UN involvement and civil war peace agreement implementation

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Abstract

Many studies argue that third-party guarantees, such as those of the United Nations, increase the chances that belligerents will sign peace agreements, but it is unclear how third-party involvement affects the implementation of such agreements. We unpack the relationship between UN involvement and peace agreement success by focusing on the risk factors of defections during the peace accord implementation phase. We argue that two types of commitment problems, namely involuntary and voluntary defections, emerge due to the characteristics of the peace process as well as new opportunities available to rebel groups. We expect that shifts in relative power and polarized voting lead to overall lower implementation score, but UN deployment has a mitigating effect, thereby increasing the levels of overall accord implementation. Using data from the Peace Accords Matrix Implementation Dataset from 1989 to 2010 and personnel commitments to United Nations peacekeeping operations, we find evidence that large UN missions are better placed to support the implementation and longevity of the peace process.

Keywords: conflict resolution, UN peacekeeping, peace agreement implementation, civil war

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1 Introduction

When does the United Nations (UN) make a difference in the implementation of peace agreements? The UN Observer Mission in El Salvador (ONUSAL) provided technical support to facilitate the implementation of the 1992 Chapultepec Peace Accords (Pugh 2009) which contained provisions for the decommissioning of Farbundo Marti National Liberation Front (FMLN) and drastic reduction of military forces, including the full dismantling of special units. Yet, without the assistance and leadership of ONUSAL, implementing the agreement could have failed (de Soto and del Castillo 1995; Montgomery 1995; Stanley and Holiday 1997). The UN missions in El Salvador were pioneering, successfully transforming a peacekeeping operation to a downsized mission: The UN Mission in El Salvador (MINUSAL) and UN Verification Office (ONUV) (Call 2002). In contrast, the UN Mission in the Sudan (UNMIS) was deployed under large number of total UN personnel in supporting the Naivasha Agreement, signed between the Sudan People's Liberation Movement (SPLM) and the government of Sudan on January 9, 2005.[1] In this case, since SPLM was strong enough to induce initial concessions from the government on future referendums, prospects for shifts in power decreased fears that parties would renege on terms. UN troops reduced the likelihood of potential attacks, and the implementation score of the peace agreement reached around 70 percent after 7 years.[2] These cases highlight the different types of commitment problems that peace processes attempt to resolve, and how these problems impact the effectiveness of UN missions to implement comprehensive peace agreements (CPA). In El Salvador, the fighting parties were open to the termination of the armed conflict and had no

[1] For peace agreement information, see United Nations Peacemaker https://peacemaker.un.org/. Information on UN missions was obtained from Kathman (2013).

[2] Information on implementation score was obtained from the Peace Accord Matrix Implementation Dataset (Joshi et al. 2015).

significant incentives to renege on the agreement, such as using the peace process to build more capacity in the future. El Salvador differs from many of the conflicts highlighted in the literature, where actors have incentives and willingness to create opportunities through the peace process to continue fighting. [3]

The extant literature argues that third-party interventions are effective when they address the commitment problems of implementing peace agreements (Walter 1997). Although commitment problems provide a compelling explanation for armed conflict recurrence and intractability, the concept aggregates situations where actors have different incentives to implement the provisions of peace agreements (Powell 2006). Thus, failures in implementation could often be beyond the control of signatories, especially in post-conflict societies where the level of mistrust is high (Fortna 2008). By disaggregating commitment problems in terms of actors involved, we explore why third-parties are often required and how they influence the implementation of civil war peace agreements.

Using Putnam's (1988) theory on the ratification process of international agreements, we argue that in intrastate armed conflict *involuntary and voluntary defection* lead to two different types of commitment problems. Voluntary defection is defined as a rational actor purposely reneging on a promise in the absence of enforceable contracts, while involuntary defection is conceptualized as an agent not being able to deliver on a promise in a failed ratification process (Putnam 1988). The case of El Salvador falls under the category of involuntary defection and an observer UN mission was sufficient to mitigate its effects and support the implementation of the Chapultepec Peace Accords. In contrast, South Sudan is a case of voluntary defection and fragmentation by rebels who are willing and able to renege

[3] For arguments on why actors renege on deals, see Fearon (2004), Powell (2006), Pugh (2009), and Walter (1997).

on agreements. An observer mission without deployment of peacekeepers would have been unsuitable for such a situation. In fact, the UN Mission in Sudan (UNMIS) required substantial military capability to enforce the mandate of the mission and mitigate the commitment problems created by voluntary defections.

In this article, we analyze the effectiveness of UN missions in terms of peace agreement implementation. We evaluate our claims using the Peace Accords Matrix Implementation Dataset (Joshi et al. 2015) from 1989 to 2010 and data on personnel commitments to UN peacekeeping operations (Kathman 2013). We show that higher numbers of UN personnel in a country increase the level of agreement implementation. In addition, we find that involuntary defections result in lower levels of implementation. Specifically, a country with polarized voting and electoral competition can lead to involuntary defections resulting in delayed implementation of peace agreements.

Our study contributes to research on conflict resolution by unpacking the causes of cooperation failure in the peace process. Previous qualitative studies have provided insights into how the United Nations influences the implementation of peace agreement based on selected cases (Paris 2009; Stedman et al. 2002). However, save for Joshi et al. (2017), there are very few systematic studies that examine UN involvement and implementation across all peace agreements. At odds with the insights from case studies, Joshi et al. (2017) establish a negative effect of UN peacekeeping on peace agreement implementation. We differ from Joshi et al. (2017) in distinguishing risk factors for involuntary and voluntary defections. We consider how such risk factors may be related to UN deployment, since there is strong evidence that UN missions are not randomly assigned (Andersson 2000; Fortna 2004, 2008; Gilligan and Stedman 2003; Gilligan and Sergenti 2008; Ruggeri et al. 2016). In addition, we unpack the UN involvement in terms of peacekeeping personnel deployment size and

political missions. After taking these aspects into account, we offer evidence that UN peacekeeping personnel are positively associated with peace agreement implementation.

