

# Research Statement

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October 2008

My research focuses on international conflict and cooperation, with a heavy emphasis on statistical analysis and formal modeling. In particular I am interested in the political economy of military conflict; the causes and effects of conflict management and other types of interventions in wars and crises; bargaining theory and strategic communication; contract theory and its application to rebel organizations; the integration of micro-level data in international security studies; and the development of quantitative methods in the social sciences. In the following, I provide details on three current projects (including my dissertation) and three future projects that speak to this broad research agenda.<sup>1</sup>

## **Current Research**

### **International Mediation of Wars: Causes and Consequences**

My dissertation investigates the causes and consequences of international mediation in wars. The question whether and in what ways mediation can help settle wars has generated a sizable literature, but relatively little progress has been made toward demonstrating causal instead of just correlative relationships. Mediation is a highly strategic phenomenon: International mediators carefully consider where and when to intervene and anticipate the likely effects of their intervention decisions. This makes it difficult to know to what extent mediation affects the likelihood of a settlement, and to what extent the chance of a settlement leads to mediation.

I approach this problem in two ways in my dissertation. First, I ask what conclusions we can reach by thinking about mediation in a framework of strategic interaction and communication. I develop a game-theoretic model that contributes to existing research by incorporating both the decision to initiate mediation and the negotiations that follow. I argue for example that if mediation is expensive to provide, we should expect relatively biased mediators to step into the fray, but biased mediators are relatively less effective at bringing disputants to a settlement. An unsuspecting empirical analysis, then, could wrongly con-

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<sup>1</sup>All current working papers are available on my web site at <http://www.berndbeber.org>.

clude that lavish funding undermines effective negotiations, when it is mediator bias that lurks behind both.

Second, I address the problems identified above empirically and locate instrumental variables in order to suggest causal as opposed to just correlative answers to several questions. First, are internationally mediated talks more likely to lead to a settlement than direct negotiations without a mediator? As the formal model indicates, selection and endogeneity issues abound, and I address them by using event timing as an instrument for whether talks were mediated: Mediation initiation peaks in early summer when many legislatures are in recess and drops in the weeks prior to and during the United Nations General Assembly as well as at the end of the business year. I find that mediation does not appear to have a positive effect on the likelihood of war settlement in a basic regression, but that we can recover a positive and strongly significant effect once we use the instrument.

The second question I address is whether multi-party mediation is more effective than single-party mediation, which is supported by a basic regression model. Perhaps collective action problems limit funds available to multi-party mediation efforts, which keeps negotiators focused on reaching a settlement (e.g. by making mediator deadlines credible)? Once we use the lagged number of mediators as an instrument for multi-party mediation, however, it turns out that the seemingly strong effect of multi-party mediation is most likely spurious. In particular it seems that mediators “pile on” as a settlement becomes likely.

The empirical analysis of my dissertation uses an original dataset of 520 post-Cold War conflict management events (including 151 mediation processes) in 35 wars, which was constructed from more than 15,000 newspaper and wire reports published between 1990 and 2005.<sup>2</sup> Most quantitative mediation research uses either data from the International Crises Behavior (ICB) project, which does not cover intrastate conflicts, or the International Conflict Management (ICM) database, for which available coverage ends in 1995. Recent research has also benefited from the 2007 release of the Uppsala Conflict Data Program’s dataset on Managing Intrastate Low-level Conflict (MILC), although this database does not cover wars. My dissertation uses all three datasets in its empirical sections, but it was necessary to collect new data to evaluate mediation in post-1990 wars. International efforts to mediate wars have generally increased over the last ten years, and internal conflicts are a prime target of such efforts (not surprisingly, given that they constitute the vast majority of post-Cold War conflicts), and yet no comprehensive dataset has existed to evaluate whether mediation has actually worked in this context. The data I have collected fills this void.

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<sup>2</sup>See <http://www.columbia.edu/~bhb2102/research.htm> for a codebook for this dataset.

