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# Domestic Capacities for Building Post-Conflict Peace

Erin Rachel Reed

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# DOMESTIC CAPACITIES FOR BUILDING POST-CONFLICT PEACE

by

ERIN REED

Under the Direction of Dr. Carrie Manning

## ABSTRACT

The existing democratization and peacebuilding literature often neglects the important role the domestic realm plays in post-conflict peacebuilding. To explain why some post-conflict peacebuilding operations have a greater likelihood of success than others, some scholars have examined the impact of factors such as international coordination, external donor interest, democratic sequencing, and hostility levels. This analysis focuses on domestic capacities for building peace in the aftermath of civil conflict in order to systematically explore the relationship between the domestic sphere and peacebuilding success. Using Sambanis and Doyle's (2006) peacebuilding triangle model, new local capacities indexes will be created and tested.

INDEX WORDS: Peacebuilding, Civil War, Democratization, Local capacities, Post-conflict reconstruction

DOMESTIC CAPACITIES FOR BUILDING POST-CONFLICT PEACE

by

ERIN REED

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of

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in the College of Arts and Sciences  
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Erin Reed

2008

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## 1. INTRODUCTION

The contemporary international community is plagued with a proliferation of intrastate conflicts or civil wars, most densely located in regions termed “less developed.” As a result of globalization, advanced technology, and the rise of terrorism, the destabilizing effects of intrastate war have generated considerable great power interest. The academic community has put forth substantial effort towards understanding and creating peacebuilding initiatives.<sup>1</sup> Sambanis and Doyle’s (2000; 2006) peacebuilding triangle model has become a central theory within the existing literature on post-conflict peacebuilding. Three “concept” variables compose the peacebuilding triangle, or the political space available for building peace – international capacity, local capacity, and level of hostility, with international capacity compensating for lower levels of local capacity and/or higher levels of hostility (Sambanis and Doyle 2006). In contrast to Sambanis and Doyle’s (2006) interest in the contribution of UN peace operations to post-conflict peacebuilding success, this analysis is focused on exploring the relationship between local capacities and peacebuilding success. The goal of this analysis is to show how exploring the dimensions of post-conflict local capacity can shed light on the probability of peacebuilding success, in addition to offering insight into an often neglected dimension of peacebuilding, the domestic realm.

The purpose of peacebuilding is to address the derivations of hostility and build local capacities for non-violent conflict resolution, such as robust state institutions and widespread political

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<sup>1</sup> Since 1948 there have been 63 UN peace operations, over two thirds of which have been implemented since the 1990s.

participation, during the aftermath of civil strife. Stated differently, the goal of peacebuilding is to endow societies with the skills and mechanisms to prevent future conflicts from turning violent. The phenomena explored in this analysis, namely, local capacity for post-conflict peacebuilding, has valuable implications for both academics and policy-makers. Strengthening our understanding of post-conflict local capacity enables the development and implementation of successful peacebuilding initiatives. Furthermore, exploring the facets of post-conflict local capacity may offer insight into the current debate concerning the sequencing of institution-building and democratization by specifying an optimal model for operationalizing local capacity. The existing literature on post-conflict peacebuilding generally overlooks or dilutes the dynamics of the domestic realm. This analysis serves to systematically test domestic capacity with respect to post-conflict peacebuilding.

Sambanis and Doyle's (2000; 2006) peacebuilding triangle explores two main local capacities models: an index of electricity consumption per capita (the chosen index) and a composite index of per capita GDP, rate of growth of per capita GDP, and primary commodity exports as a percent of GDP. The central research question posited in this analysis is how can the local capacities index be improved in order to better capture the qualities of the domestic sphere and better predict the likelihood of post-conflict peacebuilding success? How can these domestic qualities be systematically tested? Moreover, what are the factors that influence the local capacities level of post-conflict environments? According to the existing literature, how should these factors influence the probability of post-conflict peacebuilding success? How can these factors be operationalized?

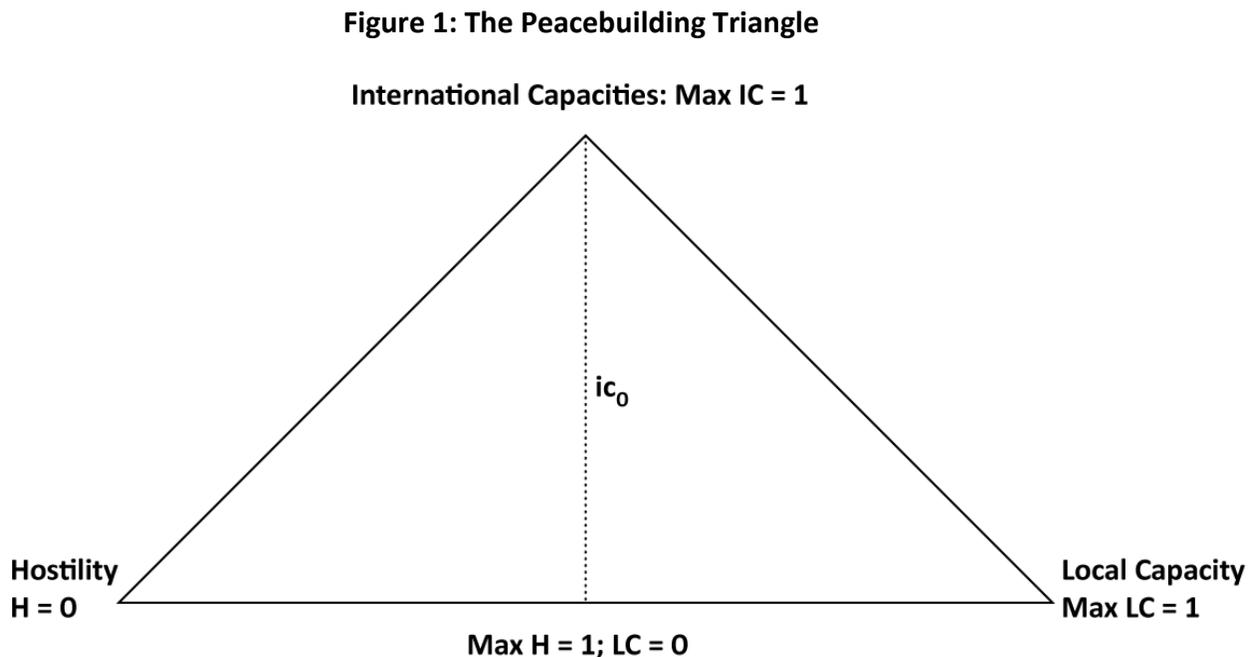
## 2. THE PEACEBUILDING TRIANGLE MODEL

Doyle and Sambanis (2000; 2006) identify three core dimensions of international peacebuilding; peacebuilding strategies should all address the domestic sources of hostility, the local capacities for change, and the extent to which international assistance is available to generate reform.

The peacebuilding triangle is an embodiment of these three dimensions – level of hostility, local capacities, and international capacities – as a model of the effective capacity for building post-conflict peace. The dimensions interact with each other allowing the model to be both competitive – hostility level versus international and local capacities – and cooperative – international capacities and local capacities (Doyle and Sambanis 2000). The model assumes international capacities to be strictly positive following the assumption that international assistance will only improve, not thwart, the likelihood of peacebuilding success (Doyle and Sambanis 2000). Each of the three dimensions is measured as an individual index ranging from zero to one (see Figure 1).