2 Preliminaries

Most of the research on peacekeeping missions focuses on where peacekeepers go and whether peacekeeping missions are effective in containing conflict (Doyle and Sambanis 2006). There is significant evidence that the United Nations selects where to intervene. In addition to the economic and geopolitical interests of the Security Council P-5, previous studies show that UN missions tend to go to severe conflicts and -- once mobilized -- UN troops often deploy conflict-plagued locations (Andersson 2000; Fortna 2004, 2008; Gilligan and Stedman 2003; Gilligan and Sergenti 2008; Ruggeri et al. 2016). Comparative studies show positive effects of third-parties intervention on containing conflict and saving civilian lives. For instance, peacekeeping increases the duration of peace (Fortna 2004), a third-party enforcer decreases the likelihood of settlement failure (Hartzell et al. 2001; Hartzell and Hoddie 2003), and multilateral enforcement operations contribute to ending violence (Doyle and Sambanis 2000). When it comes to interventions by the United Nations, missions tend to enhance cooperation at the local level (Ruggeri et al. 2013) and to support post-conflict reconstruction (Gilligan and Sergenti 2008). Furthermore, UN peacekeepers reduce both civilian casualties (Hultman et al. 2014) and the likelihood of local conflict (Ruggeri et al. 2017).

Contrary to the research associating the United Nations with reduced levels of conflict, Joshi et al. (2017) indicate that UN peacekeeping has a negative impact on peace agreement implementation. One of the possible explanations that they suggest is that UN peacekeeping missions are designed to address security issues, and hence lack political mandates to have an influence on verification mechanisms (Joshi et al. 2017: 1009).

Much of the literature argues that UN interventions can make a difference because they mitigate commitment problems. In short, the problem of credible commitment may prevent a settlement to inefficient and costly civil wars, not because a Pareto-improvement settlement in principle could be found, but rather because one of the parties would have incentives not to abide by the settlement later (Fearon 2004). For example, rebels will be reluctant to accept a settlement if they fear that government will not keep their end of the bargain once they demobilize (Walter 1997). Such commitment concerns cause bottlenecks in peace agreement implementation, in terms of what policy provision (e.g. security sector reform or rebel disarmament) to implement first. Walter summarizes this issue as follows: "at their heart, commitment problems are problems of treaty enforcement" (2009: 251).

Even though commitment problems provide a compelling explanation for civil war persistence, it is not immediately clear why parties may have future incentives to renege on a negotiated settlement. A possible explanation is that after rebel groups lay down their arms, governments have incentives to renege on the peace deal and impose their demands (Walter 1997). In other words, commitment problems essentially concern future shifts in military capabilities (Powell 2006). According to Walter (1997), this enforcement problem of peace agreement provisions on rebel disarmament can only be overcome by third-party guarantors. While Fearon (2004) questions Walter's assumption that rebel disarmament is necessary for civil conflict resolution, he also argues that governments under conditions of crisis are more likely to offer concessions to armed, rather than unarmed, rebel groups. Once the crisis is over, governments possess incentives to renege in order to re-negotiate from a stronger position. Rebels calculate this future change in capabilities and conclude that the government cannot credibly commit to its end of the deal.

One way to mitigate commitment problems in the post-conflict reconstruction stage without third-party intervention is via costly signaling (DeRouen Jr. et al. 2009; Hartzell et al.

2001; Hoddie and Hartzell 2005; Kydd 2000). Kydd (2000) argues that mistrust and fear cause the core security dilemma. Only costly signals can reassure the fighting parties, while there is low trust in institutional reforms (Coyne and Boettke 2009). By applying this logic, Jarstad and Nilsson (2008) find that implementing costly provisions in peace agreements−such as military and territorial provisions−leads to longer-lived peace. Hoddie and Hartzell (2005) also argue that sharing or dividing military power provisions can be a credible signal of commitment to peace by signatories. Similarly, Joshi et al. (2017) suggest three types of built-in safeguards to mitigate commitment problems: transitional power-sharing arrangements, dispute-resolution mechanisms, and verification mechanisms. They show that higher implementation scores for these provisions result in higher overall peace accord implementation rates.

Yet, reneging on agreed terms cannot always be attributed to voluntary defection by the signing parties.[4] The implementation of peace agreements requires the involvement of other actors beyond the signatories, leading to different types of commitment problems. Failure to make such distinctions may relegate the notion of a commitment problem to a "catchall label" with limited analytical value (Powell 2006: 180). One of the challenges that scholars face in evaluating the effectiveness of UN involvement is the non-random assignment of interventions. According to Downs and Stedman (2002), "One should be cautious about interpreting data about trends in UN peacekeeping effectiveness as measured by mission accomplishment unless the nature of the mission is controlled for−something that is difficult to do and rarely attempted" (p. 53). To account for the nature of UN mission in terms of why parties require a certain kind of UN involvement in the first place, we use Putnam's logic (1988) to identify two different types of potential cooperation failures: *voluntary* and *involuntary* defections.

[4] Fortna (2008) discusses how accidents and unauthorized incidents can escalate war.

