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POLITICAL LEGITIMACY AND INTERSTATE CONFLICT IN AFRICA

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Abstract

      Government legitimacy has historically been a difficult topic to conceptualize and quantify. Using several popular conceptualizations, this analysis intends to illustrate the relationship between government legitimacy and interstate conflict behavior in Africa by creating a cross- national time-series dataset, and using large-n quantitative analysis. In this analysis, government legitimacy is largely based on popular consent and government output impartiality. Data for this analysis comes from the Militarized Interstate Dispute dataset of the Correlates of War, and the World Bank. The spatiotemporal universe of cases is sub-Saharan Africa according to the Correlates of War between 1975 and 2001. While I don't find there to be a relationship between the two variables, I have shown that it is possible to quantify legitimacy over time, an important idea that should lead to future research in the area. Additionally, I make a case that a continuous, time-variant legitimacy quantification should be come the norm in political science research.

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<u>Acknowledgments</u>

<u>Introduction and Research Question</u>

Legitimacy, as a concept, is difficult to define. Huntington (1993) famously called it "a mushy concept that political analysts do well to avoid. Yet, it is essential to understanding the problems confronting authoritarian regimes in the late twentieth century." So, it is both mushy and essential. The ambiguity of the term has led scholars to interpret it in different ways, and break it down in to different types depending on respective field of interest. Its "mushiness" has also made it difficult to quantify, limiting its use in quantitative political science research, especially of the cross-national time-series variety. Different efforts to quantify the concept will be discussed at length in the literature review. These efforts and a discussion of the merits of their differing approaches may be the chief contributions of this article.

This analysis also seeks to use a cross-national time-series quantification of legitimacy in a statistical analysis to illustrate legitimacy's predictive potential. As an example, the author will examine the relationship between legitimacy and interstate conflict in Africa.

Interstate conflict is a major field of inquiry in political science. Due to its centrality to foreign policy, and its adverse impact on the world's citizens, researchers have attempted to gain some insight in to what influences its initiation, to increase academic knowledge, but also to potentially prevent future conflict by circulating information to global actors about its causes.

Over time, scholars have examined the relationship between interstate conflict and many different concepts, like economic interdependence (Barbieri 1996, Gartzke, et

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al. 2001, O'Neal 2003), contiguity (Kocs 1995, Buhaug & Gleditsch 2006), power parity (Reed 2000, Garnham 1976, Lemke & Werner 1996), and democracy (Bremer 1993, Gartzke 1998, Dixon 1994, Weede 1984). I would like to build on this research by taking it in a different conceptual direction, examining the relationship between legitimacy and interstate conflict. I would like to address the question: What is the relationship between legitimacy and interstate conflict in Africa? Additionally, I plan on examining differing ways to measure legitimacy quantitatively, making a judgment about why certain types of such quantification are better than others.

It is reasonable to examine Africa alone, rather than all the countries of the world because, as Lemke (2003) notes, due to Africa's unique development, general lack of quality data, and other factors, the continent is more likely to be excluded from traditional international relations research. Thus, the continent should be examined on its own, rather than as part of a larger universe of cases. Doing the latter could potentially hide any relationship between the concepts in question that may exist. Further reasoning for choosing to examine Africa specifically will be discussed in the Theory section of this paper.

While my quantitative analysis of legitimacy and interstate conflict in Africa did not show a statistically significant relationship, it is my hope that research in to the aforementioned will prove fruitful in supplementing tradition conceptions of legitimacy, and creating a quantifiable cross-national time-series of the concept, which can be utilized by future scholars.

In the section that follows, I will be examining the relevant literature on legitimacy and African conflict. After that, I will discuss this article's hypotheses before documenting the methods used in the compilation of data, and the quantitative analysis of the same. After that, I will discuss the results of the analysis and its implications.

Literature Review

Merquior (1980, 2) writes, "The rise of the concept of legitimacy as a political problem was prompted by the collapse of direct rule in the ancient world." Instead of the power to govern being vested in the people as a whole in the *agora*, it became vested in one man or a type of council. This led to the need for the people to establish the nature of their relationship with the sovereign. Barker (1990, 15) writes that "… legitimacy has been defined as [this] political relationship between state and subject…" Over time, different approaches have been developed by political philosophers and political scientists to explain how legitimacy is created and sustained.

Scholars like Locke, Rousseau, and Weber have examined the issue, but I focused on the work of modern researchers Pierre Englebert, Bruce Gilley, and Bo Rothstein, who have built on the concepts discussed by the former group and their predecessors. These three scholars present very different definitions for, and operationalizations of, legitimacy. Englebert discusses legitimacy with respect to Africa in his book, *State Legitimacy and Development in Africa*. He finds that a state is legitimate "when its structures have evolved endogenously to its own society and there is some level of historical continuity to its institutions" (Englebert 2000, 4). To provide quantifiable support for his definition, Englebert separates legitimacy in to two aspects: Vertical and

Horizontal. Vertical legitimacy is an estimate of the strength of the relationship between society and the state's political institutions, while horizontal legitimacy is "the level of agreement on what constitutes the polity—the politically defined community that underlies the state" (8). It is quantified by measuring "the percentage of an African country's population belonging to an ethnic group partitioned by colonial borders" (8). Vertical legitimacy is captured by examining the history of each state and using the State Legitimacy Decision Tree (127) (See Appendix I). Using these two metrics, Englebert finds that there are only ten completely legitimate states in Africa (see Appendix II).

