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Measures of Ethnicity: Competing Concepts in Search of Clarity

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Keywords

ethnic polarization; ethnic fractionalization; civil war; armed conflict

Disciplines

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Measures of Ethnicity: Competing Concepts in Search of Clarity

A Study on the Relationship Between Ethnic Polarization and Civil War Severity.

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Abstract

Why have many researchers historically relied on combined measures and explanations for the scholarship on ethnic polarization and ethnic fractionalization? In this article, I argue for the adoption of a new research mechanism that differentiates between both variables in order to test them independently vis à vis their relationships to civil war severity. The presence of a more ethnically polarized state seems to make it more difficult for the opposition groups to coordinate and to mount an effective attack/opposition against the government, thus limiting overall casualties. This also increases the difficultly for the government forces to identify the group(s) that constitute the primary rebellious forces and to attack them. I find empirical support for my expectations: when analyzing ethnic polarization with a measurement independent from ethnic fractionalization, it presents an increasingly statistically significant relationship to civil war severity. I utilize Lacina's (2006) primary dataset to test the effect that ethnic polarization has on civil war severity, and find that there is a weakly significant and negative relationship between the two variables. My findings suggest the increased importance of popularizing separate future mechanisms in order to better define and measure ethnic polarization and ethnic fractionalization.

Introduction

Much of the recent scholarly research on civil war severity identifies ethnic polarization as a causal factor (Lacina 2006). Many studies hypothesize that states with a high level of ethnic polarization experience less severe civil wars (Fearon 2003; Montalvo and Reynal-Querol 2005; Lacina 2006). Ambiguity regarding this relationship stems from how the central explanatory variable, the presence of distinctive ethnic groups within a society, is conceptualized and measured. Many of the existing studies utilize older measures of ethnic fractionalization that combine the definitions and thus effects, of ethnic fractionalization and ethnic polarization, along with ethnic heterogeneity as well (Horowitz 1985; Montalvo and Reynal-Querol 2005; Lacina 2006; Buhaug, Cederman, and Rod 2008; Lacina 2014). This not only presents a popularly relied on methodological error, but also a source of both ambiguous and vague data sets regarding these relationships. When ethnic polarization and fractionalization measures are combined rather than compared, it becomes easy to lose sight of how they function independently. How do ethnic polarization and fractionalization differ in their relationships to civil war severity? How does using independent mechanisms to measure ethnic polarization highlight its independent statistical significance? Why is it crucial that future scholarship identify such variables separately, rather than couple them? This study proposes such questions to better attempt to address this ambiguity by using a new measure of ethnic polarization.

I complement the cross-national time-series analysis I employ in this paper with an in-depth review of a case study of India (Lacina 2014). The empirical testing strategy focuses on the differential findings of scholarship that effectively differentiates between the measures of ethnic polarization and fractionalization with those that do not. While the research question regarding the relationship of ethnic polarization on civil war severity remains at the core of this study, I propose that more attention be given to recent scholarly research that finds ethnic polarization as a significant and independent *cause* of new civil wars. The utilization of the new measure proposed coupled with the results of this study will help international actors focused on peace-building to better equip themselves with knowledge of how ethnic polarization in a given country can affect the severity of civil wars. This in-depth look also helps to give future insight as to how future civil wars may be predicted on the basis of ethnic polarization.

The remainder of this paper is organized as follows. I first discuss the potential relationship that the concepts of ethnic polarization, fractionalization, heterogeneity, and homogeneity have on civil war severity defined in terms of battle deaths. I review existing scholarly work on ethnic polarization as a significant variable in this relationship, comparing it to work that focuses on ethnic fractionalization. Following my review of the relevant literature, I focus on a proposed new review methodology centered around my central explanatory variable, ethnic polarization. I discuss my research design and data in the third section of the paper, and present my results and analysis in the fourth section of the paper. The final section of the paper consists of my discussion and conclusion, along with suggestions for future research on the topic.