3 Theory

Putnam (1988) distinguishes *involuntary defection* from *voluntary defection* to unpack the ratification failures of international agreements. We argue that the distinction between voluntary and involuntary defection is highly relevant in the context of civil war peace agreements. To provide a motivating comparison, we consider 1974, which witnessed the collapse of two separate peace deals to resolve violent civil strife: the Sunningdale Agreement in Northern Ireland and the peace accord between the Saddam government and the Kurdish autonomy movement in Iraq. The British government and the Ulster Unionist Party leadership, both signatories to the Sunningdale Agreement, failed to implement the power-sharing agreement because of fierce opposition, especially by hardline loyalists. As a result, the British government imposed direct rule from London. On the other hand, the Saddam government deliberately reneged on its earlier promise to grant extensive autonomy to the Kurdish minority, and the regrouped Iraqi military secured a decisive victory against the Kurdistan Democratic Party forces (McDowall 2003). We posit that these two agreement failures follow separate paths that can be explained by distinguishing the risk of involuntary defection from voluntary defection. The severity of each type of defection risk influences the likelihood of a UN peacekeeping operation, as well as its effectiveness.

3.1 Involuntary defections as implementation failure

Although a civil war peace agreement is often between a government and a rebel group, implementation of the agreement requires the approval and compliance of other with-in party actors as well.[5] As Bueno de Mesquita et al. (2005) argue, all regimes, even the most

[5] Many scholars already highlight this property of civil war peace processes (e.g. Darby 2001; Höglund 2008). Darby (2001) conceptualizes successful civil conflict resolution as a compromise between the moderates of belligerent parties, reached by overriding the resistance of the zealots within each party.

individualistic authoritarian ones, are formed through a coalition of actors. The influence and interests of each sub-party within the ruling coalition vary during a peace process. For example, Wood (2001) shows that the gradual expansion of the influence of "economic elites", whose interests increasingly differed from "regime elites", eventually led to negotiated settlements in El Salvador.

During peace agreement implementation, actors who play a minor role during negotiations may become instrumental at the implementation stage. In other words, the interlocutors who negotiate an agreement and those who carry out policies are not necessarily the same. As such, implementation entails executing policies that require approval from multiple players with autonomous *de jure* or *de facto* authorization powers. Such actors may deliberately derail the implementation process or unintentionally fail to execute required policies leading to involuntary defections (Iida 1996).[6] We argue that the risk of involuntary defection becomes severe for two circumstances: a country with strong polarized voting or a country with limited state capacity.

First, countries with pre-existing ethnic or political alliances can produce different degrees of involuntary defections, because such alliances can affect voter choice. If voting outcomes reflect polarized voting rather than performance-based voting, the likelihood of involuntary defection increases. Thus, the lack of self-enforcing electoral mechanisms is particularly severe in countries with deep ethnic or ideological cleavages.[7] Sisk (1996) argues that electoral competition might be related to the survival of ethnic groups in some

[6] Stedman (1997) argues that implementation of accords can be affected by spoilers who are both inside and outside of a peace process.

[7] In terms of general self-enforcing electoral mechanisms, see Ferejohn (1986). In Ferejohn's (1986) model, voters only evaluate performance, which Ferejohn defines as "a product of policy and exogenous performance" (p.12).

countries. For example, in the Ivory Coast, ethnic politics impacted the multiparty elections before the civil war (Bah 2010; Toungara 2001; Woods 2003). Polarized voting can also occur without ethnic politics. Osei (2013) indicates that patronage can also be distributed to regions, religious communities, or social groups. In the case of Senegal, democracy is supported by an Islamic tradition that promotes pluralist clientelism (Mbow 2008). The Senegalese Democratic Party (PDS) won the 2000 election and unseated the Socialist Party (PS), which had been in power since independence in 1960 (Galvan 2001). The clientelist relations of the PS, which differs from the PDS, had a particular influence on how the public policy is carried out. For example, the National Domain Law was not implemented in 1964 because of the PS-valued clientelist relations with powerful landowners, such as Wolof marabouts and Tukulor *toorobe* (Beck 2008:182). The presence of local PS leaders also affected newly elected PDS's attempt to solve the conflict between the government of Senegal and the *Movement des Forces Démocratiques de la Casamance* (MFDC). In 1991, local PS leaders sabotaged the ceasefire between the government and MFDC despite the efforts by Marcel Bassène (Beck 2008).

If a conflict country is already an established democracy, self-enforcing mechanisms can work through electoral mechanisms. When citizens support peace deals, but elites fail to deliver on agreed policies, the public can choose not to re-elect the politicians as a punishment strategy. However, many civil wars occur in countries with weak institutions (Collier and Hoeffler 2004). In some cases, the current political system itself is the root cause of conflicts. Thus, self-enforcing mechanisms are insufficient or non-existent.[8] As a result, domestic actors might not comply with the agreed policies even if they do not actively seek to

[8] Sisk and Reynolds (1998) argue that multiparty elections often fail to introduce democracy in post-conflict environments and exacerbate multi-ethnic tensions.

defect from a peace agreement. States too weak to function and implement the peace agreement are often willing to request third-party involvement (DeRouen Jr. et al. 2010).

UN missions can increase the political space for peace-building by either replacing weak state institutions or by increasing local capabilities as part of a more permanent solution (Doyle and Sambanis 2000, 2006; Dorussen and Gizelis 2013). In the case of El Salvador, ONUSAL provided training and assistance for building the Policía Nacional Civil (PNC) and assumed some of the instrumental roles of the malfunctioning Supreme Electoral Tribunal (TSE), including compiling documents for voter registration (de Soto and del Castillo 1995; Montgomery 1995; Stanley and Holiday 1997). For Mozambique with no history of competitive elections before the 1994 multiparty election, drafting and adopting an electoral law required time, leading to implementation delays (Turner et al. 1998). To support the electoral process, The Electoral Division of the UN Operations in Mozambique (UNOMOZ) conducted process monitoring, including verification of the election administration (Turner et al. 1998).