Englebert notes the unique nature of the African state system saying, "Faced with the dilemma of having inherited states without power, modern African leaders typically embarked on one of two alternative paths. They either tried to legitimate the state by forcing a new national identity upon their societies, or used its resources to create and sustain networks of support for their regime" (97). This theme of neopatrimonialism is harped upon constantly with respect to African states. In contrast, he notes that development has helped create legitimacy for many East Asian regimes, "despite their lack of democratic credentials" (100).

Rothstein similarly demonstrates that democracy can (and indeed should) be divorced from legitimacy. He believes that democratic elections are not an efficient way to create political legitimacy. These elections are summed up in the idea that "political equality translate[d] into 'one citizen one vote' can be seen as a signal from the state that it treats all citizens with 'equal concern and respect' (Rothstein 6)." He also helpfully breaks down the prevailing literature on legitimacy in to four types. Legitimacy may be derived from tradition, charismatic leadership, "because… political leaders bring a

certain amount of good things (services and benefits) to them," or because the political

leaders have been selected in a manner the population deems legitimate (5). Rothstein

specifically examines the third option. The government can achieve legitimacy because it

serves some notion of the 'common interest', gaining popular acceptance of its policies.

This method of obtaining legitimacy contradicts an inference that should be derived from

Englebert that, because legitimacy is derived from state boundaries and the demography

of the population, it is a largely static measurement. Unless a state's borders were to be

amended, horizontal legitimacy would stay the same. Vertical legitimacy cannot be

changed. Legitimacy obtained through satisfactory government performance, by

definition, is subject to change over time, allowing the legitimacy of a regime to change

as its policies and behavior change.

Using the Serbo-Croat conflict as an example of a breakdown in legitimacy,

Rothstein notes that "political legitimacy is much more dependent on the 'output' side of

the political system than on the input side" (17). By this, he means that participation in

government is less important for legitimating a regime than the results of the policies it

puts in place. He persuasively lays out the following:

> Many citizens voluntarily abstain from voting and from participating in
>
> other forms of political activity on the 'input' side of the political
>
> system… However, if the police would not protect you because you are an
>
> X-type of citizen; if the fire-brigade would not come to your house
>
> because you are a Z-type citizen; if your children would be systematically
>
> discriminated against in schools because they are Y-type children; and if
>
> the doctors at the hospitals would ignore you because you are a P-type

person, then you are in real trouble. *To be blunt, while what happens on the input side is usually harmless for the individual citizen, what the state does on the output side may be life-threatening*" (18). [italics added]

Based on this, Rothstein concludes that true political legitimacy is derived from impartiality in government output. By impartiality, Rothstein means "…government officials shall not take anything into consideration about the citizen/case that is not beforehand stipulated in the policy or law" (20). For instance, an impartial government does not discriminate based on religion, ethnicity, or race in the allocation of public goods. Impartial, and thus legitimate, governments are less likely to face public opposition to their policies, *even if* the government is not a democratic one, because individual groups are not disadvantaged relative to others. Impartiality, by definition, implies a lack of corruption, and robust support for the other quality of government indicators. Rothstein did not include any datasets or quantitative information about how impartiality can be measured, but his theoretical discussion was helpful formulating what legitimacy is and how it can be operationalized.

Bruce Gilley is another important scholar who has done work in the area of legitimacy. He is notable because he has coded legitimacy values for 72 countries. This is relevant because he is the only scholar I found that did so. While Englebert coded countries dichotomously as 'legitimate' or 'illegitimate', Gilley believes that "legitimacy is a concept that admits of degrees" (2006, 501). As such, he created a 1-10 scale based on different indicators and was able to score countries based on it. His ability to do so is important because I wish to do the same. While he had difficulties finding data for many countries of the world, he settled on 72 countries that made up 83 percent of the world's

population in 2001 (Gilley 506). He defined 'state legitimacy' as follows: "a state is more legitimate the more that it is treated by its citizens as rightfully holding and exercising political power" (500). Gilley notes, "…legitimacy [is] only possible because of a belief in a 'common interest', a shared interest that transcends individual and partial interests… As a psychological principle, 'common interest' orientations like equity, fairness and justice are well-established aspects of individual evaluations of distributive and procedural arrangements" (502). These notions of 'common interest' and equity are very similar to the 'impartiality' described by Rothstein in his legitimacy discussion.