The logic of the model is straightforward. As a modern international concept, peacebuilding success heavily depends on ample international and/or regional involvement. Sambanis and Doyle (2006) constructed the peacebuilding triangle model for the purpose of deciphering the influence of various types of UN peace operations (e.g. mediation missions, observer missions, traditional peacekeeping missions, multidimensional peacekeeping missions, and peace enforcement missions) during the post-war era. The hostility level captures the impact of the depth of violence present during the civil war – the more pugnacious and numerous the

factions – on the need for greater international assistance in order to build peace (Doyle and Sambanis 2000). Accordingly, lower levels of hostility would require less international assistance, resulting in a lower-intensity UN mission as the most appropriate option. The local capacities level captures the degree of socioeconomic development present, or the need for state reconstruction. Greater international assistance coincides with a greater need for state reconstruction, or a higher-intensity UN mission. In sum, the aim of Sambanis and Doyle's (2000; 2006) peacebuilding triangle is to show how international assistance is central to peacebuilding in general and more likely to be successful when it caters to the context of each particular case.



Although for some cases, such as El Salvador and Croatia, Sambanis and Doyle's (2006) peacebuilding model does accurately predict the probability of peacebuilding success, for other

cases, the peacebuilding triangle is less accurate due to omitted variables. Sambanis and Doyle (2006) note that the peacebuilding triangle in Congo (1960-1965) could have conceivably been more accurate if the primary commodity exports variable captured the country's high dependence on natural resource rents. On the one hand, the peacebuilding triangle in Cambodia (1975-1991) was unable to capture the Khmer Rouge's principal source of revenue, the timber trade. On the other hand, and equally problematic, the peacebuilding triangle in Cyprus (1974) overestimates the country's resource dependency. According to Sambanis and Doyle (2006), the peacebuilding triangle in East Timor (1975-1999) likely overestimates the local capacities level; the insufficient physical infrastructure and absence of human capital present in post-conflict East Timor were not captured by the peacebuilding triangle. In sum, the current local capacities index is unable to capture some vital domestic aspects, factors that will likely improve the efficacy of the peacebuilding triangle model.

A related concern pertains to the distribution of Sambanis and Doyle's (2006) local capacities index. The mean local capacities level is 0.095, half of the cases have a local capacities measure of at or below 0.042, and three-fourths of the cases have a local capacities level of at or below 0.113. Although local capacities tend to be low in post-war settings, the lack of variance (0.023) in the current local capacities index leaves little room to explore the effect of smaller domestic changes on the probability of peacebuilding success. For instance, all three of Angola's civil wars have a local capacities measure greater than between one-quarter and one half of all of the cases, meaning that, according to this index, Angola has greater domestic capacity for building peace than over one-fourth to one-half of all post-war intrastate conflicts. Looking

more closely, though, Angola's domestic terrain is highly problematic for building peace: dependency on natural resource rents, lootable resource endowment, religious dominance, and no previous experience with political pluralism. Post-conflict Iraq (1985-1996) also measures at a relatively high local capacities level; according to the current local capacities index, Iraq had greater domestic capacity for building peace than approximately 90% of all the cases. Adding dimensions to the local capacities index will induce greater variance in the index and enable a more fruitful exploration of the effect of the domestic realm with respect to building peace.

### 3. LOCAL CAPACITY FOR BUILDING PEACE

Local capacity refers to the domestic resources and aptitude available for building peace in a country during the aftermath of civil war (Sambanis and Doyle 2006). On a basic level, personal experience and opportunity shape the contours of the post-conflict terrain. Kalyvas (2006) points out that local quarrels and private grudges often exist but do not usually ignite into violence and civil war; determining which factors generate violence and which factors prevent war is vital to building sustainable peace. Sambanis and Doyle (2006) define local capacity as the domestic socioeconomic capacity for reform after the cessation of civil conflict: the greater the existing level of local capacity, the lesser the need for outside support; the lower the level of socioeconomic capacity, the greater the need for an expansive and multidimensional international role. Stated differently, local capacity is a society's ability to rebuild itself after civil strife, taking into account the economic opportunity cost of returning to war (Sambanis and Doyle 2006). When lucrative economic opportunities are accessible, the opportunity cost of war goes up, which lowers the incentive for factions to wage war.

Local capacity is not just the domestic capacity for change but also the likelihood of, or capacity for, civil conflict. This analysis conceptualizes local capacity as the need for domestic reconstruction (e.g. socioeconomic capital and state infrastructure) as well as the extent to which insurgent revenue sources are procurable (e.g. the probability of domestic internecine), both of which are contingent on state power. State power will be included under the socioeconomic endowment local capacities dimension. Additionally, local capacity refers to the

existing domestic capacity for democratization; democratization is a fundamental aspect of post-conflict peacebuilding. Although Sambanis and Doyle (2006) take into consideration the economic opportunity cost of returning to war, the new conceptualization of local capacity includes the broader category of civil war onset, the notion of state power, and propensity for democratization, all three of which were not incorporated in Sambanis and Doyle's (2006) conceptualization of local capacity. These three dimensions – extant socioeconomic endowment for building peace, capacity for intrastate conflict, and proclivity to democratization – coalesce and create the dynamics of local capacity.

### **Socioeconomic Endowment**

In many ways, state power can be thought of as the epicenter of peacebuilding. State power, or the state's capacity to broadcast authority across its territory, hinges on several factors: in order to reach the rural periphery, states must have ample physical infrastructure (e.g. roads, electricity lines, telephone or communication lines, etc.); building physical infrastructure requires money; generating revenue predominantly depends on taxation (excluding the theories on natural resource endowment and taxation); taxation tends to parallel greater political accountability, which commonly corresponds with enhanced social services and a better educated citizenry. Collier and Hoeffler (2004) reveal a significant relationship affixing population dispersion and conflict risk, reflecting Herbst's (2000) hypothesis postulating that states with highly dispersed populations are less able to control its people and states with condensed populations are more able to control its people. Serwer and Thomson (2007) define state infrastructure as electricity, communications, and transportation, such as roads,

railways, or telephone landlines. In a study examining the factors that influence the likelihood of successful implementation of intrastate peace agreements, Stedman (2001) includes a qualitative measure of collapsed state defined as the absence of state institutions and capacity.<sup>2</sup> Fearon and Laitin (2003) argue that conditions that favor insurgency significantly influence intrastate conflict risk. Central to this argument is the hypothesis that insurgents are more likely to survive and flourish in environments where the state is weak, referring to the state's police and military capabilities, in addition to the broadcast of state institutions, do not reach the rural domain (Fearon and Laitin 2003).<sup>3</sup> Conditions that favor insurgency pertain to the presence of rough terrain (lack of functional/paved roads), large rural populations, etc. This analysis will use two proxies of state power – rural population density and percent urban population – and will include state power as part of the socioeconomic local capacities dimension. Although road density, communications density, or army size could also be insightful proxies for state power, the current paucity of data prohibits their usage in this analysis.<sup>4</sup>

Numerous arguments concerning socioeconomic capital and domestic internecine have been adduced by academics. Both Collier and Hoeffler (2004) and Fearon and Laitin (2003) find that countries with high levels of per capita income and high levels of per capita income growth are both significantly associated with a reduction in conflict risk. Collier and Hoeffler (2004) attest

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<sup>2</sup> Stedman (2001) includes collapsed state as one of eight factors that make peacebuilding difficult; the more difficulty factors present, the more onerous peace implementation will be. Also, Stedman (2001) does not specify precisely what defines state institutions and capacity.