Actors, who support an agreement, possess incentives to accept UN missions when there is a high risk of involuntary defection. As UN involvement significantly influences how governmental policymaking is carried out, constraints emerge with respect to policy deviations depending on who among the actors have control. For instance, UN Political Office/Observer Mission in Bougainville (UNPOB/UNOMB) oversaw weapon disposal plans in the Bougainville Peace Agreement, signed in 2001 between Papua New Guinea and the Bougainville Revolutionary Army (BRA). The weapon disposal plan involved three stages of implementation.[9] Each stage required constitutional amendments subject to approval by the

[9] Letter from the Secretary-General, 23 October 2001, http://www.un.org/en/ga/search/view_doc.asp?symbol=S/2001/988

national parliament. To minimize the danger of involuntary defection, each constitutional amendment required verification by UNOMB before going into effect.[10] Similarly, in the case of El Salvador, UN involvement prevented deviations in demobilization policy. After parties signed a peace agreement in 1992, the Alianza Republicana Nacionalista (ARENA) passed a law that would have extended the National Guard and Treasury Police (Call 2002). ONUSAL agreed on the FMLN's view that the law was a violation of agreed demobilization policy (Call 2002). In both cases, a relatively small UN mission was sufficient to overcome the risk of involuntary defection.

3.2 Implementation failure due to voluntary defection

Not all implementation failures happen due to involuntary defection. As shown by Saddam's decision to renege on Kurdish autonomy, those who negotiate an agreement may deliberately abandon their commitments. Voluntary defections occur through combinations of two paths: shifts in relative power and perceived violations of contracts.

In civil wars, voluntary defections are particularly relevant to negotiation settlements because shifts in power make players unable to commit to promises (Powell 1999). Peace agreements often include political and security reforms or power-sharing arrangements. Signing a peace agreement creates opportunities for rebels to access new resources originally unavailable if an agreement had not been signed. For example, rebel groups can be part of the central government with connection to other political parties or financial sources. Integration of rebel groups into national armies or security sectors leads to gains in information about fighting capabilities and military resources. Thus, while power-sharing arrangements mitigate

[10] The agreement specifically states that: "The Bills to amend the National Constitution will provide for the constitutional amendments to take effect on verification by UNOMB that the weapons are in secure, double locked containers under its supervision.", Letter from the Secretary-General, 23 October 2001, http://www.un.org/en/ga/search/view_doc.asp?symbol=S/2001/988

root causes of conflicts, they also create new opportunities for rebel groups that potentially lead to shifts in power and relative capabilities.

For this reason, most peace agreements include provisions for demobilization (Walter 2009). Once rebels are demobilized, rebel groups lose soldiers and weapons. For rebel groups to renege on the agreement, the window of opportunity is right before the demobilization process. Therefore, demobilization and disarmament are sometimes deployed prior to the implementation of power-sharing deals. In the case of the Good Friday Agreement, disputes regarding the decommission resulted in delays in disarmament. In fact, the delay in disarmament resulted in putting on hold the power-sharing government. Governments are hesitant to put power-sharing institutions into practice unless rebels are demobilized and disarmed. However, rebels are not inclined to demobilize and disarm unless there are guarantees to minimize the likelihood of a future attack.[11]

This explains why perceived violations of contracts can result in cooperation failure. A delay in disarmament of rebels can be interpreted by government as a violation of the deal. As a result, the government becomes hesitant to put power-sharing into practice, an action perceived by the rebels as a violation of the agreement. This dilemma leads both parties voluntarily to renege on the original agreement. In other words, if an actor ever detects a deviation from an agreed policy in a given period, then, in equilibrium, the other actor attacks in the same period (Schultz 2010).

In the case of voluntary defections, higher numbers of UN personnel signal greater capacity to deter potential attacks, thus, facilitating the introduction of power-sharing institutions even if demobilization and disarmament are delayed (Hoddie and Hartzell 2003; Ruggeri et al. 2016). Conversely, when the government has high leverage due to superior

[11] Previous literature also highlights such a security dilemma (Fortna 2008).

military capacity, the government can deter future rebel attacks without the help of UN troops.[12]

Based on our argument, we derive Hypothesis 1 on the presence of the UN mission and the accord implementation. We expect that large UN deployments increase overall accord implementation. Further, building on our theoretical work on involuntary defections, we derive Hypotheses 2a and 2b. Finally, we indicate Hypotheses 3a and 3b for voluntary defection:

Hypotheses 1: Higher numbers of UN personnel lead to a higher rate of overall implementation score.

Hypotheses 2a: Higher polarized voting results in a lower rate of overall implementation score.

Hypotheses 2b: Higher state capacity leads to higher rate of overall implementation score.

Hypothesis 3a: Anticipated shifts in relative power are associated with a lower rate of overall implementation score.

Hypothesis 3b: Higher government leverage leads to higher overall implementation score.

4 Research design and results

We have hypothesized that the higher risk of involuntary defections−a country with polarized society and a state with low bureaucratic capacity−leads to implementation delays. This section evaluates our hypothesis by examining if pre-agreement risk factors for involuntary

[12] Previous studies show that the United Nations is more likely to intervene when the government army is small (Gilligan and Stedman 2003; Fortna 2004).

and voluntary defections delay implementation, and if controlling for such defections UN missions are effective in achieving overall implementation of peace accords.