Operationalizing his definition of state legitimacy, Gilley separates it into three areas: views of legality, views of justification, and acts of consent. Views of legality is comprised of surveys about legality and corruption, opinions of civil servants, social protest over legal issues, and dissonance over election results, as well as other indicators. Views of justification similarly is drawn from surveys of political system support, opinion surveys on political institution effectiveness, polity popularity, political violence, political prisoners, and other metrics. Acts of consent include election turnout, military recruitment, tax payments, and popular mobilization in authoritarian states (505).

Data for these different indicators are derived from surveys like the GlobalBarometer, the World Values Survey, and EuroBarometer, as well as the IMF, World Handbook of Political and Social Indicators IV, and the International Institute for Democracy and Electoral Assistance (523). One detriment to Gilley's coding scheme is that the data are all taken from fairly recent years, usually 1999-2002. As such, it should not be used for cross-national time-series analysis if it can be avoided. While Gilley discusses weighing each indicator equally in the final legitimacy coding, he eventually

decides to weigh justification as 50 percent and the other two as 25 percent each because "[justification's] negative consequences are just too hard to bear" (510).

With the above three scholars burnishing my understanding of legitimacy, it is now important to discuss the paper from which my interest in this research question is derived: Errol Henderson's "When Push Comes to Shove: The Domestic Roots of Africa's International Conflicts." The proposition in Henderson's paper that is relevant to my research question examines the relationship between the different types of legitimacy and interstate conflict. Henderson "[casts] Busumtwi-Sam's three types of legitimacy in Englebert's operational criteria… *Political legitimacy*, which is the extent to which postcolonial politics are congruent with precolonial ones; *social legitimacy*, which measures the extent that the postcolonial political community is coterminous with the precolonial one with respect to its ethnic composition; and *popular legitimacy*, which gauges the extent of citizen support for the sitting regime" (Henderson 2007, 5).

For political and social legitimacy, Henderson uses Englebert's vertical and horizontal legitimacy respectively, coded dichotomously '1' for legitimate and '0' for illegitimate. Popular legitimacy is measured by the Democracy$_{LO}$ score "which takes the value of the regime score of the least democratic state in the dyad… [it] is from a modified version of Polity IV data" (12). This score is on a -10 to +10 scale. Henderson's outcome variable is dyadic MID onset, coded '1' if a dyad experienced a MID in that year, 0 if not (12). MID data are taken from the Correlates of War Militarized Interstate Dispute dataset (Ghosn, et al). His spatial-temporal domain is 1950-1999, examining the universe of African states. Henderson uses logistic regression analysis, controlling for economic development, relative capability, alliance membership, contiguity, distance,

and trade interdependence. Henderson finds that "dyads comprised of at least one popularly legitimate state are more likely to become involved in international conflict…" Additionally, higher levels of political legitimacy and poli-social legitimacy (a combination of political and social legitimacy) were indicative of increased interstate conflict (13).

<u>Theory</u>

I hypothesize that African states that are more legitimate are more likely to be involved in interstate conflict. Conventional wisdom seems to dictate that the opposite be true, that increased state legitimacy leads to less interstate conflict, as more legitimate states seen as better representatives of their populations, and can thus negotiate more credibly when attempting to settle disputes, averting conflict. More legitimate states are more trustworthy, increasing the chances that a nonviolent solution can be found to a potential problem, and that such as solution will be adhered to.

It should be noted that, in the scholarly literature, political legitimacy and democracy generally go hand in hand. A publication by the Inter-Parliamentary Union notes, "…The will of the people shall be the basis of the authority of government and this will shall be expressed in periodic and genuine elections…" (Goodwin-Gill 27). Thus, increased democracy is the key to increased legitimacy. Due to the assumed positive relationship between the two concepts and acceptance of the idea that democratic states do not fight each other (Russett and O'Neal 2001), it is not a stretch to assert that legitimacy and interstate conflict should have an inverse relationship. My hypothesis seeks to show that this may not be true with respect to Africa.

The logic behind my hypothesis is borrowed from Henderson's *When Push Comes to Shove: The Domestic Roots of Africa's International Conflicts*, which was discussed briefly in the literature review.

While Henderson's paper delves in to issues of scapegoating, deathwatching, and other domestic causes of interstate conflict, which are doubtless important, I am more concerned with legitimacy's impact specifically. To that end, as noted in the literature review, my conception and quantification of legitimacy differs from his for a few reasons, discussed below.

Henderson (2007) writes that quasi-statehood led to a decline in domestic legitimacy in Africa. "Quasi-statehood reflected a tacit agreement among African states and major international actors to legitimize the colonial borders of the postcolonial states under the principle of *uti possidetis*" (3). This quasi-statehood meant that the current postcolonial African borders were not in keeping with the "precolonial political institutions" (3). Because African states were divorced from their historical cultural underpinnings, postcolonial political leadership was not necessarily seen as legitimate by the inhabitants of the respective African countries. This limited the sphere of influence of those in *de jure* power to the capital and the immediate vicinity. Ties between the national government and the actual territory were so tenuous that controlling the country really meant controlling the capital. According to Henderson, institutions of the state were not developed due to the elite security dilemma, whereby leaders were weary of building up "rival power centers that might threaten their rule" (3-4). Instead, the state became a system for doling out patronage to keep leaders in power. Henderson writes that these patronage networks are "the most prominent feature of the institutional

structure of Africa's states; and one that emerges from— and is reinforced by— quasi-statehood, the elite security dilemma, and *especially domestic illegitimacy* [italics added]" (4). In this theory, legitimacy is the crux of the matter; it's the reason Africa is unique.