<sup>3</sup> Insurgents refer to small groups of lightly armed combatants that use guerrilla warfare from rural bases (Fearon and Laitin 2003).

<sup>4</sup> Road density or telephone landline density would be useful if they could be measured at the end year of each conflict.

that a higher level of economic development makes countries less conducive to rebellion. Additionally, Collier and Hoeffler (2004) operationalize socioeconomic development with a measure of male secondary education enrollment, which also proves to be highly significant. For Fearon and Laitin (2003), economic development reduces conflict risk because more developed countries have stronger states, and are therefore likely to have more state infrastructure that extends state power to the rural periphery. In Walter's (2004) study exploring the factors that influence the recurrence of intrastate conflict she finds that the current living conditions in a country is highly associated with the probability of civil war recurrence. Using infant mortality, life expectancy, and adult literacy individually in addition to a composite index of all three factors, Walter (2004) argues that poor living conditions influence the risk of conflict because of the effect living conditions have on an individual's propensity to enlist, or re-enlist, with rebel organizations. Although male secondary education enrollment, life expectancy, infant mortality, and adult literacy do serve as acceptable proxies for socioeconomic development, they are less appropriate for measuring socioeconomic capital with respect to state power.<sup>5</sup> Pivotal to successful peacebuilding is monopolizing the legitimate use of force – without basic physical security, sustainable peace is highly improbable. This analysis chooses electricity consumption per capita as the most appropriate proxy for socioeconomic capital and physical infrastructure; GDP per capita will be used to check model robustness.

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<sup>5</sup>Sambanis and Doyle (2006) argue that life expectancy, infant mortality, and adult literacy are less theoretically tied to incentives for waging war.

In sum, two critical factors encompass the socioeconomic local capacities dimension for building peace, or for state reconstruction: broadcast of state power and socioeconomic capital. Theoretically, internal domestic threats are less likely to succeed in waging war when a state is able to broadcast power to its borders, just as people are less likely to wage war when their basic needs are met. The modern state system favors external sovereignty, as opposed to internal sovereignty, with control of the capital city corresponding to internationally recognized leadership of a country. Consequently, the system encourages state echelons to focus on controlling the capital city and its immediate surrounding areas, instead of controlling the rural terrain. State power will be operationalized as rural population density and as the percentage of the total population that is urban.<sup>6</sup> The direction of the relationship between rural population density or percent urban population and peacebuilding success is ambiguous. On one hand, greater rural population density could mean a larger population residing outside state power because the rural periphery is further away from the urban capital. On the other hand, greater rural population density could mean that the rural population is less scattered thereby making the rural terrain more conducive to consolidating state power. Any large country with non-contiguous areas of high population density is likely to have low levels of state power.<sup>7</sup> For instance, the Democratic Republic of Congo is a prime example of a “rim-land” country, or a country where the high population concentrations are located in border regions while the interior is relatively empty (Herbst 2000). State power as percent urban

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<sup>6</sup> In most cases of intrastate conflict the state itself is part of the problem. For the purposes of this analysis, greater state power is expected to have a positive relationship with building peace because it corresponds to a greater degree of extant physical infrastructure. More physical infrastructure coincides with less of a need for infrastructure building, which corresponds with a greater chance for successfully building peace.

<sup>7</sup> Benin is an example of a country with favorable population dispersion: a small country with the highest concentration of power found in one area, located around the capital city, with population densities diminishing as the distance from the capital increases (Herbst 2000).

population could also be argued both ways. Greater percent urban population could mean that a larger percentage of the population is within the boundaries of state power because more people are residing in the urban capital. Alternatively, greater percent urban population could mean that the rural domain is unsafe or unable to sustain populations. If people reside in urban conglomerates because they are unable to receive their basic needs in the rural domain, then greater percent urban population would mean less state power. Socioeconomic capital refers to whether or not the state is able to provide its population with basic needs – e.g. water, food, shelter, and basic physical security – which largely depends on physical infrastructure. Electricity consumption per capita will serve as the proxy for socioeconomic capital.<sup>8</sup>

### **Probability of Intrastate Conflict**

Many scholars have emphasized the impact natural resources have on the probability of intrastate war onset (Collier 2007; Fearon and Laitin 2003; 2007). Theoretically, factors that influence the risk of intrastate conflict should also influence the probability of post-conflict peacebuilding success. Specifically, two central arguments have been made. First, Collier and Hoeffler (2004) attest that natural resources influence conflict risk because they provide rebel groups with the financial opportunities which make rebellion feasible, if not desirable. In the absence of natural resources, spoilers generally procure funding via Diaspora donations or aid from other governments (Bigombe et al 2000; Collier and Hoeffler 2004). For instance, the Renamo rebellion in Mozambique was primarily funded by the government of Southern

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<sup>8</sup> Electricity consumption per capita is highly correlated with income in addition to presupposing sufficient physical infrastructure (Sambanis and Doyle 2006).

Rhodesia, or present day Zimbabwe (Collier and Hoeffler 2004). Countries with substantial American Diaspora have a 36% risk of conflict, in comparison to countries with small Diaspora populations having a 6% chance of conflict (Collier 2000). The involvement of the Tamil diaspora in the Sri Lankan insurgency highlights the immense impact Diaspora can have on intrastate conflict. The Tamil diaspora played a pivotal role in encouraging the LTTE to enter a ceasefire with Colombo (Fair 2005). Collier and Hoeffler (2004) find that the peak risk of conflict is associated with countries that have 33% primary commodity exports (as percent of GDP); the significance of primary commodity exports holds even when categorized according to which type of product was dominant. Moreover, Collier (2007) finds that the most precarious level of primary commodity dependence is 26%, which is associated with a 23% greater risk of conflict. Opposing Collier (2007) and Collier and Hoeffler (2004), Fearon (2005) argues that the influence of primary commodity dependence on civil war risk is attributed to oil: oil is a major source of primary commodity dependence and significant oil production increases conflict risk. For example, the internal conflicts in Angola, the second largest sub-Saharan oil producer and the fourth largest world diamond producer by value, were funded via both diamonds and oil, with the MPLA controlling oil and UNITA controlling diamonds (Le Billon 2001). Second, scholars argue that natural resources weaken state institutions (e.g. less need for taxation, therefore less political accountability) which increases the risk of conflict (Fearon and Laitin 2003; Snyder and Bhavnani 2005). Fearon and Laitin (2004) find that greater oil exports do increase conflict risk. This analysis will test all of these proxies for insurgent funding sources: natural resource dependency, Diaspora size, and oil dependency.

