** (0.001)	0.003*** (0.001)	0.003*** (0.001)	0.003** (0.001)	0.003** (0.001)
All OSV Dummy(t-1)	1.207*** (0.156)	1.203*** (0.156)	1.209*** (0.155)	1.193*** (0.156)	1.196*** (0.156)
Fractionalization	-0.689* (0.381)	-0.610 (0.426)			0.367 (0.583)
# Countries		-0.006 (0.015)		-0.013 (0.014)	-0.018 (0.016)
Polarization			-1.032*** (0.382)	-0.991*** (0.381)	-1.234** (0.545)
Observations	577	577	577	577	577

Robust standard errors are given in parentheses clustered by conflict

Table 3: Panel with Fixed Effects (Weighted linguistic distances between countries - lp1BR)

	i	ii	iii	iv	v
DV: All OSV					
UN Troops(t-1)	-0.106** (0.041)	-0.105*** (0.041)	-0.126*** (0.039)	-0.114*** (0.039)	-0.118*** (0.041)
UN Police(t-1)	0.275 (0.513)	0.209 (0.523)	0.598 (0.480)	0.332 (0.511)	0.378 (0.530)
UN Observers(t-1)	1.806*** (0.693)	1.907*** (0.696)	1.508** (0.696)	1.817*** (0.704)	1.796** (0.705)
Conflict Duration	0.003* (0.001)	0.003** (0.002)	0.003** (0.001)	0.005*** (0.002)	0.005*** (0.002)
Government Conflict	0.698** (0.333)	0.753** (0.337)	0.513 (0.347)	0.582* (0.347)	0.567 (0.350)
Population	0.678*** (0.134)	0.703*** (0.138)	0.622*** (0.119)	0.731*** (0.134)	0.718*** (0.140)
All Battle Deaths(t-1)	0.004*** (0.001)	0.003*** (0.001)	0.004*** (0.001)	0.003** (0.001)	0.003** (0.001)
All OSV Dummy(t-1)	1.201*** (0.155)	1.188*** (0.156)	1.234*** (0.154)	1.194*** (0.156)	1.199*** (0.157)
Fractionalization	-1.668* (0.926)	-1.360 (0.999)			0.421 (1.290)
# Countries		-0.008 (0.010)		-0.017* (0.010)	-0.019 (0.012)
Polarization			-5.726** (2.640)	-6.353** (2.677)	-7.081** (3.492)
Observations	577	577	577	577	577

Robust standard errors are given in parentheses clustered by conflict