Ethnic Division and Civil War

To provide a basis for the study, I utilize here the scholarly definitions of key terms, including *ethnic polarization* (Lacina 2006) and *ethnic fractionalization* (Fearon 2003).

Ethnic polarization holds an increasingly significant place in the scholarly research on the determinants of a conflict's severity (Horowitz 1985; Montalvo and Reynal-Querol 2005; Lacina 2006; Buhaug, Cederman, and Rod 2008; Lacina 2014). However, while ethnic polarization is beginning to find its larger core role in recent literature, there has yet to be an agreement as to what extent it should be included. For example, Collier and Hoeffler (2001) and Fearon and Laitin (2003) both find that ethnicity does not explain war outbreak. Hegre et al. (2001) and Elbadawi and Sambanis (2002), on the other hand, write that ethnic heterogeneity correlates with both civil war outbreak and evolution, and in doing so allude to some aspects of ethnic polarization following suit. Ellingsen (2000) considers ethnic differentiation in countries and finds a significantly higher conflict risk in nations with increased diversity. Lacina's (2006, 2014) studies, in turn, utilize such datasets to create a well-rounded view of how multiple factors regarding a country's ethnicity may explain its civil war likelihood and severity.

Two different concepts that have consistently received more attention than ethnic polarization, at least in terms of their relationships to civil war severity (and even with respect to the incidence of civil wars), are ethnic fractionalization and ethnic heterogeneity (Fearon 2003; Montalvo and Reynal-Querol 2005; Esteban, Mayoral, and Ray 2012). Montalvo and Reynal-Querol's (2005) study suggests that, when looked at in tandem with ethnic heterogeneity, ethnic fractionalization can work better as an explanatory variable for the incidence of civil wars than other variables. While their study includes some discussion on the measure of ethnic polarization as well as heterogeneity and fractionalization, they also note the lack of outside focus on ethnic polarization as an explanatory variable. This pattern is continued by Lacina's (2005 and 2006) studies on civil war severity. While Lacina (2006) mentions the fact that there is a surprisingly large negative coefficient associated with ethnic polarization and civil war severity, the study does not maintain a focus on the variable's possible effects.

While the correlation between the concepts of fractionalization and polarization is quite often both positive and high, this differentiation in the overall importance of ethnic polarization must be reviewed. Many scholars will include ethnic polarization in their dataset, but in their conclusion, forgo its possible importance in favor of variables such as ethnic fractionalization and heterogeneity (Fearon 2003; Montalvo and Reynal-Querol 2005; Lacina 2014). By only utilizing empirical measures of ethnic fractionalization, scholars overlook the much needed preface of an ethnic polarization measure as well. We see scholars utilizing studies with a core focus on ethnic fractionalization, while often overlooking what could be a significant measure of ethnic polarization working in tandem with ethnic fractionalization. This can lead to misinformed conclusions that affect policy.

This study shows how a misuse and misdefinition of ethnic polarization can lead to the conclusion that ethnic polarization is only (or less than) weakly significant as a central explanatory variable for civil war severity, and moreover, that ethnic fractionalization or heterogeneity alone, can provide the same results (Fearon 2003; Montalvo and Reynal-Querol 2005; Lacina 2014). The study works to push the boundaries of this assumption.

The leading measurement used for this study originally comes from Fearon's (2003) study, which was more recently built upon by Lacina (2014). In many of the studies referenced above, there is a core measurement methodology, built to focus on the variable of ethnic fractionalization. The studies that utilize such measures are the same ones that often overlook ethnic polarization as a similarly important variable. In this study, I propose that the issue of measuring ethnic fractionalization as a stand-alone explanatory variable should be fixed by switching to an entirely new ethnic polarization-specific measurement (Fearon 2003; Lacina 2014). While both Fearon (2003) and Lacina (2014) focus on ethnic fractionalization as the primary ethnic determinant to the severity of civil wars, they also use measurements built around ethnic fractionalization itself. Much of the scholarly work on civil war severity and ethnic polarization in turn, is generally measured through models otherwise specifically created for the purpose of measuring ethnic *fractionalization,* therein creating a lot of ambiguity on the topic (Horowitz 1985; Montalvo and Reynal-Querol 2005; Lacina 2014). Fearon (2003) and Lacina (2014), however, also suggest a new measurement of polarization that encompasses equations accounting for both "Demographic Polarization" and "Cultural Polarization," in an effort to account for the mistakes made by past and possibly unfocused measurements. In experimenting with this new polarization measurement that utilizes an averaging system of both polarization measures mentioned above, scholars have found that datasets and results on the relationship between ethnic polarization and civil war severity have the potential to be much larger and in turn much more crucial than previously thought (Fearon 2003; Montalvo and Reynal-Querol 2005; Lacina 2014).