There are a broad array of existing theories pertaining to ethnic, religious, and linguistic fragmentation and domestic internecine. According to Collier (2000), ethnic dominance – when one ethnic group comprises between 45% and 90% of the total population – doubles the risk of domestic conflict. An ethnic group constituting 45% of a total state population is likely to have a stable winning coalition even in a democracy (Bigombe et al 2000). Other than ethnic dominance, more ethnically and religiously heterogeneous societies are significantly less likely to exhibit intrastate war; ethnically and religiously homogenous societies have a conflict risk of 23% in comparison to the 3% for highly diverse societies (Collier 2000). Fearon and Laitin (2003) explore the hypothesis that ethnic fractionalization should be especially influential in determining the probability of conflict in the presence of higher per capita income. This hypothesis stems from modernist theories: new economic opportunity structures spawned from economic growth can be problematic in ethnically or religiously fragmented societies because access to these new economic opportunities will likely follow existing ethnic or religious cleavages. For example, the Rwandan civil war was fought between the Hutu majority and the Tutsi minority, which resulted in genocide.<sup>9</sup> Reynal-Querol (2002) argues that religious fractionalization is more problematic than ethnic or linguistic fragmentation because religious identities are especially fixed and nonnegotiable. Furthermore, the type of political system (e.g. consociational democracy) and level of democracy affect the probability of ethnic civil war (Reynal-Querol 2002). Ross (2003) suspects a relationship between separatist conflicts and unlootable resources as well as nonseparatist conflicts and lootable resources – lootable

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<sup>9</sup> It is important to note how emigration sometimes changes ethnic dominance, as was the case in the former Yugoslavia. Yugoslavia gradually transformed from having no one group constituting as much as 45% of the total population into a series of independent countries, each exhibiting ethnic dominance (Bigombe et al 2000).

resources are more likely to benefit a rebel group and unlootable resources are more likely to benefit the government.<sup>10</sup> This analysis will proxy ethnoreligious topography with following variables: an ethnolinguistic fractionalization index, a religious fractionalization index, a binary measure of ethnic dominance, and a binary measure of religious dominance.

In sum, the second local capacities dimension, probability of civil war, encompasses two central facets: conflict means and ethnoreligious topography. Insurgents first require the cost of using violence to be low in comparison to the anticipated gains in order to bolster enlistment, and second, insurgents require the financial vitality to wage war. There are three main categories of insurgent funding sources: natural resource extortion, assistance from Diasporas, or subventions from hostile governments (Collier and Hoeffler 2004). Natural resource extortion will be proxied by primary commodity exports as a percent of GDP (e.g. natural resource dependency) and by a binary measure of oil dependency (e.g. one-third or more of total exports derived from oil). Diaspora assistance will be proxied by the number of emigrants living in the US as a proportion of the total population in the country of origin.<sup>11</sup> Greater natural resource dependency, oil dependency, and Diaspora size should correspond with a greater risk of conflict. Also relevant are the presence of lootable resources,<sup>12</sup> defined as natural resources easily attainable by individuals or small groups of unskilled workers, especially when rural population density is high; larger populations existing outside state power with access to lucrative resources coincides with a greater probability of civil war outbreak. For example, the

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<sup>10</sup> This could be measured by the interaction of the war type variable and the lootable resources variable.

<sup>11</sup> A Cold War dummy variable is already included in Sambanis and Doyle's (2006) analysis as a control variable.

<sup>12</sup> e.g. gems, opium, diamonds, timber, cocoa, iron, palm oil, coffee, marijuana, rubber (as opposed to unlootable resources, e.g. oil, natural gas, copper, gold)

heavy diamond endowment of the Kono District in Sierra Leone funded the insurgencies during both civil wars (Zach-Williams 1999). Lootable resources will be proxied by a dichotomous variable measuring whether or not a country is endowed with diamonds and will also be interacted with a measure of rural population density.<sup>13</sup> The purpose of the interaction variable is to intensify the importance of rural population density when coinciding with loutable resources. Ethnic, linguistic, or religious fragmentation should only be problematic when ethnic dominance is present; otherwise, ethnic or religious heterogeneity should correspond with societies less susceptible to civil strife. Ethnoreligious fragmentation will be proxied by an ethnolinguistic fractionalization index and a religious fractionalization index; higher ethnoreligious fragmentation should coincide with a lower risk of conflict. Furthermore, ethnoreligious dominance will be proxied by two binary variables, with one corresponding to countries with one ethnic group, or one religious group, constituting between 45% and 90% of the total population. Ethnic and religious dominance should coincide with an increase in conflict risk.

### **Propensity for Democratization**

Post-conflict environments favorable to democratization should correlate with a greater probability of peacebuilding success because democratization is an inherent element of peacebuilding. In an influential analysis exploring the relationship between democracy and development, Przeworski et al (2000) show how democratic regimes are unstable in countries with a low level of economic development and stable in affluent environments. Moreover, the

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<sup>13</sup> Diamond endowment refers to primary and secondary diamond production.

democratic peace thesis argues that democratic states are unlikely to go to war with each other, yet transitioning democracies are more likely to go to war than non-democratic states (Doyle 1997). There is strong consensus in the contemporary international community that post-conflict peacebuilding operations must favor political openness or democratic principles. Accepting this norm, scholars argue that a country that has had some previous experience with democracy is more conducive to democratization (Carothers 2007; Sambanis and Doyle 2006; Paris 2004; Serwer and Thomson 2007). Post-conflict Sri Lanka, Lebanon, and Israel all exhibited considerable previous experience with political pluralism, and all established either a post-war republic or a parliamentary democracy. Walter's (2004) analysis concerning the determinants of renewed intrastate war includes three proxies for political openness including an overall democracy/autocracy scale, a measure of executive constraints on the executive branch, and a measure of political openness. Alternatively, in Hartzell's et al (2001) study of civil war settlement stability, a dichotomous measure of previous regime type was used to proxy democratic experience. Although executive constraints and political openness are important measures of democratic quality, they are less related to the exposure of the citizenry to political participation and democratic ideals. This analysis conceptualizes domestic capacity for democratization – the third and final local capacities dimension – in terms of basic democratic exposure, which will be proxied by the following: a pre-war five year average democracy score (e.g. Vanhanen democracy index) and a political participation score (e.g. Vanhanen).<sup>14</sup> This analysis chose the Vanhanen Democracy Index over a Polity score (e.g. democracy/autocracy scale) or a dichotomous measure of previous regime type because

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<sup>14</sup> A measure of political participation is one of the elements of the Vanhanen Democracy Index; the other factor is a measure of political competition.

propensity for democratization is conceptualized as previous experience with democracy, which has less to do with measuring how autocratic a regime is. Furthermore, including a measure of political participation is beneficial because it focuses on mass-level political exposure. A higher democracy or political participation score should correspond with a greater probability of peacebuilding success.<sup>15</sup>

### **Social Capital**

Many scholars have theorized an additional local capacities dimension, social capital. Fukuyama (2002) points out that social capital is essential to economic development and democratic consolidation, both of which are factors that influence the likelihood of post-conflict peacebuilding success. As a concept, social capital generally refers to densely embedded networks of relationships between individuals and groups (Onyx and Bullen 2000; Portes 1998; Putnam 1993; Woolcock 1998). Putnam's (1993) study exploring the relationship between social capital and government performance highlights the distinction between horizontal relationships and vertical relationships. Paxton (2002) emphasizes the importance of distinguishing between different forms of social capital (e.g. bridging and bonding), both negative and positive, and the effects they have on transitioning democracies and consolidated democracies. The first measure of social capital Paxton (2002) employed was an index of two variables – the density of associations in each county and the level of generalized trust present – both of which were determined using survey data. Association density was operationalized as the average number of voluntary association memberships and the average number of

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<sup>15</sup> A pre-war five year Polity score average and a dichotomous variable of previous regime type (with one equating a Polity score of greater than five) will also be tested to check model robustness.

voluntary association memberships for which the member did unpaid voluntary work during the past year (Paxton 2002). Paxton's (2002) second measure of social capital was the number of international nongovernmental organizations present in each country. Alternatively, scholars have measured social capital as the heterogeneity of memberships in associations (Coffe and Geys 2007; Woolcock and Narayan 2000). In addition to treating social capital as an independent variable, scholars have conceptualized social capital as a product of its institutional environment (Collier and Gunning 1999; Knack and Keefer 1997; North 1990). Knack and Keefer (1997) measure social capital as a combination of the level of trust in a society and the strength of norms of civic cooperation, both of which were obtained via individual survey data.

