PRESENTATION

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ASSESSING THE IMPACT OF ECONOMIC ASSISTANCE ON AFRICAN PEACE PROCESSES: A Quantitative Approach

Going beyond brief illustrations of the various foreign assistance patterns and their impact on peace, it is desirable to search deeper for generalizations about the economic aid-peace relationship. This paper analyzes several hypotheses statistically and provides a more detailed assessment of this issue. Before going on to the quantitative analysis, however, I would like to discuss the data and the key variables operationalized in this study.

The quantitative approach used here includes seventy-one peace processes from intrastate conflicts across all of Africa between 1989 and 2006. Low intensity civil conflicts are also included in the dataset (i.e., where have been at least twenty-five battle deaths in a given year). This takes account of conflicts in Casamance (Senegal) or Northern Niger, for example, even though they do not meet the one thousand battle-death threshold used in datasets such as the

Correlates of War. To make it in the dataset, there has to have been an active peace process, regardless of its outcome. Accordingly, the study derives case information from the Uppsala Conflict Data Program's (UCDP) "Armed Conflict and Peace Agreements" dataset (Hogbladh 2011: 99). The UCDP database began providing information on its cases in 1989, the starting point for the analysis in this study. As indicated earlier, there is also a theoretical reason for this start date, beyond the availability of data. Primarily, after the end of the Cold War, there has been an upsurge in the amount of intrastate conflicts in which peace has been attempted through bargaining, especially in Africa. I have chosen to end the analysis with cases from 2006 in order to allow for the availability of ten years of economic assistance data following each peace accord. This allows me to examine the immediate aid trajectory after the attainment of an agreement and compare this post-conflict assistance pattern with that from the five years before the accord. In all, this study analyzes ten years of data. This study uses aid data from the OECD-DAC. The OECD data is helpful due to its ease of manipulation and completeness of coverage of most major development assistance providers, as well as across the time period in question.

The dataset used here examines five years of Official Development Assistance (i.e., ODA net, excluding any debt relief, using 2010 constant US$) figures from all OECD-DAC donors, starting with the year of the peace agreement and continuing four years beyond it. The percent increase in ODA net from these five years after the peace accord (including the accord year), compared with the ODA net provided in the five years before the accord, represents the critical independent variable used in this study. This allows the study to judge if a peace incentive is present in a given case, and what impact

it had on the dependent variable, or the sustainability of peace after an agreement.

Dependent Variable

It is expected that a peace incentive, a large aid package distributed along the lines of pattern 1 cases, should help former belligerents maintain peace beyond five years (Licklider 1995: 683; Hartzell 1999: 12; Walter 1997, 2002; Hoddie and Hartzell 2003). Accordingly, the dependent variable used in this study codes peace agreements as being successful (1) if peace is maintained for at least five years (i.e., no new outbreak of intrastate conflict) after the accord. The cases in which a peace agreement does not succeed in this manner are coded with a zero (0). This variable is drawn from the Center for Systemic Peace's (CSP) "Major Episodes of Political Violence: 1946-2012." The data is used to determine the end dates of the conflicts examined in this analysis (Center for Systemic Peace 2014). The CSP provides an easily accessible, regularly updated, and comprehensive list of the episodes of major armed conflict for the time period in question in this research. This research compares the date of a given peace agreement and the conflict dates in the CSP list.

Independent Variables

The next step in this study is to explore the data for relationships between the dependent variable (i.e., the success or failure of a peace process to end the conflict for at least five years) and post-conflict aid distributions, while controlling for several key variables found frequently in the relevant literature. The objective is to test

the strength of the argument that economic assistance matters. However, before directly going on to the statistical analysis, I first will discuss the independent variables used in this study and their operationalization. This study puts forward six explanatory factors for consideration: 1) aid change, 2) conflict magnitude, 3) state capacity (GNP/capita and infant mortaility), 4) freedom house (level of democracy), 5) peacekeeping (PKO and PKO under Chapter VII Mandate), and 6) military victory and peace agreements.

Aid Change is the change in donor economic assistance before and after a peace agreement. This research includes the peace agreements in Africa from 1989 to 2006, provided in appendix 1. This variable compares the total ODA net flows from all OECD/DAC donors for economic aid over five years before any particular peace agreement, compared with the five years of total aid flows following a given agreement. It is argued here that a substantial increase in economic assistance after an agreement vis-à-vis the economic aid levels before the agreement (i.e., a peace incentive) should have a positive impact on the longevity of peace. That is to say, a positive aid distribution pattern present in aid pattern 1 should increase the likelihood that peace will last beyond five years.