More research needs to be done on the relationship between ethnic polarization and civil war severity as well as the potential impact that ethnic polarization has on other aspects of civil wars (Montalvo and Reynal-Querol 2005; Buhaug, Cederman, and Rod 2008; Lacina 2014). There needs to be a new scholarly consensus that ethnic polarization functions independently, and therefore cannot be fully assessed in measures built for the study of ethnic fractionalization In this study, I suggest that there is a much larger and significant relationship between ethnic polarization and a civil war's severity than many previous scholars have alluded to. One example indicative of this relationship is Montalvo and Reynal-Querol's (2005) study, which finds that ethnic polarization as a negative significant explanatory variable for the *incidence* of civil wars. As Montalvo and Reynal-Querol's (2005) note, "… our results suggest that an increase in social polarization has a negative effect on growth because it reduces the rate of investment and increases public consumption and the incidence of civil wars" (Montalvo and Reynal-Querol's 2005, p 318).

By combining the results and conclusions of all the aforementioned studies, I have been able to identify an improved option for focusing on the causal properties that characterize the relationship between ethnic polarization and civil war severity with a more specialized measure.

Ethnic Polarization and Conflict Severity
As the large majority of scholars (Horowitz 1985; Lacina 2005; Lacina 2006; Esteban, Mayoral, and Ray 2012) have seemingly brushed off ethnic polarization as a primary determinant of the level of civil war severity, I suggest a new methodology for studying the potentially causal relationship. As stated, large portions of the scholarly evidence finds that many recent studies

utilize measures of ethnic fractionalization measures to account for all ethnicity-driven effects on civil war, saying that a large portion of the effects from such a variable can be amalgamated with those effects coming otherwise directly from ethnic polarization (Montalvo and Reynal-Querol 2005). In turn, the two ethnicity-based indicators have been often measured and even operationalized as one; this study delves into the benefits that may come from doing the opposite, separating them into their direct and independent effects.

It is true that ethnic polarization and fractionalization can be seen to share many specific characteristics initially, but once the shift has been made to more direct and separate measures, ethnic polarization actually fits its own set characteristics and patterns, which could very likely have different and even competing effects than those coming directly from ethnic fractionalization (Montalvo and Reynal-Querol 2005; Lacina 2006; Lacina 2014). Thus, using the new measures of ethnic polarization rather than the older measures of ethnic fractionalization could very well lead to a different set of results (Montalvo and Reynal-Querol 2005). I have completed this study with a mindset of making a point to consider ethnic polarization and fractionalization as interconnected, yet separate, explanatory variables with their completely own patterns and effects. While I examine studies using the same or similar measures for both variables, my conclusions come directly from the scholarly work that manages to look at and measure ethnic polarization as its own individual variable (Montalvo and Reynal-Querol 2005; Lacina 2005; Lacina 2006; Lacina 2014). This new focus on ethnic polarization has led me to see that it has a much greater potential for affecting the severity of a civil war than it has been given credit for in the past. It is in turn very likely that ethnic polarization can, in specific cases, be effectively defined as a crucial primary, and possibly independent, explanatory variable for the level of severity in a given civil war (Montalvo and Reynal-Querol 2005; Lacina 2006; Lacina 2014).