Although scholars have increasingly taken an interest in conceptualizing social capital with respect to peacebuilding, the existing literature still lacks any sufficient operationalization of social capital. The aforementioned social capital proxies – association density and heterogeneity of association membership – have been generated via individual level survey data; the kind of survey data required for this analysis is not currently available. Furthermore, measuring social capital as the number of INGOs present in each country also requires data that does not currently exist. Consequently, social capital will not be explored as a local capacities dimension in this analysis. If future studies could generate a consistent and reliable country-level measure of association membership heterogeneity throughout the post-war era, this dimension could plausibly be included in the local capacity index.

#### 4. RESEARCH DESIGN

Sambanis and Doyle (2001; 2006) were predominantly concerned with exploring the contribution of UN peace operations to post-war peacebuilding success. Alternatively, this analysis is focused on the relationship between a country's local capacities level and the probability of post-conflict peacebuilding success. The aim of this analysis is to show how adding depth to post-conflict local capacity can offer important insight into the likelihood of peacebuilding success in addition to the broader relationship between domestic politics and peace.

Using the same international capacities index and hostility index as Sambanis and Doyle (2006), several new local capacities indexes will be constructed and evaluated within the peacebuilding triangle model. The new indexes will be weighted so that each country is measured in relation to all of the other countries included in the analysis, which parallels Sambanis and Doyle's (2006) model. First, multiple logistic regression models with robust standard errors and clustered same-country observations will be tested using the new local capacity variables.<sup>16</sup> Furthermore, models will also be tested excluding each individual local capacities dimension, one at a time, in order to offer insight into the contribution of each specific dimension.

The best models will be transformed into local capacities indexes, each ranging from zero to one. Next, logistic regression models, with robust standard errors and clustered by country, of

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<sup>16</sup> This analysis tests a dichotomous dependent variable – peacebuilding success – using balanced data; therefore a logistic regression model is most appropriate.

the new local capacities indexes, and Sambanis and Doyle's (2006) international capacities index and hostility index, will be tested to determine if the new local capacities indexes improve the efficacy of the peacebuilding triangle model.

$$\text{logit}(\pi) = \beta_0 + \beta_1 H + \beta_2 L + \beta_3 I$$

Finally, several specific peacebuilding triangles will be measured and compared to Sambanis and Doyle's (2006) model as an additional check for model robustness.

## The Data

This analysis utilizes a cross-sectional dataset comprised of 119 intrastate conflicts, spanning the time period between 1945 and 1999, including 66 countries.<sup>17</sup> Of the 66 countries, 6 are in Europe,<sup>18</sup> 11 are in Latin America,<sup>19</sup> 16 are in the Middle Eastern and North African region,<sup>20</sup> 13 are in Asia,<sup>21</sup> and 20 are in sub-Saharan Africa.<sup>22</sup> Following Sambanis and Doyle (2000; 2006),

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<sup>17</sup> Following Sambanis and Doyle (2006), a total of 151 conflicts are included in the dataset, however, only 119 conflicts are measured for peacebuilding success. All wars that were ongoing at the cutoff date (e.g. December 31, 1999) or wars that showed no significant peace process prior to the cutoff date were excluded from the analysis (Sambanis and Doyle 2006).

<sup>18</sup> Most of the European countries – including Moldova, Croatia, Russia, the former Yugoslavia, and Greece – exhibit one domestic conflict; however, Cyprus has two conflicts included in the dataset.

<sup>19</sup> Of the Latin American countries, 7 (i.e. Dominican Republic, Costa Rica, El Salvador, Peru, Cuba, Bolivia, and Paraguay) countries had one intrastate conflict and 4 countries (i.e. Argentina, Guatemala, Colombia, and Nicaragua) exhibited two civil wars.

<sup>20</sup> Morocco/Western Sahara, Egypt, Israel, Syria, Azerbaijan, Yemen PR, Oman, Jordan, Algeria, and Yemen all had one intrastate conflict included in the dataset. Additionally, Georgia, Iran, Lebanon, Afghanistan, and Yemen AR each had two wars; lastly, Iraq exhibited 5 civil wars.

<sup>21</sup> Of the 13 countries in Asia, 5 (i.e. Vietnam, Bangladesh, Laos, Thailand, and Korea) countries displayed one conflict, 2 countries (i.e. Cambodia and Pakistan) had two wars, 4 countries (i.e. Sri Lanka, Myanmar/Burma, India, and the Philippines) exhibited three conflicts each, and 2 countries (i.e. Indonesia and China) each displayed five civil wars.

<sup>22</sup> Sub-Saharan Africa is the region with the most post-war civil conflicts, with Congo-Brazzaville, South Africa, Djibouti, Namibia, Mozambique, and Mali all having one civil war; Somalia, Kenya, Zimbabwe, Nigeria, Sierra Leone, Sudan, and Liberia exhibiting two conflicts each; Rwanda, Angola, Chad, Burundi, and Ethiopia displaying three intrastate wars; and Uganda and Congo-Zaire exhibiting four civil conflicts each.

an armed conflict is classified as a civil war if: the conflict takes place within the territorial bounds of an internationally recognized state consisting of a population of at least 500,000, the warring parties have publicly stated political objectives and are both politically and militarily organized, the internationally recognized government is one of the warring parties via the use of its military or militias, the insurgencies have a local base (e.g. they must recruit from the local population), the war accumulates more than 1,000 deaths in a least a single year, the insurgencies are able to mount effective resistance against the government (i.e. the weaker party has to inflict a minimum of 100 deaths on the stronger party), and the war duration exhibits sustained violence.<sup>23</sup>

### **The Dependent Variable**

Sambanis and Doyle (2000; 2006) use two measures of peacebuilding success in their analysis: a measure of “negative” peace and a measure of “positive” peace. “Negative,” otherwise termed “sovereign” peace, is primarily concerned with the absence of large-scale violence, and requires the war to have ended, the existence of undivided sovereignty, the absence of substantial residual violence, as well as the absence of state-committed mass-level human rights abuses.<sup>24</sup> The second operationalization of peacebuilding success is “positive” or “participatory” peace. “Participatory” peace is defined as “sovereign” peace with the additional requirement of a minimal level of political openness.<sup>25</sup> Both dependent variables are measured two years after

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<sup>23</sup> Sustained violence means that for any given three year period, a minimum of 500 battle-related deaths must have occurred (Sambanis and Doyle 2006).

<sup>24</sup> The dataset includes 68 “sovereign” peace failures and 53 successes. Residual violence corresponds to approximately 200 annual deaths (Sambanis and Doyle 2006).

<sup>25</sup> A total of 37 cases were classified as having attained “participatory” peace; the remaining 84 cases were coded “participatory” failures. Sambanis and Doyle (2006) employ a polity threshold of 3 or below for coding a minimal

the cessation of war.<sup>26</sup> Although two years is an arbitrary cutoff, employing a two year threshold allows this analysis to compare its results to that of Sambanis and Doyle (2006). Moreover, this analysis defines peacebuilding success in terms of the absence of large-scale violence and a minimal level of political openness thereby focusing on physical security. Establishing basic physical security is of the utmost importance at the onset of peacebuilding; without physical security, long-term peacebuilding efforts will likely fail. This analysis will focus on “participatory” peace.