- Conflict Magnitude

In high magnitude conflicts, the influx of a large economic aid package should increase the success of a peace process and lower the likelihood the conflict will reoccur. High magnitude conflicts may facilitate what I. William Zartman (1989) refers to as “ripeness,” or the readiness of the various warring factions to come to the bargaining table. A mutually hurting stalemate that may emerge from a high magnitude conflict can help bring exhausted former warring parties

towards peace, such as in places like Sudan (North-South conflict) after decades of civil war. T. David Mason and J. Michael Quinn (2006) agree with this and argue that long, intense civil conflicts create doubts in the minds of the former warring parties about their ability to win, thus encouraging peace and the desire to settle their differences off the battlefield. To test this hypothesis, I operationalize the CPS' s score for the conflict magnitude of societal-systemic impact data as an important control variable.

This score is a scaled indicator of the "destructive impact, or magnitude, of the violent episode on the directly-affected society or societies on a scale of one (smallest) to ten (greatest). Magnitude scores reflect multiple factors including state capabilities, interactive intensity (means and goals), area and scope of death and destruction, population displacement, and episode duration" (Center for Systemic Peace 2014). This research uses the CSP data because it provides a relatively consistent measure across the cases involved, allowing for a more straightforward statistical analysis.

- State Capacity (GNP/Capita and Infant Mortality)

Low levels of state capacity and poor economic conditions (measured by GNP/capita and infant mortality) are expected in the literature to decrease the likelihood that a given peace process will be successful and end conflict beyond five years (Collier and Hoeffler 1998, 2004; Doyle and Sambanis, 2000; Fearon and Laitin 2003; Sambanis 2004). Studies by Ibrahim Elbadawi and Nicholas Sambanis (2002) and Barbara Walter (2004) also find that high infant mortality rates and low levels of wealth in the aftermath of war closely relate to the outbreak of further warfare after a peace. In light of this, it makes sense that significant amounts of aid may help facilitate peace and

act as a positive incentive to convince warring parties to bargain over the end of warfare. This study uses data from the World Bank World Development Indicators for these two variables.

- Level of Democracy (Freedom House Scores)

There is an expectation that higher levels of democratic governance are likely to reduce the probability that fighting will recur after the achievement of a peace agreement (Hegre et al. 2001). In theory, democratic regimes should provide a more stable framework for bargaining, on which new, more inclusive institutions can be built (Hartzell and Hoddie 2007). Accordingly, Ted Gurr (2000) argues that democratic institutions are less exclusionary and can help channel and resolve conflicts before they become violent. Also along these lines, Karl Derouen, Jenna Lea, and Peter Wallensteen (2009: 379) note that democracies are typically more efficient and address grievances better and therefore should diminish the likelihood of civil conflict, let alone its reoccurrence. Freedom house democracy scores are used in this study to determine the importance of these factors and how they interact with peace incentives empirically. For the statistical analyses, the two main freedom house variables, those for “political rights” and “civil liberties,” are added together and divided by two, providing a single seven-point democracy indicator. This explanatory variable ranges from one, or “free” and democratic, to seven, indicating “not free” and authoritarian. This study uses freedom house data due to its ease of access, but also because of the fact that the dataset is updated annually, providing better coverage over the time span in question here.

- **Peacekeeping Operations (PKO and PKO under Chapter VII Mandate)**

It seems logical to argue that the intervention of peacekeeping forces (i.e., the United Nations, major powers, regional bodies, sub-regional actors, etc.) should help maintain peace after the achievement of a peace agreement, mainly because outside third parties can help the warring parties sustain peaceful relations. Peacekeeping operations provide information to the warring parties, separate belligerents, monitor ceasefires, maintain buffer zones, and enhance the general security situation in post-conflict situations (Heldt 2008: 1). This assumption has been a part of the literature for quite some time now (Touval 1982). Barbara Walter (1999) provides the clearest reasons for this. She states that external third parties, such as the United Nations, help raise the likelihood of peace because the interveners help provide credible commitments to support and enforce the terms of an agreement. Peacekeeping forces facilitate the settlement of the conflict by reducing the fear among warring parties that the other side will cheat and use the negotiating process to rearm and potentially take the upper hand. Michael Doyle and Nicholas Sambanis (2000: 795) go even farther and conclude that "[p]eacemaking aimed at facilitating a peace treaty is potentially lifesaving" and can "help secure longer term peace." Virginia Fortna (2003: 111) supports this hypothesis, indicating that "peace lasts longer when peacekeepers are present than when belligerents are left to their own devices. In other words, peacekeeping works." The data for this variable is drawn from data sets at the Stockholm International Peace Research Institute (SIPRI), most notably the "Multilateral Peace Operations Database," along with data available from the Réseau de recherche sur les opérations de paix (ROP)-Université de Montréal. It is coded as a dichotomous variable (i.e., one is given for when

a United Nations or other multilateral peacekeeping operation is present after a conflict and zero for no peacekeeping operation).