When there are low levels of legitimacy in a state, those in power are always fearful that there are other groups looking to wrest control from them. In these situations, rulers are "less likely to deploy their troops abroad out of fear that the removal of troops from the capital will encourage rebels to attempt to seize the capital…" (5). This theory also maintains that states with high levels of legitimacy are more likely to engage in interstate conflict, all other things equal, because the elites within these states, those that make the decision to initiate interstate conflict, feel sufficiently comfortable in their relationship with the rest of the population that the capital no longer needs to policed by the military for the perpetuation and protection of those in power. This internal peace allows troops to be moved to outlying regions of the country, where they can easily engage in interstate conflict.

I take issue with Henderson's research design in a few places. First, I believe it is largely inconsistent with the nature of the state to rely on a static coding for legitimacy. I am skeptical of the predictive ability of Englebert's coding which relies on the formation of the state to explain conflicts that could occur 20, 30 or even 40 years after said formation. If one of the goals of political science research is to make the lives of people around the world better, then a legitimacy metric that countries can actually improve upon is more valuable than one that they cannot. After Henderson's paper was made public, in 2009, Bo Rothstein released an article connecting political legitimacy to quality

of governance. I utilize this conception in my research. I believe it is better because it allows the legitimacy coding to be both continuous, rather than dichotomous, and variant with time, rather than invariant. Additionally, I disagree with Henderson's use of Democracy$_{LO}$ as a score for popular legitimacy. Coupling the two indicates that increased democracy means increased legitimacy, which is not necessarily the case. That being said, I believe that Henderson's theory is sound. I would just like to examine the issue of legitimacy from a different angle, using a conception that was not available to Henderson when his paper was made public.

From the above theory, the following hypotheses are drawn:

H1: African governments that are more legitimate are more likely to initiate interstate conflict.

Because more legitimate governments have less need to use the military to protect themselves and maintain their power domestically, this hypothesis maintains that they will feel less constrained to operate outside of their borders.

H0: There is no relationship between government legitimacy and interstate conflict initiation in Africa.

Research Design

For the purposes of this study, it is important to define several key concepts. This paper will examine interstate conflict through the lens of "militarized interstate disputes" or MIDs. Gochman and Maoz (1984) define a MID as "a set of interactions between or

among states involving threats to use military force, displays of military force, or actual uses of military force. To be included, these acts must be explicit, overt, nonaccidental, and government sanctioned." The Correlates of War MID data set was chosen to aid in measuring interstate conflict because it has a fairly low threshold for what "conflict" actually is (Ghosn, et al. 2004). The Uppsala Conflict Database, for instance, defines "armed conflict" as "a contested incompatibility that concerns government and/or territory where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related deaths in one calendar year" (Uppsala). Most interstate conflict does not reach the level to be recorded by Uppsala. Lower levels of conflict can still be properly illustrative of a country's external military activity. Excluding these levels does a disservice to the analysis to be carried out.

For the first hypothesis, we are interested in if a state initiates conflict in a given year. In the MID dataset, this is defined by the *conflict initiation* variable. We also include a variable illustrating targeted state reciprocation, referred to as *conflict reciprocation*. Both variables are binary, with "0" meaning the event in question didn't occur, and "1" meaning it did (Bennett and Stam 2007).

The most important concept to be defined is the least tangible. Influenced by the work of the aforementioned scholars, most notably Bo Rothstein (2007), I will define legitimacy as "the relationship between the government in power and the citizenry whereby the government provides equitably for the citizenry, and, in turn, the citizenry support the government." This definition combines an output-based legitimacy definition with a consent-based one. Additionally, it allows a state's legitimacy to change over time. It is too simplistic to ascribe a state's entire conflict behavior to the way it was created, so

an evolving legitimacy measure is essential. In order to operationalize this definition, the idea of legitimacy is divided in to Government Output Impartiality (GOI) and Government Popular Support (GPS).

It was my initial goal to utilize Morris' Physical Quality of Life Index to assist in quantifying GOI. Morris created the Index because he was dissatisfied with using measures like GNP per capita to examine the distribution of social benefits. Instead, he used literacy rate, indexed infant mortality rate, and indexed life expectancy at age one. The index would work well to measure GOI because "it measures results, not inputs" (Morris 1978, 225). It is these types of metrics that best illustrate the idea of government output impartiality. A partial government could increase GNP per capita by raising GNP, but it couldn't easily lower infant mortality or increase literacy because those require a more equitable distribution of resources in order to make progress. Morris' book on the Index was released in 1979. I had planned on finding more current data, bringing the Index up to 2001.