Our outcome variable is the comprehensive peace agreement implementation score. The Peace Accord Matrix Implementation Dataset provides information on the implementation of each provision in an agreement for each year for the first ten of the agreement (Joshi et al. 2015). The level of implementation has 4 ordinal categories (0 = no implementation, 1 = limited, 2 = medium, 3 = full). Following (Joshi et al. 2017), we first take the sum of all provision scores and then divide this figure by the maximum score possible (i.e., 3) to calculate a yearly implementation rate. For ease of interpretation, we turn this implementation rate into a percentage, ranging from 0 to 100. Peace agreements may have provisions regarding UN involvement, such as the deployment of UN peacekeeping. Such provisions were removed in calculating our implementation score.[13] In the empirical model, we include the lagged dependent variable to control for autocorrelation. Since the implementation score is incremental[14], the model includes y_{it-1} on the right-hand side of the estimating equation. In our study, the past implementation scores theoretically matter in explaining the process of accord implementation. Enhanced implementation score can imply that the state capacity has been improved. In addition, implementations without delay can signal the opponent about its willingness to stick to the deal, which further enhances mutual trust among conflict parties. Because including lagged dependent variable can cause bias (Keele and Kelly 2006), we conducted Dickey-Fuller test to uncover the presence of unit roots. Given the high p-value, we reject the null and obtained support for stationarity. In our

[13] Specifically, we remove provisions for UN peacekeeping and UN transitional authority. Information on these provisions is available in the original dataset (Joshi et al. 2015).

[14] In a study of budgetary process, Whitten and Williams (2011) also include the lagged dependent variable due to its incremental nature.

sample, there are 30 unique comprehensive peace agreements, and the time unit is a year. Although there are 34 unique comprehensive peace agreements (CPAs) in the original dataset, the sample is reduced to 30 due to missing values for covariates. The total number of observations is 251 after the deletion for missing values.[15] In the following subsection, we introduce the operationalization of each indicator.

4.1 Operationalization

UN missions: Our main explanatory variable is the total number of UN personnel. We use data on the log of UN personnel commitments to UN peacekeeping operations (Kathman 2013). Although Hultman et al. (2014) examine the effectiveness of UN missions on protecting civilians by disaggregating missions into troops, observers, and police, our analysis focuses on the total number of UN personnel because missions have multiple purposes at the implementation stage. As mentioned in the introduction, UN missions in El Salvador transformed a peacekeeping operation to a downsized mission (Call 2002). However, this small mission did not result in a reduction of the mandated aims. For instance, the Security Council Resolution 693 (1991) established ONUSAL as an integrated peacekeeping operation and was followed by the Security Council Resolution 729 (1992). The verification mandate had been strengthened in the Human Rights division, which ultimately led to an additional mandate in the military and police division.[16] This example illustrates that smaller missions do not necessarily lead to fewer mission mandates. Using the size of the mission in our analysis does not undermine our ability to compare the objectives

[15] Sample countries include Angola, Bangladesh, Bosnia, Burundi, Cambodia, Ivory Coast, Congo-Brazzaville, Croatia, Djibouti, Guinea-Bissau, Guatemala, India, Indonesia, Liberia, Lebanon, Macedonia, Mozambique, Nepal, Philippines, Papua New Guinea, Rwanda, South Africa, El Salvador, Senegal, Sierra Leone, Sudan, Tajikistan, and United Kingdom.

[16] See https://peacekeeping.un.org/en/mission/past/onusalbackgr2.html

of each mission in the context of peace accord implementation. In addition, because our samples include cases where UN missions have and have not been deployed, disaggregating missions by troops, military observers, and police may cause multicollinearity problems. Thus, we use the total number of UN personnel as the main explanatory variable.

As another indicator of UN missions, we include a dummy variable that takes the value 1 if there were interventions by UN political missions, and 0 otherwise. Information on UN political missions is collected from the UN website.[17] Political missions include observer missions (e.g. UN Observer Mission in Bougainville (UNOMB)), UN Political Office missions (e.g. UN Political Office for Somalia (UNPOS)), and peacebuilding missions (e.g. UN Peacebuilding Support Office in Guinea-Bissau (UNOGBIS)). Indeed, UN political missions may exist independent of military support. For instance, in the case of the peace agreement between the government of Guinea-Bissau and the self-proclaimed Military Junta, UNOGBIS was established without peacekeepers to facilitate a general election and to restore stability. This distinguishes what we measure as UN personnel, from what we measure as UN political missions. While the latter includes elements of a peacebuilding mission, such as providing technical support for constitutional reform, the former does not. We combine the information with provisions of peace agreements from PAM Dataset.

There were 12 out of 34 total comprehensive peace agreements (CPAs) for which UN political missions were deployed. The Online Appendix presents the names of these 12 comprehensive peace agreements, along with the associated UN political missions.[18] Although the presence of UN political mission is positively correlated with the total number of UN personnel, UN political missions also capture additional information that the total

[17] See http://www.un.org/en/sc/repertoire/subsidiary_organs/special_political_complete.shtml

[18] Further information on the comprehensive peace agreements and UN political missions are provided in the Online Appendix.

number of UN personnel does not reflect. For instance, there are 40 observations with 6 unique CPAs, where only UN political missions were deployed. Moreover, there are 41 observations with 13 unique CPAs, where troops, military observers, and police missions were deployed, without the establishment of UN political missions. Therefore, we estimate three models: Model 1 with the total number of UN personnel without political missions, Model 2 with the UN political mission dummy variable only, and Model 3 with both indicators. Although our main interest focuses on Model 3, intended to capture the effects of peacebuilding missions as well as troops, military observers, and police missions, we also report individual effects from Models 1 and 2 to account for multicollinearity.