## **The Industrial Organization of Rebellion: Forced Labor and Child Soldiering**

This paper, co-authored with Chris Blattman, further illustrates my research interests in the political economy of conflict and innovative quantitative methods. We explore the logic of child soldiering and coercion using interview and survey data from Uganda's Lord's Resistance Army. We find that the LRA abducted young adolescents for three reasons: because they were overrepresented in the population; because they were more effective guerrillas than younger children; and because they were more easily indoctrinated and disoriented than young adults. We use these results to motivate a formal model of recruitment, where a principal (the rebel leader) makes two key choices: the type of agent (the abductee) to recruit; and the incentives to offer from a spectrum of rewards and pain. As we see in Uganda, an agent's productivity and reservation utility vary in age. The model suggests that coercion and child soldiering can be the product of rational production decisions, and is most likely to arise when punishment and supervision are cheap, when children's outside options are especially poor, and when rebel leaders are resource-constrained. The paper highlights implications for the prevention of child soldiering and counter-insurgency.

## **What the Numbers Say: A Digit-Based Test for Election Fraud**

In this paper co-authored with Alexandra Scacco, we ask if we can detect election fraud if all we have are return sheets with vote totals. This is a situation commonly encountered by election monitors in developing countries, and one in which regression-based checks for outlying results won't work. Our approach is to recognize that people have psychological biases in generating numbers: They tend to favor small digits, avoid repetition, and prefer adjacent numerals. We develop a set of new statistical tools that check digit patterns for these biases, and we find evidence of widespread fraud in Nigeria's 2003 elections (using previously unavailable polling station data), localized fraud in Chicago elections from the 1920s, and no fraud in Sweden in 2002.

## **Future Research**

### **The Determinants of Conflict Management: A Survey of High-Level Mediators**

I am interested in bridging the gap between micro-data and the study of conflict in international relations, in order to help us better understand the determinants of intervention choices. In this line of research I have designed a survey of high-level mediators, which will collect data on how mediators condition their intervention decision and negotiation tactics on dispute attributes.<sup>3</sup> The survey includes an experimental section designed to collect respondent reactions to randomly assigned conflict scenarios.

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<sup>3</sup>See <http://www.columbia.edu/~bhb2102/survey.html> for a draft of a web-based version of the survey.

The survey will address three research questions in particular. First, what are different mediators' perceptions of how difficult it is for various types of disputes to end? Second, in which types of disputes are different mediators most (or least) interested in becoming involved? Third, which types of mediation strategies do different mediators prefer, in general and in specific dispute situations?

Answers to these questions will improve our understanding of the selection process that underpins the initiation of mediation in general and the use of different mediator tactics in particular. This is important because mediation is a highly strategic phenomenon, and an empirical analysis that does not account for selection dynamics could lead to biased conclusions. In addition the data from this survey will allow us to test empirical implications of theoretical models of mediation initiation like the one I develop in my dissertation.

The survey will collect data on respondent characteristics (e.g. age group and risk perception) as well as a substantial amount of information about respondent reactions to different mediation scenarios. Each respondent will face a different sequence of scenarios, which vary e.g. by conflict type (inter- versus intrastate), military balance, dispute duration, and fatality levels.

The experimental component of the survey will allow us to make at least three different types of comparisons. First, we can compare responses within scenario, across subjects (e.g. how interested was the average mediator in intervening in a high-fatality dispute). Second, respondents are asked to explicitly compare "neighboring" scenarios (e.g. on average how interested was a mediator in intervening in a high-fatality dispute when explicitly comparing it to a low-fatality dispute). Third, respondents will implicitly compare "neighboring" scenarios: Respondents will be asked to respond to a series of scenarios, and two (non-consecutive) scenarios will be different in only one dispute dimension. While this approach introduces noise, it minimizes survey bias that could result from priming when respondents are asked to make explicit comparisons.