However, it is important to note that multilateral peacekeeping forces frequently deploy in very difficult situations, sometimes during continuing violence. 3 To complement the variable indicating the simple presence, or not, of peacekeeping troops, I also operationalize a variable that asks if the particular peacekeeping mission was deployed under a United Nations Chapter VII Mandate, authorizing the use of force to maintain the peacekeeping mission's objectives. The information for this explanatory factor is from the United Nations Department of Peacekeeping Operations website.

- Military Victories and Peace Agreements

Furthermore, it is necessary to consider an additional factor concerning military victories and the resolution of civil conflicts. A number of very high magnitude conflicts such as those in Angola or Ethiopia ended in military victories on the battlefield, followed by peace agreements. To address this, I use Monica Toft's (2004) dataset considering the cases of peace after military victory to determine this variable.

Empirical Analysis

In total, this study analyzes fifty-three African countries across twenty-two years of data (1989-2010). 4 This makes for a dataset with 1,166 observations. However, a number of the explanatory variables are missing data, slightly reducing the total number of observations. This missing data problem is due to the fact that with some cases, such as Somalia, data does not exist on a number of variables during

the time period in question. Regardless of this inconvenience, such longitudinal data (cross-sectional and in time series form) requires the use of particular statistical techniques that can consider relationships measured across time and space, as with the current study. However, before turning to this, I would like to discuss a particular problem that confronts some of the variables in this particular dataset. It is necessary to point out that on initial examination of the data, it appears that several independent variables correlate highly with one another. It is necessary to target correlations near 0.5 or higher for separate statistical analysis in this study. These relationships include peacekeeping and conflict magnitude, infant mortality and GNP/capita, as well as peacekeeping and peacekeeping under a Chapter VII Mandate.

In total, this study uses six different groupings of the eight variables due to this inter-correlation problem. First, a change in economic aid around the time of a peace agreement is analyzed on its own. Second, I examine the entire group of variables together, regardless of inter-correlations. Third, two groups of variables interfere with the statistical analysis due to high inter-correlation. For logical reasons both infant mortality and GNP/capita are highly related, high incomes frequently lead to low levels of infant mortality (although this is not always the case, such as with Equatorial Guinea, which has high levels of GNP/capita, but also relatively high infant mortality due primarily to massive income inequalities). This requires running models alternating each of the two variables. Finally, it also seems evident that the variable for peacekeeping and peacekeeping under a Chapter VII Mandate correlate highly with each other. Again, this makes it necessary to analyze separate models alternating these two explanatory factors.

In addition to running a number of different combinations of variables, a selection of different statistical techniques is used to analyze the data, including several types of Ordinary Least Squares (OLS) and logistic regressions. However, because the dataset is made up of longitudinal data, a Generalized Least Squares (GLS) random-effects regression is used to analyze the data (using STATA' s xtreg command, with the re command for random effects). This technique takes cross-sectional data and time into consideration and therefore is determined to be the most appropriate. A straightforward OLS regression or even a logistical regression would not be able to take into consideration the fact that since the variables are grouped by country and year, meaning that the observations within each group are somewhat related to each other, they violate a key assumption of OLS and logistical regression techniques. This GLS type of analysis is frequently used to address these types of situations. The statistical results from these tests are available in Tables 1, 2, and 3 below.

Table 1: GLS Regression Analysis – Aid Change & Full Model

	MODEL 1 (n=1166)			MODEL 2 (n=1086)		
	Coeff.	S.E.	Sign.	Coeff.	S.E.	Sign.
Aid Change	0.0012	0.0001	***	0.0012	0.0001	***
Conflict Magnitude				0.0010	0.0026	***
GNP/captia				3.54E-07	2.06E-06	
Infant Mortality				0.0001	0.0001	
Freedom House (average of the political rights scores and civil liberties scores)				-0.0024	0.0023	
PKO				0.0428	0.0137	**
PKO under Chapter VII Mandate				-0.1154	0.0243	***
Military Victory and Accord				0.0224	0.0095	*
Constant	0.0111	0.033	**	0.0027	0.014	
Note: * = p < .1, **= p < .05, *** = p < .01	R-sq = 0.1531			R-sq = 0.1987		