Involuntary defections: To measure the risk factors for involuntary defections, we use two indicators: polarized voting and state capacity. For polarized voting, two indicators are included in the model: the electoral component index from V-Dem Dataset version 7 and the distribution of political power among social groups (Coppedge et al. 2017; Pemstein et al. 2018). Smaller values for this latter variable, *social groups power,* indicate that political power is not equally distributed across social groups. In other words, if the distribution of political power is associated with social groups in a country, this variable takes a higher value. For instance, sample countries that have the five smallest values of this variable are South Africa, Sudan, Angola, Cambodia, and Guatemala, while sample countries that have the five highest values of this variable are Ivory Coast, Senegal, India, Papua New Guinea, and Sierra Leone. The latter countries are potentially highly polarized. The complete information on the corresponding countries for this indicator is included in the Online Appendix.

In terms of an indicator for state capacity, the literature on civil conflicts uses a wide range of measurements. In relation to UN missions, Doyle and Sambanis (2000) employ GDP

per capita, energy consumptions, and natural resource dependence as state capacity indicators. Fearon and Laitin (2003) also use GDP per capita as a proxy for state capacity in explaining civil war onset. Hendrix (2010) argues that GDP per capita is highly correlated with the rational legality of the state, which captures bureaucratic and administrative capacity. Since we are interested in deviations from the agreed policies in CPA, captured by the CPA implementation rate, we use GDP per capita data to proxy the bureaucratic and administrative capacity of the state, based on the data by Haber and Menaldo (2011).[19] In the model, these involuntary defection indicators are fixed at one year before the signing of the CPA, because political institutions could change during the process of implementing the CPA.

Voluntary defections: To test two hypotheses related to voluntary defections, we operationalize prospects for shifts in relative power as an interaction between pre-accord territorial control status and post-accord power-sharing arrangements. The pre-accord territorial control (*territory*) is measured using the Non-State Actor Dataset (Cunningham et al. 2013). For any rebel groups that become inactive in a given year, we rely on information from the group's last active year.[20] Regarding the power-sharing arrangement provisions (*PS provision*), we take information from the PAM_ID Dataset. In our measurement, the variable takes the value 1 if the accord included provisions for territorial or transitional power-sharing government arrangements, and 0 otherwise. Interaction between the two variables *territory* and *PS provision* captures combinations of prospects for shifts in power. For example, when rebel groups control territory as a pre-accord status, and this power is maintained, the peace

[19] We use estimates for the Northern Ireland in the case Good Friday Peace Agreement because UK's GDP per capita is very high compared to other cases in our sample. We follow a similar approach for the Bodo Accord (India), and apply values for the state of Assam.

[20] Details are available in the Online Appendix.

agreement prospects might be more stable than in the absence of the power-sharing arrangement.

To test the hypothesis related to government leverage, we follow the procedure by Ruggeri et al. (2013). Specifically, leverage is measured as the ratio of government forces to total forces (the sum of government and forces). We use the Correlates of War Project National Material Capabilities (NMC) Data Version 5.0 to collect information on government military personnel. Each rebel group's forces estimate is obtained from the Non-State Actor Dataset (Cunningham et al. 2013). Since our models control for battle-related deaths in a given year, our model can account for whether the conflict was active or inactive. The information on battle-related deaths comes from the UCDP Battle-related Deaths Dataset version 17.2 (Allansson et al. 2017).

In addition, we control for population size, extracted from Haber and Menaldo (2011) dataset, because larger populations are associated with an increased likelihood of civil war onset (Collier and Hoeffler 2002, 2004) and higher levels of violence (Hultman et al. 2014).[21] Civil war peace agreements are likely to give rise to opposition by those who prefer the continuation of conflict, and such actors may carry out spoiler violence to derail the peace process (Stedman 1997). Our models include a time-variant, battle-related deaths variable at the country level to capture whether the implementation stage is spoiled by violence. As additional control variables, we use the log of time from the onset of the conflict to control the effect of the duration of war on UN intervention (see Gilligan and Stedman 2003). Finally,

[21] Following on the adjustment for GDP per capita (see footnote 20), we used the population of Northern Ireland for the Good Friday Agreement and the state of Assam for India. Details are available in the Online Appendix.

the number of rebel groups is also included as a control variable.[22] Descriptive statistics of all covariates are available in the Online Appendix.

4.2 Results and discussions

Table 1 presents results for linear regression models with panel-corrected standard errors (PCSE) for comprehensive peace agreement implementation scores. Time-series cross-section data display both contemporaneous correlation across units and unit-level heteroskedasticity (Bailey and Katz 2011). Following Beck and Katz's (1995) recommendation, panel-corrected standard errors are derived after estimating the linear regressions. Because our samples are unbalanced, we calculate the elements of contemporaneous pairwise correlation.[23] Given that our main results are consistent across models, we present the linear regression with PCSE as the main model due to simplicity in interpretation.[24] In Table 1, Model 1 includes total UN personnel as the main explanatory variable. Model 2 then replaces total UN personnel with the UN political mission dummy variable. Finally, Model 3 includes both total UN personnel and UN political mission variables.

As anticipated, Table 1 shows that the lagged implementation score has a positive effect on the implementation score across all models, suggesting that the implementation process for peace accords is incremental. To test Hypothesis 1 that higher numbers of UN personnel lead to higher overall implementation scores, we plot changes in the expected value of implementation scores (%) with respect to different log values of UN total personnel in Figure 1(a). The values are obtained through 1000 simulations from Model 3, with values of

[22] In the case of India, we only measure rebel groups active in the Assam region because measuring the entire country includes many irrelevant groups.