The scenario-based approach of this survey experiment is reminiscent of work by Wilkenfeld et al. (2005), who conducted a series of lab experiments with college students to investigate the effects of mediation tactics on negotiation outcomes and disputant satisfaction. Experiments with college students, however, raise questions about the external validity of results, an issue I hope to address by surveying actual decision-makers.

I have been in touch with the United Nations' Department of Political Affairs as well as a non-governmental organization with access to a large network of high-level mediators, and I hope to implement the survey in late 2009. In the future, I hope to conduct a similar

survey with negotiators who represent disputants in international crises and wars, although this is a more difficult population to reach.

### **The Effects of Post-War Occupation Strategies: A Natural Experiment in Post-World War II Germany**

Second, I will work with Jeremy Weinstein on the effects of post-World War II occupation in West Germany, which provides a natural experiment to evaluate post-war intervention strategies: In some regions, the borders between the American, British, and French zones were unrelated to key characteristics of the places they divided, but policies (such as denazification and economic reconstruction) differed sharply.

Several studies have considered the effect of Soviet as compared to Western occupation (Kogut and Zander 2000; Rosenfeld, Trappe, and Gornick 2004), but the natural experiment afforded by zonal divisions in West Germany has generally been overlooked. We are particularly interested in divided cities or twin cities with a shared pre-1945 labor market and political history, where zonal boundaries were set for exogenous reasons and the terrain was conducive to border enforcement and permitted little sorting.

One example of such a case is the city of Mainz. Prior to 1945, Mainz had six city sections on the right side of the Rhine, connected by a bridge to the rest of the city. All of Mainz had been under the same provincial administration since the Congress of Vienna; it shared a local economy and labor market; the Rhine river was set as the region's zonal boundary for no reason related to the layout of Mainz; and the river made unauthorized crossings difficult, since it was tightly controlled by Allied forces and only Allied pontoon bridges were operating.

Policies between the American-occupied eastern part of Mainz and the French-occupied western part, however, differed tremendously, with the French administration prioritizing for example extractive economic policies. We will identify the effect of such policies using population, business, and industry data from the Allied census in 1946 and subsequent censuses in 1950, 1961, 1970, and 1987, plus data collected by states and cities.

### **Divide and Rule: Improving the Use of Ratio Variables**

Third, I am interested in the development of statistical methods in the social sciences and have, for example, written Stata code to estimate first differences after multinomial probit regressions.<sup>4</sup> One issue, among others, that I hope to study in the future is the use of ratio variables such as income per capita, vote share, or crime rates in political science.

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<sup>4</sup>Code is available at <http://www.columbia.edu/~bhb2102/software.htm>.

The use of ratio variables has some key advantages, such that ratio models can reduce heteroskedasticity if the common component or scale variable is correlated with the disturbance term in a non-ratio specification. There are drawbacks, however, if a ratio specification is not appropriate, and for at least twenty years political scientists have had advice on properly specifying a model in ratio form (e.g. avoid proportions, such as urban divided by total population, and use ratios of non-nested components instead, such as urban divided by non-urban population).

In preliminary work, which I presented at the 2008 Political Methodology summer meeting, I have documented the extent to which this advice has been neglected in articles published in the *American Political Science Review* within the last ten years. I have also pointed out that virtually all of the research in this area assumes that we know the true data-generating model that is to be estimated, while we often cannot know *ex ante* whether a specification with ratio variables is appropriate because we are uncertain about how the scale variable enters the data-generating process. The solution I have suggested is to first estimate an unrestricted model that is agnostic as to whether the scale variable should enter the model directly as a predictor or by way of a ratio, and then examine the residuals over the scale variable as well as the joint significance of particular groups of coefficients in order to determine whether the model can safely be estimated in a more efficient ratio form.

Future work will involve substantially more research on at least three fronts: First, I hope to derive a straightforward test statistic and provide easy-to-use software that could be used in practical applications. Second, much of the literature on ratio variables is preoccupied with linear models, while I would like to extend my analysis to non-linear specifications. Third, I want to investigate to which extent matching algorithms can compensate for problems that derive from improperly specified ratios.