### **The Explanatory Variables**

This analysis replicates Sambanis and Doyle’s (2006) chosen hostility and international capacities indexes (see Appendix A). All of the indexes utilized in this analysis will be constructed vis-à-vis all of the countries included in the dataset. The hostility index includes a measure of war type, which is a binary variable distinguishing between ethnoreligious wars and non-ethnoreligious wars ( $H_1$ ),<sup>27</sup> a measure of the human cost of war, or the natural log of the total number of deaths and displacements accumulated by the conflict ( $H_2$ ), and a measure of war duration ( $H_3$ ). In sum, ethnoreligious wars, conflicts generating greater human cost, and wars that span shorter periods of time, should correspond with high levels of post-conflict hostility. Sambanis and Doyle’s (2006) chosen international capacity index includes an interaction variable: the type of UN mission ( $I_1$ ) multiplied by whether or not a peace treaty was

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level of political openness; the polity score ranges from 0 to 20, with maximum democracy corresponding to 20 and extreme autocracy coinciding with 0.

<sup>26</sup> Doyle and Sambanis (2006) also measure “sovereign” and “participatory” peace with a 5-year threshold. For more extensive coding and classification details, see Sambanis and Doyle (2006).

<sup>27</sup> A total of 97 conflicts were classified as an ethnoreligious war.

signed ( $I_2$ ).<sup>28</sup> UN mandates were coded 0 through 5 according to mission intensity: no UN mandate corresponds with 0, mediation mandates equate 1, observer missions are denoted by 2, 3 represents traditional peace keeping operations, 4 signifies multidimensional peace keeping operations, and enforcement missions equate 5.<sup>29</sup> Peace treaty is measured as a dichotomous variable with 1 signifying the presence of a signed peace treaty.<sup>30</sup>

All of the new local capacities indexes will include the following variables (see Appendix B): electricity consumption per capita ( $L_1$ ),<sup>31</sup> Diaspora size as percent US ( $L_2$ ),<sup>32</sup> ethnic dominance ( $L_3$ ), and religious dominance ( $L_4$ ) (e.g. one group equating between 45% and 90% of the total state population).<sup>33</sup> The two state power proxies - rural population density ( $L_{5a}$ ) and percent urban population ( $L_{5b}$ ) – will be tested in alternate models. The following pairs of variables will also be alternated between models: primary commodity exports as percent GDP ( $L_{6a}$ ) and oil dependency ( $L_{6b}$ ); Vanhanen democracy score ( $L_{7a}$ ) and political participation score ( $L_{7b}$ ). Ethnic fractionalization ( $L_8$ ) and religious fractionalization ( $L_9$ ) will be tested individually in addition to each being interacted with per capita electricity consumption. Moreover, lootable resource endowment ( $L_{10}$ ) will be tested independently and interacted with rural population density.

Ethnic and religious dominance will also both be interacted with Diaspora size. The models

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<sup>28</sup> It may also be useful to construct alternative international capacities indexes that include a measure of non-UN peace missions and a measure of UN troop intensity – Sambanis and Doyle (2006) already have these variables in their dataset. A new variable measuring all peace missions could be constructed; non-UN peace missions could be classified as having the same level of intensity as a UN mediation mission (intensity=1).

<sup>29</sup> The breakdown of UN mandates measured in the dataset is as follows: 107 conflicts without UN mandates, 10 mediation missions (4 with signed peace treaties), 13 observer missions (8 with signed peace treaties), 8 traditional peace keeping operations (5 with signed peace treaties), 7 multidimensional peace keeping operations (7 with signed peace treaties), and 6 enforcement missions (3 with signed peace treaties).

<sup>30</sup> The dataset includes 102 conflicts without signed peace treaties and 45 conflicts with signed peace treaties.

<sup>31</sup> The measure of electricity consumption per capita is rescaled, or divided by 100.

<sup>32</sup> Diaspora size is rescaled, or divided by 1,000.

<sup>33</sup> GDP per capita will be tested in place of electricity consumption per capita to check model robustness.

with rural population density will also test an interaction between rural population density and electricity consumption per capita and the urban population models will include an interaction between percent urban population and electricity consumption per capita. Additionally, local capacities indexes will be constructed excluding each of the individual local capacities dimensions, one at a time. Models will be tested with these local capacities indexes in order to shed light on the importance of each specific local capacities dimension.

The following control variables will be included in this analysis: a binary variable measuring whether or not the war is classified as a Cold War conflict controlling for systemic constraints ( $C_1$ ), a dummy measure controlling for sub-Saharan Africa ( $C_2$ ), and a variable measuring the per capita size of the country's military at the end of the war ( $C_3$ ). Conventional wisdom holds that securing basic physical security is of the utmost importance during the initial peacebuilding phases. Adequate DDR (Disarmament, Demobilization, and Reintegration of ex-combatants) is essential to providing basic physical security; the measure of military personnel (in thousands) is a proxy for the difficulty associated with establishing basic physical security. Furthermore, the greater the number of military personnel present, the greater the government's capacity to deter any third party intervention.

$$\begin{aligned} \text{logit}(\pi) = & \beta_0 + \beta_1 H_1 + \beta_2 \ln[H_2] + \beta_3 \ln[H_3] + \beta_4 I_1 + \beta_5 I_2 + \beta_6 [I_1 * I_2] + \beta_7 L_1 + \beta_8 L_2 \\ & + \beta_9 L_3 + \beta_{10} L_4 + \beta_{11} L_{5a} + \beta_{12} L_6 + \beta_{13} L_7 + \beta_{14} L_8 + \beta_{15} L_9 + \beta_{16} [L_8 * L_1] \\ & + \beta_{17} [L_9 * L_1] + \beta_{18} L_{10} + \beta_{19} [L_{10} * L_{5a}] + \beta_{20} [L_3 * L_2] + \beta_{21} [L_4 * L_2] \\ & + \beta_{22} [L_1 \div L_{5a}] + \beta_{23} C_1 + \beta_{24} C_2 + \beta_{25} \ln [C_3] \end{aligned}$$

$$\begin{aligned} \text{logit}(\pi) = & \beta_0 + \beta_1 H_1 + \beta_2 \ln[H_2] + \beta_3 \ln[H_3] + \beta_4 I_1 + \beta_5 I_2 + \beta_6 [I_1 * I_2] + \beta_7 L_1 + \beta_8 L_2 \\ & + \beta_9 L_3 + \beta_{10} L_4 + \beta_{11} L_{5b} + \beta_{12} L_6 + \beta_{13} L_7 + \beta_{14} L_8 + \beta_{15} L_9 + \beta_{16} [L_8 * L_1] \\ & + \beta_{17} [L_9 * L_1] + \beta_{18} L_{10} + \beta_{19} [L_{10} * L_{5a}] + \beta_{20} [L_3 * L_2] + \beta_{21} [L_4 * L_2] \\ & + \beta_{22} [L_1 * L_{5b}] + \beta_{23} C_1 + \beta_{24} C_2 + \beta_{25} \ln [C_3] \end{aligned}$$

## 5. HYPOTHESES

***HYPOTHESIS 1. The probability of peacebuilding (PB) success should be greater in post-conflict environments displaying more physical infrastructure, or a greater degree of state power.***

***HYPOTHESIS 2. The probability of peacebuilding (PB) success should increase in contexts exhibiting greater levels of socioeconomic development.***

On a basic level, if a state is unable to project power to its periphery and is unable to provide basic physical needs to its people, then the state is at high risk of intrastate conflict (Ball 2001; Herbst 2000; Rotberg 2007). Populations that live outside the realm of state power are unlikely to receive state resources and are not subjected to the laws of the state. The larger these populations are, the more equipped they are to wage war against the state. Take, for instance, the Ethiopian civil war that led to the independence of Eritrea in 1993. One reason why Addis Ababa was unable to control the civil war was the country's scattered population dispersion (Herbst 2000). Furthermore, scholars show how economic grievance – a common characteristic of impoverished states – can easily erupt into civil war. Countries with more developed economies are therefore less susceptible to civil war in addition to being better equipped to rebuild after war. The higher the level of economic development, the more prepared a country is to rebuild after civil conflict, and the less susceptible the country is to wars developing from economic grievance.