Table 2: GLS Regression Analysis – Removing GNP/Capita & Infant Mortality

	MODEL 3 (n=1150)			MODEL 4 (n=1087)		
	Coeff.	S.E.	Sign.	Coeff.	S.E.	Sign.
Aid Change	0.0012	0.0001	***	0.0012	0.0001	***
Conflict Magnitude	0.0084	0.0024	**	0.0102	0.0026	***
GNP/captia				-6.86E-07	1.77E-06	
Infant Mortality	0.0001	0.0001				
Freedom House	-0.0022	0.0022		-0.0021	0.0023	
PKO	0.044	0.0131	***	0.0434	0.0137	***
PKO under Chapter VII Mandate	-0.1046	0.0229	***	-0.1119	0.0241	***
Military Victory and Accord	0.0256	0.00934	*	0.0234	0.0095	
Constant	0.0046	0.0116		0.0104	0.0116	
Note: * = p < .1, ** = p < .05, *** = p < .01	R-sq = 0.1918			R-sq = 0.1980		

Table 3: GLS Regression Analysis – Removing PKO & Chap. VII Mandate

	MODEL 5 (n=1092)			MODEL 6 (n=1086)		
	Coeff.	S.E.	Sign.	Coeff.	S.E.	Sign.
Aid Change	0.0012	0.0001	***	0.0012	0.0001	***
Conflict Magnitude	0.0116	0.0025	***	0.008	0.0026	**
GNP/captia	8.18E-08	2.06E-06		-2.97E-07	2.08-06	
Infant Mortality	0.0001	0.0001		0.0000	0.0001	
Freedom House	-0.0021	0.0023		-0.0016	0.0023	
PKO				0.0181	0.0128	
PKO under Chapter VII Mandate	-0.0853	0.0225	***			
Military Victory and Accord	0.0237	0.014		0.0186	0.0096	
Constant	0.002	0.014		0.0062	0.0141	
Note: * = p < .1, ** = p < .05, *** = p < .01	R-sq = 0.1909			R-sq = 0.1820		

Discussion of Statistical Findings

Several interesting observations emerge from these statistical

analyses. To begin with, take into consideration Model 1, which only considers the statistical relationship between the change in aid levels before and after a peace agreement with the prospect of civil conflict reoccurring within five years. The aid change variable is positive and highly significant, although the coefficient is rather small. Nonetheless, with an overall R-square value of 0.1531, Model 1 points out that the aid change variable provides most of the explanatory power in the study. The other five models only provide R-square statistics between 0.1820 and 0.1987. This makes it easy to argue that the other seven independent variables add only a marginal amount of explanatory power to the equation. This leads to the first and perhaps most important conclusion of this study. That is to say, donor economic aid appears to play a positive role in supporting peace processes. Policy makers should consider this when trying to stop civil conflicts from reoccurring. Peace incentives matter in helping to facilitate a lasting end to conflict.

Furthermore, when considering the full set of variables in Model 2, it is important to notice that several other variables beyond aid change are significant and have an impact on the likelihood of peace in these African cases. These include conflict magnitude, PKO, and PKO under Chapter VII Mandate. Concerning conflict magnitude, which is positive and highly significant, the statistical tests used in this study support the hypothesis advanced here that as a given conflict increases in severity, the likelihood of it being terminated, and remaining terminated past the five year threshold, is high, especially when supported with aid incentives in the form of a peace incentive.

Finally, the two independent variables related to peacekeeping in the analysis appear to be statistically significant, however, they go

in opposite directions (i.e., PKO is positive and PKO under Chapter VII Mandate is negatively related to the dependent variable). This leads to several interesting observations. First, the presence of peacekeeping troops in a given post-conflict situation in Africa could be interpreted as having a positive and significant impact of the likelihood of the maintenance of peace for at least five years after an agreement. However, an even stronger (yet negative) statistical relationship is present with the deployment of peacekeepers under a Chapter VII Mandate. This points to the conclusion that when peacekeepers are sent with an authorization to use military means to restore peace, there is a lower likelihood that a peace agreement will last beyond five years. In short, this means that when peacekeeping troops intervene in a conflict with ongoing violence, it can be difficult for them to bring a peaceful resolution. This factor, although not central in this study, requires further investigation.

Conclusion

Based on these results, significant donor economic assistance packages, when offered as an incentive appear to be a critical element in achieving lasting peace. This suggests that external aid donors can play a critical role in helping to end conflict. If they are willing to back peace with the incentive of financial resources this appears to increase their likelihood of success, reducing the possibility of civil war reoccurrence. However, while this study provides an initial insight into the subject, future research will need to dig deeper into the causal relationships at play. In this research, I argue that donor economic aid increases the probability of a lasting peace in two ways. First, substantial development assistance packages

can provide a strong incentive to help facilitate peace processes by bringing the former warring parties to the bargaining table and encouraging them to stick to the deal after its achievement. Second, for their constituents, such peace incentives help alleviate economic and societal grievances that lead to conflict initially, undermining the desire to continue the fight. Both of these factors work together to convince the former warring parties and their constituencies about the fruits of peace. If conflicts are to be resolved, donors must realize how truly important their efforts are. Economic assistance matters more for peace than is frequently anticipated.