In this study, it is found that when there are two or three primary ethnic groups, the likelihood of conflict itself to arise is almost doubled (Lacina 2006; Lacina 2014). However, when you change this factor to the opposite extreme (when there are many different smaller ethnic groups), the severity of a particular conflict follows the inverse of this pattern (Lacina 2005; Lacina 2006; Lacina 2014). Thus, as the likelihood of conflict grows, the level ethnic polarization, and in turn severity of said conflict, are both at their lowest. In reviewing existing literature, this seems to be the case as decreased levels of ethnic polarization result in a more "indiscriminate use of force" (Lacina 2006). Lacina goes on to suggest that "a post hoc explanation might be that in ethnically homogeneous societies virtually the entire population can be implicated in the conflict, and it is more difficult to determine who is on what side, leading to more indiscriminate use of force" (Lacina 2006, p 287).

Moreover, as ethnic polarization goes down, and as ethnic heterogeneity goes up, conflicts are much more likely to be more severe, but possibly less likely to begin. For example, the two largest ethnic groups in India generally seem to follow suit of the two largest religious groups in India, Hindus and Muslims. Lacina (2014) concludes that one of the primary reasons that violence is so much more likely to become more severe between these two groups is the fact that they are (fairly) similarly sized in particular regions of India (Lacina 2014). Whereas in other regions of India where the region is completely ethnically fractionalized or the level of ethnic heterogeneity is larger, smaller groups can b mobilize locally much faster on commonly

collected sets of grievances (Collier, Paul, and Hoeffler 2004). Put simply, the larger the level of ethnic polarization, the less severe a civil war will be. It must also be noted that while this indicates a correlation of patterns of ethnic polarization, and ethnic fractionalization, that separate indices and measurements are still needed. Using separate and specific measurements, Montalvo and Reynal-Querol (2005) write that "for low levels of fractionalization, the correlation between ethnic fractionalization and polarization is positive and high." They continue to note that, "for the medium range, however, the correlation is zero and for high levels of fractionalization the correlation with polarization is negative" (Montalvo and Reynal-Querol 2005, 802).

It is important, prior to stipulating a central hypothesis, to identify what this study has found as the primary direct mechanisms working in the aforementioned relationship. In a review of the literature provided, along with Lacina's (2006) dataset coupled with Lacina's (2014) Indian case study, I have found two likely potential mechanisms: 1) The presence of a high number of different ethnic groups makes it more difficult for the groups to coordinate and thus to mount an effective attack/opposition against the government, thus limiting overall casualties. 2) The presence of a high number of different ethnic groups, makes it more difficult for the government forces to identify the groups that constitute the primary rebellious forces and thus to attack them. Lacina notes that, in homogeneous societies, it can prove more difficult to determine who is on what side specifically, and moreover, who is fighting for what as well (Lacina 2006). The lack of information, communication, and understanding, can result in "more indiscriminate use of force" (Lacina 2006). While we understand that this is just one of many "post hoc" explanations, and while further case studies would assist in identifying which of these mechanisms is the primary one in limiting the severity of a civil war, both remain viable and likely options. This leads me to my central hypothesis:

H1: The higher the level of the state's ethnic polarization, the less severe a civil war is likely to be.

In evaluating the hypothesis, it is important to look at what external factors come in to play as well such as mobilization and capacity, economic development, and other factors. Fjelde and De Soysa (2009) are able to effectively measure and define state capacity, but in this case I refer to rebel group capacity and mobility. While as development and investment levels in a state decrease, their ability to mobilize and in turn to become an effective opposition force decreases (Ghobarah, Huth, and Russett 2003 and Montalvo and Reynal-Querol 2005). Ghobarah, Huth, and Russett's (2003) study discussing what effects a society that has suffered the brutal nature of a civil war after it has ended focuses on many aspects that serve as primary factors to a developed society, and moreover, a developed economy. As development and overall investment go down, infrastructure, education, health care, and other services are to follow soon there-after (Ghobarah, Huth, and Russett 2003). In turn, the newly created or at the very least enlarged "loser" (Hartzell and Hoddie 2009) group will feel the worst and most immediate effects coming from this (Ghobarah, Huth, and Russett 2003). Thus, as ethnic polarization rises and levels of development and investment drop, the likelihood of the incidence of a civil war seems to increase. However, as new grievances arise, and in turn new loser groups are formed, the civil