However, certain metrics, literacy rate specifically, proved difficult to find for many of the countries and years this analysis covers. Instead, I used Gross Enrollment Ratio (Total) and Public Spending on Education as a Percentage of GDP. While not the same as the Index, Gross Enrollment Ratio is the percentage of school-age students that are enrolled out of the total number that could be. A higher rate indicates that a larger percentage of students are in school. This is indicative of GOI because education is one of the public outputs Rothstein believes should be allocated impartially (Rothstein 2007, 18). The more students enrolled, the more impartial the education system. Increased public spending on education has not only been shown to lead to decreased income

inequality (Sylwester 2002), but is also indicative of a government accepting its responsibility to provide a broad-based impartial public good. GOI data came exclusively from the World Bank's data archive (World Bank 2012).

Government Popular Support is quantified using two variables from Vanhanen's Polyarchy Dataset. Polyarchy was created to "provide comparable data on the degree of democratization in all independent countries of the world since 1810" (Vanhanen 2000,1). While it is not the intent of this analysis to conflate democracy with legitimacy, Polyarchy offers the best way to gauge citizen support of the government. Specifically, Vanhanen's Competition and Participation variables can be utilized to quantify popular support. Competition measures "the smaller parties [sic] share of the votes cast in parliamentary or presidential elections or both" (Vanhanen 2000, 8). Thus, an increase in competition can be seen as a decrease in popular support for the party in power. While many countries through the course of this analysis are autocratic for periods of time, and have low to no competition in elections, I still believe this variable can be descriptive of popular support. Participation is defined as "the percentage of the population who actually voted in… elections" (Vanhanen 2000, 8). This is indicative of Government Popular Support because, by participating in an election, citizens are showing support for the electoral process, and tacitly the government and state that carries it out.

While some scholars like Bruce Gilley (2006) have created a single Legitimacy metric from their variables, I intend to keep my legitimacy variables separate in order to better show the statistical impact of the individual independent variables on conflict initiation and reciprocation.

In my analysis of Hypothesis 1, I will be controlling for the effects of contiguity, democracy, and relative capacity. Contiguity data comes from the COW contiguity dataset (Stinnett, et al. 2002). It is coded "1" if the dyad is contiguous; "0" if it is not. Democracy is a variable adapted from a modified Polity IV dataset (Marshall and Jaggers 2002). Modified polity scores were taken and coded as "1," if greater than 7, or "0" if less than or equal to 7. "1" means that a country is democratic; "0" means it is not. Relative Capacity data comes from the COW National Capability dataset (Singer 1987).

$$RelCap1 = Cap1/(Cap1 + Cap2)$$

$$RelCap2 = Cap2/(Cap1 + Cap2)$$

The spatiotemporal scope of this analysis is the set of COW Sub-Saharan African countries from 1975-2001 (N=55106) (Ghosn 2003).[1] These nations were chosen, rather than the entire African continent, because North Africa is more related culturally to the Middle East than to the rest of the continent. Including nations like Libya, Tunisia, and Algeria would result in an analysis skewed by their unique status on the African continent. Sub-Saharan Africa generally has a shared colonial heritage that colors its modern behavior. The former temporal limit was chosen based upon availability of independent variable data, while the latter was chosen based upon the availability of dependent variable data. This is a large-*n* directed-dyad-year analysis. This means that in the data there exist both a "Country A" and a "Country B" for every year of the analysis and for every combination of countries in the analysis. This setup allows one state to be "identified as a potential dispute initiator and the other as the potential target…" (Bennett

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[1] A full list of countries can be found in Appendix III

and Stam 2004, 45). Using directed-dyad-years also allows the analysis to contain either unit-level or dyad-level variables.[2]

I compiled the data for the dependent variable by using the Expected Utility Generation and Data Management program (EUGene (Bennett and Stam 2007). The program has a graphical user interface that allows one to choose what countries to include, how the data should be set up (directed dyad, country-year, etc.), and what variables should be included. In addition to variables from the MID dataset, EUGene also contains the other Correlates of War data for Contiguity and Capacity. While EUGene also has Polity III data, it has no data past 1994. By the time this analysis is published, Polity IV data covering 1800-2010 will be available on EUGene. After using EUGene to generate the directed-dyad-year dataset, the modified Polity IV data (Marshall and Jaggers 2002) was added. Because the Polity IV data were formatted by country-year, STATA was used to merge it in to the main directed-dyad-year dataset.

Dependent variable data from the World Bank were originally in country-year format, but were made dyadic using Excel. Due to the relative paucity of quality of life data from African countries, this data are marked by a large degree of missingness. Rather than listwise delete the dyadyears that did not have complete data, this analysis utilized AMELIA II software, running in the R Statistical Environment to complete the dataset (Honaker, et al. 2011). The software works by performing multiple imputation on the main dataset, creating multiple datasets where "the observed values are the same, but the missing values are filled in with a distribution of imputations that reflect the

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[2] Further discussion of the benefits of using directed-dyad-years can be found in Bennett and Stam (2004, 44-56).

uncertainty about the missing data" (Honaker, et al. 2011, 3). AMELIA uses the observed values in the dataset to impute the missing values using an EM bootstrapping algorithm (5). By default, AMELIA creates five imputed completed datasets.