[23] Models are implemented by using the xtpcse package in Stata.

[24] We present full results in the Online Appendix.

other variables held at their means.[25] When there are no UN troops, military observers, or police deployed, the estimated implementation score is 69.60% on average with 95% confidence interval of [68.16, 70.90], while it is 70.96% on average with 95% confidence interval of [69.79, 72.15] when the 75th percentile values of UN total personnel[26] is deployed, contradicting findings from Joshi et al. (2017).

The indicator for UN political mission is not significant in Models 2 and 3. To summarize the implications of this finding, we observe evidence that UN peacekeeping is associated with higher agreement implementation; however, we do not find support that UN involvement without peacekeepers has a similar impact. The positive impact of UN peacekeepers is in line with our expectation that the ability of peacekeeping to address security issues also helps with verification mechanisms (cf. Joshi et al. 2017). Future research may further investigate the impact of UN political missions, especially by unpacking the characteristics of the mission and moving from a dichotomous variable to a finer-grained measurement.

Estimating the relationship between UN peacekeeping and agreement implementation is notably challenging due to selection mechanisms. A widely recognized hurdle is that UN peacekeeping missions are not assigned randomly (Andersson 2000; Beardsley 2011, 2013; Fortna 2004, 2008; Gilligan and Stedman 2003; Gilligan and Sergenti 2008; Ruggeri et al. 2016). UN peacekeepers are probably assigned to hard-to-resolve cases and deployed to locations where fighting occurs (Gilligan 2003, Joshi et al. 2017, Ruggeri et al. 2016). We might be underestimating the impact of UN peacekeepers on agreement implementation if

[25] For combinations of territorial control and power-sharing provisions, the most frequent combination (territorial control = 0, PS provision=1) are plugged into the equation.

[26] The 75th percentile value of total UN personnel is 59.79 (thousands), thus, we calculate the case of the log of UN personnel equal to 4.

our models fail to account for the underlying characteristics of a conflict, where UN peacekeepers are likely to be deployed, that influence its resistance to resolution. Our theoretical framework attempts to address this problem by identifying the risks of voluntary and involuntary defection. Nonetheless, we acknowledge that it might not be possible to comprehend fully the factors that render a conflict resistant to resolution, and we might be underestimating the true impact of UN peacekeepers.

Another selection mechanism is that not all bargaining processes conclude with an accord, and UN involvement is likely to influence the probability of having a comprehensive peace agreement. The United Nations is heavily biased toward finding a negotiated settlement due to its desire to promote peace and stability (Beardsley 2012). Such a bias toward peace is likely to generate artificial incentives and result in agreements that are hard to implement in the long run (see Beardsley 2008). In other words, belligerents might reach deals that are too complex to be carried out in a durable manner. Such overly ambitious agreements would not be reached without the influence of the United Nations. As a result, the United Nations is likely to enable difficult-to-implement agreements in spite of the high likelihood of failure. We are, therefore, apt to underestimate the true impact of UN peacekeepers on peace agreement implementation because of our inability to distinguish the negative selection impact of the UN involvement during the pre-accord phase.

[Table 1 about here]

Next, we discuss results for the involuntary defection indicators. The results partially support Hypothesis 2a that higher polarized voting leads to a lower rate of implementation

score. When a country's political power is distributed across social groups, compared to a country with monopolized political power, the level of overall peace accord implementation is smaller (significant at 95% confidence level in all models). The finding reflects cases such as the Ivory Coast where ethnic voting has an influence on multiparty elections (Bah 2010; Toungara 2001; Woods 2003). Thus, our findings suggest that group dynamics leading to involuntary defections will impact both the likelihood of war and the failed implementation of an accord. However, for electoral democracy, we cannot reject the null hypothesis in all models.

In terms of the impact of state capacity on implementation (Hypothesis 2b), our findings are not very robust. Models 1 and 3 show that GDP per capita displays positive effects in this sample, but only at the 90% confidence interval level. Given the direction of this effect, the finding is in line with that of DeRouen Jr et al. (2010), who report a positive effect of high state capacity on accord implementation. Because GDP per capita proxies bureaucratic capacity (Hendrix 2010), disaggregating bureaucratic capacity might help clarify the relationship between bureaucratic capacity and accord implementation in future analysis.

[Figure 1 about here]

Next, we investigate voluntary defection indicators. Higher leverage leads to higher overall implementation scores (significant at least at the 95% confidence level in all models). Combined with our finding about the UN total personnel, the results generally support theories of deterrence in which a greater number of military troops can deter potential attacks. Regarding prospects for shifts in relative power, we partially obtain statistical support for Hypothesis 3a. Figure 1(b) shows how the marginal effect of pre-accord territorial control by rebel groups on CPA implementation changes depending on post-accord, power-sharing arrangements. When rebel groups possess territorial control before the peace accord and this

status is maintained with post-accord power sharing, the implementation scores reach 2.38 percentage points higher on average, with the 95% confidence interval of [2.01, 2.70], than a hypothetical case where no power-sharing is guaranteed. Further investigation is required to conclude that this is due to a shift in power. The opposite direction of power shift (no pre-accord territorial control, but post-accord power-sharing arrangements) results in higher achievement of implementation scores than maintaining the status quo (no pre-territorial control and no power-sharing arrangements).