war is then much less likely to become more severe, as these groups are much worse off, and much less likely to be able to mobilize (Ghobarah, Huth, and Russett 2003; Montalvo and Reynal-Querol 2005 ; Lacina 2006; Fjelde and De Soysa 2009; Hartzell and Hoddie 2009; Lacina 2014). Moreover, in more highly ethnically polarized societies, potential rebel groups will find it more difficult effectively to work together and provide a legitimate military challenge to the government. This creates the setting for a less severe civil war. This is the primary explanation behind my conclusion that ethnic polarization is a central explanatory variable, for the effect of having fewer battle deaths (lower severity) in a civil war.

Research Design and Data
The Dependent Variable
As my dependent variable, I use the data set from Lacina's (2006) study explaining the severity of civil wars, in order to define civil war severity or *battle deaths* (lnbdb). I also utilize the definition of both *battle deaths* and *contested combat* from Lacina and Gleditsch's (2005) study on measuring battle deaths. The definition used by Lacina to describe *battle deaths* closely follows the definition of *conflict* used in the Uppsala/PRIO Armed Fjelde and De Soysa (2009) Conflict Dataset (Gleditsch et al. 2002 and Harbom and Wallensteen 2005). More specifically, Lacina and Gleditsch (2005) define *battle deaths* as "deaths resulting directly from violence inflicted through the use of armed force by a party to an armed conflict during contested combat." Moreover, Lacina and Gleditsch (2005) go on to describe *contested combat* as the "use of armed force by a party to an armed conflict against any person or target during which the perpetrator faces the immediate threat of lethal force being used by another party to the conflict against him/her and/or allied fighters. Contested combat excludes the sustained destruction of soldiers or civilians outside of the context of any reciprocal threat of lethal force (e.g. execution of prisoners of war)." Using the specific definitions of both "contested combat" and "battle deaths" is effective as it narrows down the measures of the variables, by the specific makeup of who is accounted for in this specific study.

The Central Explanatory Variable
My central explanatory variable as a causal indicator of a civil war's severity is *Ethnic Polarization* (ethnicpolar). To test ethnic polarization, I use Lacina's (2006) study. Lacina finds that, when simply controlling for polarization as a variable, the "most serious potential confound" for this particular analysis is being able to effectively distinguish between relative political importance and relative population (Lacina 2006 and Lacina 2014). Political importance and overall population size are important factors in being able to operationalize why ethnic polarization may be at a specific level (Lacina 2014). These two factors are also very telling as when I connect the methods to my explanation behind the argument, defining ethnic polarization with such characteristics makes it easier to see physically how it may have an important impact on development, investment, grievances, etc. In Lacina's (2014) case study of India, she is able to control for ethnic polarization in this case, using two separate equations accounting for two general types of polarization that together, equal the makeup of what she measures as total ethnic polarization. Lacina (2013) controls for:

$$Demographic\ polarization = (ni^{2}nj + ni\ nj^{2}) \tag{1}$$

$$Cultural\ Polarization = (ni^{2}nj + ni\ nj^{2})dij \tag{2}$$

This is a crucial distinction in measurement as she utilizes this makeup of total *ethnic polarization* stating that the first equation functions "where *ni* and *nj* are the population shares of the plurality group in the enclave and the group opposed to statehood respectively" (Lacina 2014). Her argument follows that of Esteban, Mayoral, and Ray (2012) in the claim that cultural distance can have the effects of increasing the initial effects of ethnic polarization. This helps account for the *cultural polarization* equation of which functions "where *dij* is the linguistic distance between the enclave plurality and the opposing language group, normalized to fall between 0 and 1" (Lacina 2014). Utilizing these two measures helps one to see exactly what the measure of ethnic polarization is measuring and accounting for.