***HYPOTHESIS 3. The probability of peacebuilding (PB) success should decrease when a country is more dependent on natural resource rents.***

***HYPOTHESIS 4. The probability of peacebuilding (PB) success should decrease when a country has significant Diaspora populations.***

***HYPOTHESIS 5. The probability of peacebuilding (PB) success should decrease when a country is endowed with lootable resources.***

***HYPOTHESIS 6. The probability of peacebuilding (PB) success should decrease when a country has a higher rural population density while simultaneously being endowed with lootable resources.***

Civil wars cannot be waged without revenue sources. Insurgents generally secure their financial vitality via natural resource extortion, donations from Diasporas, or subventions from other governments. The Sikh diaspora enabled the Khalistan insurgency, the Kono District fueled the rebels in Sierra Leone, and Renamo was primed by the government of Southern Rhodesia. Lootable resources are particularly easy to extort, which is why having larger populations able to access lootable resources is especially daunting. Additionally, natural resource dependence tends to coincide with undiversified economies, and undiversified economies are particularly sensitive to commodity price shocks and tend to lack substantial manufacturing and service sectors that cultivate human capital and stimulate economic growth (Sambanis and Doyle 2006).

***HYPOTHESIS 7. The probability of peacebuilding (PB) success should increase with greater ethnic or religious fractionalization.***

***HYPOTHESIS 8. The probability of peacebuilding (PB) success should decrease when a country exhibits ethnic or religious fractionalization and increasing socioeconomic capital.***

***HYPOTHESIS 9. The probability of peacebuilding (PB) success should decrease with ethnic or religious dominance.***

***HYPOTHESIS 10. The probability of peacebuilding (PB) success should decrease with ethnic or religious dominance and greater Diaspora populations.***

From a conflict resolution perspective, more groups make determining settlement terms a more arduous task, assuming that ethnic groups generally have a set of shared preferences. Ethnic and religious heterogeneity should be even more influential with respect to the probability of conflict in environments with higher levels of socioeconomic development. Additionally, ethnic or religious dominance should increase the likelihood of conflict, thereby decreasing the probability of peacebuilding success. Larger Diaspora populations are especially problematic in the presence of ethnic or religious dominance, as the Sri Lankan civil war emphasizes.

***HYPOTHESIS 11. The probability of peacebuilding (PB) success should be greater when a country has had some previous experience with political pluralism.***

The existing literature on democratization emphasizes previous experience with political pluralism as favoring democratization. Societies previously exposed to democratic institutions and ideals are likely to require less democratic education and should therefore be more conducive to democratization.

***HYPOTHESIS 12. The probability of peacebuilding (PB) success should decrease when a conflict has accumulated greater war-related deaths and displacements.***

***HYPOTHESIS 13. The probability of peacebuilding (PB) success should increase when a conflict has greater war duration.***

***HYPOTHESIS 14. The probability of peacebuilding (PB) success should decrease with ethnic or religious based wars.***

The greater the human costs of war, the less social and human capital available, thereby creating a society ill-equipped to rebound after civil conflict. Additionally, the greater the

human costs of war, the greater the social-psychological damage is which is an impediment to successful peacebuilding. Scholars have argued both directions for war duration. Theoretically, longer wars generally accumulate more deaths and displacements thereby increasing the level of hostility. However, warring factions also grow tired of fighting as war duration increases thereby making peace more likely. In concordance with Doyle and Sambanis (2001), this analysis hypothesizes that war duration will have a positive relationship with peacebuilding success. Ethnic and religious cleavages can easily be used as mediums for channeling hostility, which in turn, can mobilize support for identity-based wars. Additionally, ethnic or religious wars generally make reconciliation more difficult.

***HYPOTHESIS 15. The probability of peacebuilding (PB) success should increase when a war ends with a signed peace treaty.***

***HYPOTHESIS 16. The probability of peacebuilding (PB) success should increase with greater UN involvement in the form of UN peace operations.***

Peace treaties represent the willingness of warring factions to agree to end the use of violence and begin to pursue non-violent mechanisms to achieve their desires. Therefore, a signed peace treaty also indicates that the post-conflict level of hostility will be relatively low. Moreover, peace treaties enable international involvement in the peace process. The presence of a UN mandate represents international interest in ending the conflict, in addition to substantial access to third party assistance and technical expertise. The type of UN peace operation corresponds with an ordinal scale measuring the intensity of third party aid and assistance.

## 6. RESULTS AND DISCUSSION

A total of 8 logistic models were tested, including 4 rural population density models and 4 percent urban population models (see Appendix C). All of the models correctly classify between approximately 85% and 90% of the cases. Model 1 correctly predicts 89.66% of the peacebuilding successes, which is slightly higher than the other 7 models. Additionally, Model 1 reduces the error in predictions by between 4.46% and 21.16% in comparison to the other models. Therefore, Model 1 will be used for post-estimation analysis. The Wald test for each of the models confirms that all of the independent variables combined have a significant effect on the probability of peacebuilding success.

When the socioeconomic endowment proxies are excluded from the model, the model correctly classifies 86.21% of the cases, with a reduction in error of 50.01% (see Model 3 in Appendix D). Therefore, the socioeconomic endowment dimension improves the percent correctly classified by 3.45% and the percent reduction in error by 12.51%. Excluding the probability of civil war proxies, the model correctly classifies 84.62% of the cases, with a reduction in error of 28.02%; the probability of civil war dimension improves the percent correctly classified by 5.04% and the percent reduction in error by 34.50% (see Model 1 in Appendix D). Moreover, when the propensity for democratization proxy is excluded, the model correctly classifies 88.79% of the cases, with a reduction in error of 58.06% (see Model 2 in Appendix D). Therefore, the propensity for democratization dimension improves the percent correctly classified by 0.87% and the percent reduction in error by 4.46%.

### *HYPOTHESIS 1. State Power*

The first state power proxy, rural population density, is positive and significant in 3 out of 4 models. This suggests that greater rural population density corresponds with a greater degree of state power and therefore a greater probability of peacebuilding success. Holding all other variable at central values, and with lootable resource endowment set at 1, simultaneously increasing rural population density from 2.623 (50<sup>th</sup> percentile) to 22.100 (99<sup>th</sup> percentile), decreasing its interaction with electricity consumption per capita from 0.510 (50<sup>th</sup> percentile) to 0.025 (1<sup>st</sup> percentile), and increasing its interaction with lootable resource endowment from 0 (50<sup>th</sup> percentile) to 6.271 (99<sup>th</sup> percentile) results in a 28.2% decrease in the probability of peacebuilding success. Therefore, high rural population density in the presence of lootable resources is highly problematic.