While the statistical analysis for this endeavor occurs at the dyadyear level, the dataset is imputed at the country-year level.[3] This is done to prevent different dyads in the same country-year from having different imputed values in the same dataset for the same year. Logically, even if the values are imputed, and are thus stand-in values to allow the observed values to be analyzed, if not dependent on the dyadic relationship, variables for the same country and the same year should have the same values. For instance, Angola's Gross Enrollment Ratio should be the same in 1976 whether or not its respective dyad is "Angola-Benin" or "Angola-Botswana." After the multiple imputation is run, STATA is used to convert the newly-completed datasets in to directed-dyad format.

Due to the nature of the variables in the analysis, I utilize a Binomial Probit Model with Sample Selection to illuminate any relationship that exists. Also known as a Censored Probit, this type of analysis has been used by other scholars when researching two-level militarized interstate dispute hypotheses. Specifically, William Reed (2000) utilizes a censored probit when researching conflict onset and escalation. In this model, "the first probit equation [the selection equation] is completely observed, but we have only a selected (censored) sample for the second" (Golder 2003). The dependent variable in our selection equation is *conflict initiation*, while our censored dependent variable for the outcome equation is *conflict reciprocation*. Our analysis uses this specific selection model rather than a Heckman (1979) because while a Heckman is designed for a

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[3] This was done after consultation with my thesis advisor, Dr. Glenn Palmer

continuous dependent outcome variable, the Binomial Probit with Sample Selection is designed for a dichotomous one. *Conflict Reciprocation* is such a variable.

In explaining Binomial Probit with Sample Selection, I adapt Golder's (2003, 14) model to my own purposes. If $y_1 = 0$, then no dispute was initiated. If $y_1 = 1$, but $y_2 = 0$, then a dispute was initiated, but not reciprocated. If $y_1 = 1$, and $y_2 = 1$, then a dispute was initiated and reciprocated. Φ is the "distribution function of the univariate normal and Φ_2 is the bivariate normal distribution function" (Reed 2000, 88).

$y_1 = 0$ **$Pr(y_1 = 0) = \Phi\ (-x_1\beta_1)$**

$y_1 = 1, y_2 = 0$ **$Pr(y_1 = 1, y_2 = 0) = \Phi(x_1\beta_1) - \Phi_2(x_1\beta_1, x_2\beta_2; \rho)$**

$y_1 = 1, y_2 = 1$ **$Pr(y_1 = 1, y_2 = 1) = \Phi_2(x_1\beta_1, x_2\beta_2; \rho)$**

This is the log-likelihood function of the model (Golder 2003).

$$
\begin{aligned}
\ln L = \sum_{i=1}^{N} \{ & y_{i1} y_{i2} \ln \Phi_2(x_1\beta_1, x_2\beta_2; \rho) \\
& + y_{i1}(1 - y_{i2}) \ln[\Phi(x_1\beta_1) - \Phi_2(x_1\beta_1, x_2\beta_2; \rho)] \\
& + (1 - y_{i1}) \ln \Phi(-x_1\beta_1) \}
\end{aligned}
$$

Analysis of the *conflict reciprocation* variable lacks the Public Spending on Education as a Percentage of GDP variables because for the model to be effective the outcome equation must have fewer variables than the selection equation (Golder 2003, 14). This set of variables was chosen for exclusion because I speculate that they are less influential in affecting the reciprocation of conflict.

After running the analysis on the five separate datasets, the results are aggregated and both the coefficients and the standard errors are averaged. While the averaged standard error is incorrect, it is used as an approximation.

Results and Discussion

Table 1: Binomial Probit Model with Sample Selection (Datasets Averaged)

Conflict Initiation		Conflict Reciprocation	
Competition A	0.009 (-0.006)	Competition A	-0.005* (0.002)
Competition B	-0.007 (-0.007)	Competition B	0.001 (0.002)
Gross Enrolment A	-0.017 (-0.008)	Gross Enrolment A	0.003 (0.002)
Gross Enrolment B	0.008 (.0008)	Gross Enrolment B	0.009*** (0.002)
Public Spending on Edu. of GDP A	-0.042 (.07)	Participation A	-0.005 (0.002)
Public Spending on Edu. of GDP B	-0.005 (0.068)	Participation B	-0.006 (0.002)
Participation A	-0.001 (0.006)	Constant	-3.072 (0.107)
Participation B	0.005 (0.006)		
Constant	-0.33 (0.554)		
Observations	55106 (Uncensored=296)		

$* p < 0.05$, $** p < .01$, $*** p < .001$

Standard errors (in parenthesis) are the mean of the five analyses.
While incorrect, they are used as an approximation.