Control Variables
In this study, I employ three different control variables, all of which have the possibility to exercise an effect on battle severity. In this study, I controlled for *democracy* (democ) on a 0-1 scale, *GDP* (lngdp), and *population* (lnpop) (Lacina 2006). All of these variables are measured consistently through the dataset produced by Lacina (2006) , such as is described for the other variables mentioned above. Previous scholarly work links both regime type (democ) and GDP (lngdp) as effects on civil wars (Lacina 2006). While they are not shown to have statistically significant relationships to civil war severity (lnbdb), they still work as excellent controls, as it can be inferred that they have causal properties that affect how the civil war plays out, even if they are not seen to directly affect the severity (Lacina 2006; Esteban, Mayoral, and Ray 2012; Lacina 2014). In other words I construct my argument, under the notion that *democracy* (democ), *GDP* (lngdp), and *population* (lnpop), all have indirect effects on different properties of civil wars, but also have no statistically significant relationship to civil war *battle deaths* (lnbdb).

Dataset and Method
I test the effect of the independent variables on the dependent variable using a linear regression. I using the log for all variables except for democracy (which is measured on a 0-1 scale) and ethnic polarization. Finally, it is important to note that I only used observations (or countries) that had data recorded for all collected variables, for a total of 107 observations (Lacina 2006).

      The second dataset in which I root my argument is the Montalvo and Reynal-Querol 2005 dataset on ethnic fractionalization, polarization, and heterogeneity. Once again, I find the surprising (yet still weakly statistical) conclusion that ethnic polarization increases the incidence of civil wars, and that ethnic polarization decreases the severity of civil wars (Montalvo and Reynal-Querol 2005 and Lacina 2006). In Montalvo and Reynal-Querol's (2005) study, they state that "ethnic polarization has an indirect negative effect on growth because it increases the incidence of civil wars and public consumption, and reduces the rate of investment." This is one of the primary external possibilities that could introduce a relationship in which an increase in ethnic polarization results in a decrease in civil war severity.

Results and Analysis

Table 1 models the results of the linear regressions of ethnic polarization as the central explanatory variable for civil war severity measured in battle deaths. The results, based on the analysis of 107 observations between the years 1946-2002, are presented in Table 1, below.

Table 1.   Ethnic Polarization and the Severity of Civil War, 1946-2002

Ethnic Polarization	-0.71708*
	(0.4053)
GDP $_{natural\ log}$	-0.21142
	(0.1756)
Population$_{natural\ log}$	- 0.03197
	(0.095302)
Democracy	-0.62995
	(.42649)
Constant	12.1398**
	(2.1566)
Observations	107
R-squared	0.0900

***p<0.01; **p<0.05; *p<0.1. Standard errors in parentheses.

The results conveyed in Table 1 provide support for my hypothesis. I find that ethnic polarization has a negative and weakly statistically significant *(p=* 0.08 relationship with civil war severity (lnbdb). Thus, the higher the level of ethnic polarization in a country, the less severe the country's civil war is likely to be. Using recent scholarly research discussed in the literature review, we are able to see that it is very plausible that higher levels of ethnic polarization (given all controls remain constant as recorded in table 1) may help to dampen civil war severity (lnbdb).

While the results pictured above are in line with what I hypothesized, there remain issues and concepts that need to be explored and researched further. As I discussed above, using Lacina's (2006) datasets allowed us to be incredibly specific, especially when it comes to recording battle deaths, but it is possible that this still has room for error. Whether it comes in the form of misinformation, or misreporting (whether intentional or otherwise) by the county's government, this could easily skew the data, even as we used a natural log to prevent this from having too big of an impact. We see in Lacina's (2014) Indian case study that there is generally a

lot to gain from micro-level data or from case studies specifically, however, using them creates a bit of a larger margin for error as well (Lacina 2013). As Lacina (2014) mentions in her study, any inferences made based on quantitative or qualitative data from such a study have room for error. While it is likely that we are able to apply these results within a global area, it is just as possible that characteristics and events specific to India, and moreover India's population demographic, could very well make the study much less applicable to global datasets (Lacina 2014). Either way, it is pertinent, to increase the range of case studies on the topic, and to replicate this study with changed/updated cross-country datasets with updated control variables as well.