Control variables also provide insights into challenges of accord implementation. The number of rebel groups is negatively associated with implementation score at the 99% confidence level. The results consistently show that the longer the conflict, the lower the levels of implementation score (significant at the 99% interval). This is in line with our theoretical expectation that mistrust can lead to cooperation failures even when the parties have agreed on the terms of the agreement. Longer conflicts fuel mistrust among actors, creating conditions where perceived violations of contracts can lead to voluntary defections and ultimately failures to cooperate and implement the CPA.[27] This finding highlights the dilemmas of finding a settlement; negotiated settlements are more likely to occur when parties reach a hurting stalemate (Zartman 2008). However, long-lasting conflicts often lead to rigid socio-psychological structures that communities and elites use to frame interactions with opponents. Such hardening of perceptions and interpretation of experiences leads to further mistrust, rendering the implementation of accords difficult (Bar-Tal 2007).

For robustness, we adopt several alternative estimation strategies, which are presented in the Online Appendix. First, we employ a random effects models, which yield results consistent with the main analysis. Next, to account for potential Nickell (1981) bias, we use

[27] For emotions in conflicts and socio-psychological structures, see Bar-Tal (2007) and Halperin (2008).

the System Generalized Method of Moments (GMM), proposed by Arellano and Bover (1995) and Blundell and Bond (1998).[28] The positive and significant effect of total UN personnel on implementation scores remains robust. To check for serial correlation in the error term, we examine the second-order correlation in differences, and our model reports p-value greater than 0.1 for autocorrelation test (Arellano and Bond 1991), implying no second-order serial correlation. In addition, to ensure that the instruments are not correlated with the error term, we employ the Hansen-Sargan test of over-identifying restrictions (Hansen 1982; Sargan 1958), where we obtain high p-values, supporting the instrumental validity. However, there is a concern for the number of instruments used for the system GMM. Because these robustness checks are in alignment with the results from linear regression models with PCSE, the simple model is presented as the main table.

5 Conclusion

In this paper, we investigate whether third-parties, specifically the United Nations, make a difference in the implementation of peace agreements. Using the logic of Putnam (1988), we develop a theoretical framework to unpack the commitment problems that emerge during peace accord implementation. We identify two separate inhibiting processes: involuntary and voluntary defections. While most of the literature on civil wars predominantly focuses on voluntary defections for which actors have an incentive to renege on agreements, our theory suggests that involuntary defections matter a lot in policymaking through the implementation process. We emphasize two processes where we can observe involuntary defections and deviation from agreed policies in CPA: when a country is highly polarized and when the state capacity is low. We also argue that UN missions can address such policy deviations through

[28] Because of time-invariant variables and relatively small number of time-series observations, we use the system GMM instead of fixed effects.

oversight mechanisms, as the Bougainville Peace Agreement (UNPOB/UNOMB) or Chapultepec Peace Agreement (ONUSAL) illustrate.

Our empirical findings support our theoretical claims. First, overall UN missions increase the likelihood that peace accords will be implemented. This finding is contrary to insights by recent quantitative studies (Joshi et al. 2017). By unpacking the types of commitment problems emerging in the implementation phase of a peace agreement, our findings suggest that involuntary defections can be a much more serious challenge to the implementation of peace agreements. Although such pre-existing social structure might not be apparent before the administration of elections, we develop a framework to further explore and unpack potential risks of deviation from the implementation process around the time of elections. Third, during the post-conflict phase, policies to enhance the bureaucratic capacity of a state are important to establish self-enforcing peace. On the other hand, as has seen in many civil conflicts, weak state capacity is itself a major cause of conflict. Considering the effectiveness of third-parties in terms of enhanced bureaucratic capacity may help to explain peace process commitment problems more thoroughly.

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Table 1 Linear regression models with PCSE for comprehensive peace agreement implementation scores

	Implementation Score					
	Model 1		Model 2		Model 3	
y_{t-1}	0.810	(0.029)***	0.796	(0.029)***	0.810	(0.028)***
ln UN total	0.335	(0.095)***			0.338	(0.097)***
UN political mission			0.274	(0.895)	0.465	(0.853)
ln battle deaths	-0.200	(0.183)	-0.240	(0.182)	-0.175	(0.181)
ln GDP p.c.	1.140	(0.677)*	0.970	(0.604)	1.180	(0.667)*
ln population	-0.402	(0.364)	-0.536	(0.389)	-0.453	(0.407)
Electoral index	-2.666	(2.045)	-2.804	(2.180)	-2.605	(2.071)
Social groups power	-1.340	(0.638)**	-1.478	(0.612)**	-1.361	(0.630)**
ln conflict duration year	-1.303	(0.403)***	-1.168	(0.430)***	-1.205	(0.435)***
Leverage	6.640	(2.058)***	5.140	(2.167)**	6.691	(2.109)***
Number of rebel groups	-2.275	(0.386)***	-2.244	(0.396)***	-2.253	(0.393)***
Territory =0, PS provision =1	6.513	(1.048)***	6.418	(1.104)***	6.279	(1.134)***
Territory =1, PS provision =0	3.868	(1.207)***	3.776	(1.232)***	3.748	(1.273)***
Territory =1, PS provision =1	6.342	(1.337)***	7.307	(1.225)***	6.131	(1.316)***
Constant	14.063	(7.841)*	20.005	(7.784)***	14.320	(7.960)*
Observations	251		251		251	
R^2	0.928		0.923		0.930	

*p < 0.1; **p < 0.05; ***p < 0.01

Fig. 1 Plots for effects of UN total personnel on implementation score (%) with 95% interval, obtained from Model 3 (Left pane). The right-hand figure shows how predicted values of implementation score (%) changes depending on combinations of territorial control status and power-sharing arrangements. The dashed line presents 95% interval. Coefficients were simulated 1000 times from multivariate normal distribution with μ = point estimates, Σ = variance covariance matrix.