The results of the censored probit examining the relationship between government legitimacy and interstate conflict can be found in Table 1 above. We find that the conflict initiation dependent variable is not significantly affected by any of the independent variables. Hypothesis *H0* is correct. There are multiple reasons this may be the case.

I may not have adequately captured government legitimacy in my selection of independent variables. If this is the case, while I may not have found a relationship between government legitimacy and interstate conflict initiation, a better quantification of such legitimacy may yield a significant relationship between the two in future analysis.

Additionally, the general lack of quality time-series data about Africa may have led to my insignificant results. In a discussion about Africa's treatment in International Relations research, Lemke writes that one of the reasons "African states are disproportionately *not* included in analyses [is] because data are not equally available for all states" (2003, 116). He also notes that there are often issues of data quality when it comes to African states, especially when looking at economic data. Citing John Dawson (2000), Lemke points to evidence that there is a direct negative relationship between the wealth of a country and the quality of the data it provides (2003, 121). Additionally, countries in Africa may not be interested in making public data that may portray the country in a poor light.

The result of this lack of quality data in the universe of cases created a dilemma for the author. Listwise deletion would remove those cases that had missing data, but would also remove valuable data from the analysis. On the other hand, multiple imputation using AMELIA would preserve the data by estimating values to fill in missing

cells from the dataset. The latter is the route this analysis took. However, AMELIA's algorithm utilizes other data within the dataset to make these estimates. Because data for these cases was so sparse, including data added to the dataset for the purposes of imputation, the resultant estimated values may not have been the best estimations possible. As a result, subsequent analysis run based on these estimations may not have yielded a result true to what the result may have been had the actual data been available.

The potential data issues notwithstanding, I think it is likely that there truly is no relationship between the two. Increased legitimacy may or may not lead to a more active foreign policy stance from Country A. This new stance, backed by legitimacy, may give the country more credibility, lowering the likelihood for conflict. Such likelihood would decrease because the targeted country would be more likely to give Country A what it wants without engaging in conflict. This is in line with the idea discussed in Kinsella and Russett (2002, 1060) that a state's ability to send "credible signals" may decrease the likelihood conflict turns violent, instead keeping it on a diplomatic level. In this analysis then, increased legitimacy leads to increased foreign policy credibility, which reduces the need for conflict, and in turn, the initiation of conflict.

Alternatively, African governments may attempt to gain legitimacy through multiple means. While I have attempted to show that the impartial allocation of public goods is how legitimacy is created, Levy (1989) and others have shown support for a diversionary theory of war. According to the theory, states may engage in interstate conflict to distract from their internal political situation, creating a "rally-round-the-flag" effect, increasing their government legitimacy in the process, and ensuring that those in power remain in power. This increasing legitimacy due to diversion muddies my results

because it shows that the dependent variable, interstate conflict initiation, could potentially be influencing the independent variable.

In analyzing the results of the censored probit on the conflict reciprocation dependent variable, we see that both the initiating country's competition and the reciprocating country's gross enrolment rate are significant, the latter highly. However, I do not intend to hypothesize why this relationship exists. The reasons are twofold. First, my hypothesis does not speak to conflict reciprocation. It was included purely for statistical reasons, so as not to bias the results. Also, while one may try to create a theoretical framework where these statistically significant results are meaningful, with the statistical insignificance of the vast majority of the independent variables in the analysis, it is clear that such a decision would not likely stand up to scrutiny.

<u>Conclusions</u>

The results from the previous section seem to indicate that there is no relationship between government legitimacy and interstate conflict initiation in sub-Saharan Africa. While my results did not indicate that a relationship exists between the independent and dependent variables, this should not curtail future intellectual exploration in this area. I believe there is still much value in considering legitimacy on a sliding scale, rather than as a static measurement. I encourage research practitioners, when investigating the impact of legitimacy on a state's behavior, either internal or external, to consider using a continuous legitimacy framework. Scholars can do better than time-invariant legitimacy.

Additionally, it may be interesting for future researchers to examine the issue of government legitimacy and interstate conflict initiation in another universe of cases.

Using the same type of data (government output impartiality), it may be worthwhile to see if some relationship can be established looking at cases in South America, Western Europe, Southwest Asia, or the Middle East. The states in these regions may have more available data that, in turn, may yield a different result.

Appendices

State Legitimacy Decision Tree:

Was the country colonized in modern times?

No = 1

Yes. When reaching independence, did the country recover its previous sovereignty, identity, or effective existence?

Yes = 1

No. If the country was created by colonialism, was there human settlement predating colonization?

No = 1

No. If the country was created by colonialism, was there a human settlement predating colonization?

No = 1

Yes. Did the colonizers (and/or their imported slaves) reduce the preexisting societies to numerical insignificance (or assimilate them) and become new citizens of the new country?

Yes = 1

No. Does the postcolonial state do severe violence to preexisting political institutions?