Discussion and Conclusion
While many recent scholarly works have included ethnic polarization as a control, or as a possible explanatory variable for the severity of civil, it has not received much attention as a primary explanatory variable. Generally, scholars will tend to focus more on ethnic fractionalization as having the far greater and independent causal properties in the relationship with civil war severity, but this is with many ethnic polarization effects remaining under the same umbrella.

The dataset used in this study was built with 107 observations (countries) that had credible and recorded data discerning a measurable level of both ethnic polarization and civil war severity (Lacina 2006). Using this dataset, I find that there is a negative and weakly statistically significant relationship between ethnic polarization and civil war severity (Lacina 2006). Based on the methodologies present in both Lacina's (2014) case study on the *Indian Federal Reorganization*, and Montalvo and Reynal-Querol's (2005) study on *Ethnic Polarization Potential Conflict and Civil Wars,* I first look at the different measures of ethnic polarization, and how they relate as central explanatory variables to the severity of a specific civil war. Historically, when measuring for ethnicity-based relationships with civil war severity, ethnic fractionalization- specific measures have been used in lieu of separate measurements. While it remains true that this claim remains weakly statistically significant, it is also very important to note that there have been many mentions of possibilities of ethnic polarization deserving a larger independent place in future literature as an explanatory variable as well (Montalvo and Reynal-Querol 2005; Lacina 2005; Lacina 2006; Aliyev, Huseyn, and Souleimanov 2018; Lacina 2014). In completing this research, it is also very helpful to look at some of the other ways that ethnic polarization can affect civil wars. For example, recent research by scholars finds that ethnic polarization has a weakly statistically significant and negative impact on a civil war's severity, However, it also finds that it has a surprisingly positive relationship on the *incidence* of civil wars that needs further evidence and scholarship (Montalvo and Reynal-Querol 2005 and Lacina 2006). Therefore, in moving forward with the study, we will take these findings into account, especially in order to help to further educate future policy decisions concerning differential effects of ethnic polarization, or even fractionalization and heterogeneity.

There is room for future study on this relationship and on others that are interconnected with the variables looked at in this study. More research is needed on the connections among ethnic polarization, fractionalization, heterogeneity, and homogeneity. Scholars should use a variety of updated measures for each variable. While Lacina (2014) gives some excellent insight

into how one might go about incorporating ethnic polarization in a particular case, micro-level data will give future scholars on the subject much better insight into how to study ethnic polarization on a per-country basis. As ethnic polarization can affect different types of people in many ways, especially in different regime types, an increase in micro-level data (possibly in the form of qualitative interviews) would allow for the overall widening of this research area.

Stata Output Model

```
. regress lnbdb ethnicpolar democ lngdp lnpop
```

Source	SS	df	MS			
Model	27.6569306	4	6.91423264			
Residual	279.638624	102	2.74155514			
Total	307.295555	106	2.89901467			

				Number of obs	=	107
				F(4, 102)	=	2.52
				Prob > F	=	0.0456
				R-squared	=	0.0900
				Adj R-squared	=	0.0543
				Root MSE	=	1.6558

lnbdb	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
ethnicpolar	-.7170808	.4052866	-1.77	0.080	-1.520965	.0868032
democ	-.6299532	.4264915	-1.48	0.143	-1.475897	.2159907
lngdp	-.2114158	.1755957	-1.20	0.231	-.5597091	.1368775
lnpop	-.0319688	.0953019	-0.34	0.738	-.2209997	.1570622
_cons	12.13976	2.156626	5.63	0.000	7.862103	16.41742

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