Yes = 0

No = 1

Appendix II:

Englebert's Legitimate African States:

1. Botswana
2. Burundi
3. Cape Verde
4. Ethiopia
5. Lesotho
6. Mauritius
7. Rwanda
8. Sao Tome and Principe
9. Seychelles
10. Swaziland (Englebert 129-130)

Appendix III:

COW African States:

1. Rwanda
2. Sao Tome-Principe
3. Senegal
4. Seychelles
5. Sierra Leone
6. Somalia
7. South Africa
8. Swaziland
9. Tanzania
10. Togo
11. Uganda
12. Zambia
13. Zimbabwe
14. Angola
15. Benin
16. Botswana
17. Burkina Faso
18. Burundi
19. Cameroon
20. Cape Verde
21. Central African Republic
22. Chad
23. Comoros
24. Congo
25. Djibouti
26. Equatorial Guinea
27. Eritrea
28. Ethiopia
29. Gabon
30. Gambia
31. Ghana
32. Guinea
33. Guinea-Bissau
34. Ivory Coast
35. Kenya
36. Lesotho
37. Liberia
38. Madagascar
39. Malawi
40. Mali
41. Mauritania
42. Mauritius
43. Mozambique
44. Namibia
45. Niger
46. Nigeria
47. Democratic Republic of the Congo/Zaire

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Education

The Pennsylvania State University, University Park, PA   Expected Graduation: May 2012
B.A. in International Politics
Schreyer Honors College

Study Abroad in Prague, Czech Republic   Spring Semester 2011

Presidential Leadership Academy at the Pennsylvania State University
  • Actively participated in a semester-long seminar in 2009 taught by University President Graham
    Spanier
  • Learned how to think critically and articulate my point of view, investigate the merits of all sides
    of an issue, and work towards acceptable compromise

Publications and Research

Eli Glazier. "Taiwan's Unorthodox Path to Sovereignty: Contested Statehood and IGO Membership".
Washington Undergraduate Law Review. Volume III, Issue 2.

Fall 2010 and Summer 2011. Assisted Dr. Glenn Palmer in updating the Correlates of War Militarized
Interstate Dispute dataset, one of the most frequently utilized datasets in all of Political Science.

Experience

State College Bikeshare Advocate   July 2011-Present
• Collaborating with Penn State departments and other students to bring a public bicycle sharing program
  to Penn State and State College by the fall 2012 semester
• Evaluating different bicycle sharing options for feasibility and other factors
• Benchmarking the bike sharing programs at schools similar to Penn State to elucidate the best option
• Contacting bikeshare system manufacturers for price quotes and technical specifications

Editor-in-Chief; Co-Founder
OnwardState.com, Independent Student-run Penn State News Blog   November 2008- December 2010
• As one of the blog's founding members, fashioned it into a popular news destination on campus, and
  has been instrumental in planning for its future.
• Led a staff of 40, and communicated post assignments and constructive feedback to writers
• Developed lines of communication to ensure a continuous stream of interesting content
• Wrote hundreds of articles and edited hundreds more for style, content, and clarity.

Executive Editor; Co-Founder
Penn State Journal of International Affairs   October 2010- Present
• Created the first academic international affairs journal at Penn State University

- Built relationships with academic departments and secured funding and non-monetary support
- Oversaw a staff of six as they edited submissions and worked towards crafting an exemplary product
- Liaised with faculty advisors, and built a team to assist in the review process

Off-Campus Representative
University Park Undergraduate Association   March 2011-Present
- Represent the interests of my off-campus constituents
- Sit on the Internal Development and Student Life Committees, as well as the Textbook Advisory Group
- Co-authored legislation limiting promotional spending with Student Activity Fee money, and legislation ensuring committee meetings are more transparent

Lobbying Intern
The Raben Group, Washington, D.C.   June 2011- August 2011
- Compiled press clippings for various client teams, and wrote press releases
- Maintained a database of grassroots supporters for a client
- Sat in on meetings and kept the minutes
- Researched background information on potential clients
- Collected and synthesized data about Individualized Retirement Accounts for my supervisor

Global Strategy Institute Intern
Center for Strategic and International Studies, Washington, D.C.   June 2010- August 2010
- Coordinated setup for events featuring visiting distinguished speakers and panel discussions
- Thoroughly researched topics of interest to my supervisor on short notice and with attention to detail
- Updated the CSIS Seven Revolutions Student Toolkit with more relevant data
- Created a promotional video highlighting the relationship between Penn State and CSIS

Learning Assistant, Global Trends and World Issues
Penn State College of Information Sciences and Technology   August 2010- December 2010
- Graded student blog posts biweekly
- Offered feedback and guidance to those that needed both technical help and advice on how to improve their writing
- Won the Learning Assistant position through a competitive application process

Awards and Prizes

Thomas R. and Joan G. Dye Scholarship
- Given to a student in the Political Science department with a high cumulative grade point average.

Phi Beta Kappa
- Earned admission in the spring of junior year

Dean's List
- Earned every semester

Evan Pugh Scholar Award
- Given to students in the top .5 percent of the junior and senior classes