When lootable resource endowment and its interaction are set at 0, and all other variables are set at central values, simultaneously increasing rural population density from 2.623 (50<sup>th</sup> percentile) to 22.100 (99<sup>th</sup> percentile) and decreasing its interaction with electricity consumption per capita from 0.510 (50<sup>th</sup> percentile) to 0.025 (1<sup>st</sup> percentile), the probability of peacebuilding success increases by 33.6%. These results indicate that in the absence of lootable resources, high rural population density corresponds with a 33.6% increase in the likelihood of peacebuilding success.

Furthermore, holding all other variables at central values, simultaneously increasing rural population density from 0.940 (10<sup>th</sup> percentile) to 6.218 (90<sup>th</sup> percentile), decreasing electricity

consumption per capita from 14.943 (90<sup>th</sup> percentile) to 0.308 (10<sup>th</sup> percentile), and decreasing its interaction with rural population density from 12.348 (90<sup>th</sup> percentile) to 0.070 (10<sup>th</sup> percentile) results in a 7% decrease in the probability of peacebuilding success. According to these results, high rural population density combined with low electricity consumption per capita corresponds with a 7% decrease in the likelihood of peacebuilding success.

The second state power proxy, percent urban population, is negative and significant in all 4 models, suggesting that larger urban populations correspond with a lower degree of state power. Therefore, larger urban populations have a negative relationship with peacebuilding success.

### *HYPOTHESIS 2. Socioeconomic Capital*

Electricity consumption per capita, the proxy for socioeconomic development, is positive and significant in all of the rural population density models. With all other variables held at central values, simultaneously increasing electricity consumption per capita, its interaction with rural population density, ethnic fractionalization, and its interaction with electricity consumption per capita from the 10<sup>th</sup> percentile to the 90<sup>th</sup> percentile results in a 17.4% increase in the probability of peacebuilding success.<sup>34</sup> Furthermore, simultaneously increasing electricity consumption per capita, its interaction with rural population density, ethnic fractionalization, its interaction with electricity consumption per capita, religious fractionalization, and its

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<sup>34</sup> Electricity consumption per capita increased from 0.308 to 14.943, its interaction with rural population density increased from 0.070 to 12.348, ethnic fractionalization increased from 0.060 to 0.877, and its interaction with electricity consumption per capita increased from 0.044 to 4.969.

interaction with electricity consumption per capita from the 10<sup>th</sup> percentile to the 90<sup>th</sup> percentile, while holding all other variables at central values, results in a 0.5% increase in the likelihood of peacebuilding success.<sup>35</sup> These results indicate that electricity consumption per capita generally has a strong positive relationship with peacebuilding success unless religious fractionalization is high. High religious fractionalization decreases the impact of high electricity consumption per capita by 16.9%.

With all other variables held at central values, simultaneously increasing electricity consumption per capita, its interaction with rural population density, ethnic fractionalization, and its interaction with electricity consumption per capita from the 10<sup>th</sup> percentile to the 90<sup>th</sup> percentile, in addition to increasing religious fractionalization and its interaction with electricity consumption per capita from the 10<sup>th</sup> percentile to the 50<sup>th</sup> percentile (e.g. a moderate level of religious fractionalization), results in a 34.4% increase in the probability of peacebuilding success.<sup>36</sup> Moreover, when electricity consumption per capita, its interaction with rural population density, ethnic fractionalization, its interaction with electricity consumption per capita, religious fractionalization, and its interaction with electricity consumption per capita are simultaneously increased from the 10<sup>th</sup> percentile to the 95<sup>th</sup> percentile, while all other variables are held at central values, the chances of peacebuilding success increases by a mere

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<sup>35</sup> Electricity consumption per capita increased from 0.308 to 14.943, its interaction with rural population density increased from 0.070 to 12.348, ethnic fractionalization increased from 0.060 to 0.877, its interaction with electricity consumption per capita increased from 0.044 to 4.969, religious fractionalization increased from 0.112 to 0.680, and its interaction increased from 0.087 to 6.408.

<sup>36</sup> Electricity consumption per capita increased from 0.308 to 14.943, its interaction with rural population density increased from 0.070 to 12.348, ethnic fractionalization increased from 0.060 to 0.877, its interaction with electricity consumption per capita increased from 0.044 to 4.969, religious fractionalization increased from 0.112 to 0.445, and its interaction increased from 0.087 to 0.646.

2.5%.<sup>37</sup> Again, these results support the previous conclusion that electricity consumption per capita tends to have a strong positive relationship with peacebuilding success so long as religious fractionalization is not high.

For the percent urban population models, electricity consumption per capita and its interaction with percent urban population are both never significant; however, electricity consumption per capita proves to be positive while electricity consumption per capita interacted with percent urban population proves to be negative.

### *HYPOTHESIS 3. Natural Resource Dependency*

Dependency on natural resource rents is negative and significant in all of the models, as is oil dependency. When natural resource dependency increases from 0.023 (10<sup>th</sup> percentile) to 0.347 (90<sup>th</sup> percentile), with all other variables held at central values, the probability of peacebuilding success decreases by 5.6%. Furthermore, holding all other variables at central values, increasing natural resource dependency from 0.023 (10<sup>th</sup> percentile) to 0.260 (e.g. the level of dependency that Collier (2007) determined to be the most precarious) results in a 6.9% decrease in the probability of peacebuilding success. However, when natural resource dependency is increased from 0.260 to 0.505 (95<sup>th</sup> percentile), with all other variables held at central values, the chances of peacebuilding success decreases by a mere 0.2%. These results

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<sup>37</sup> Electricity consumption per capita increased from 0.308 to 24.400, its interaction with rural population density increased from 0.070 to 18.463, ethnic fractionalization increased from 0.060 to 0.899, its interaction with electricity consumption per capita increased from 0.044 to 7.394, religious fractionalization increased from 0.112 to 0.724, and its interaction increased from 0.087 to 8.861.

suggest that natural resource dependency is particularly problematic up to the 0.260 threshold, after which, its impact becomes significantly less substantial.

#### *HYPOTHESIS 4. Diaspora Size*

Diaspora size is negative and significant in all of the models. Holding all other variables at central values, and with religious dominance and its interaction both set at 0, simultaneously increasing Diaspora size from 0.002 (10<sup>th</sup> percentile) to 2.844 (90<sup>th</sup> percentile), increasing ethnic dominance from 0 to 1, and its interaction with Diaspora size from 0 to 2.844 (90<sup>th</sup> percentile) results in a 7.4% decrease in the probability of peacebuilding success. Therefore, ethnic dominance, in the absence of religious dominance and combined with a larger Diaspora size, lowers the chances of peacebuilding success by 7.4%.

Holding all other variables at central values, and with ethnic dominance and its interaction set at 0, simultaneously increasing Diaspora size from 0.002 (10<sup>th</sup> percentile) to 2.844 (90<sup>th</sup> percentile), increasing religious dominance from 0 to 1, and its interaction with Diaspora size from 0 to 2.844 (90<sup>th</sup> percentile) results in a 6% decrease in the likelihood of peacebuilding success. These results suggest that religious dominance, in the absence of ethnic dominance and combined with a larger Diaspora size, correspond with a 6% decrease in the chances of peacebuilding success.

When Diaspora size is increased from 0.002 (10<sup>th</sup> percentile) to 2.844 (90<sup>th</sup> percentile), with ethnic dominance, religious dominance, and their interactions all set at 0, and holding all other

variables at central values, the probability of peacebuilding success decreases by 9%.

Therefore, larger Diaspora populations moderately decrease the probability of peacebuilding success.

#### *HYPOTHESIS 5. Lootable Resource Endowment*

In contrast to the predicted direction, lootable resource endowment positively correlates with peacebuilding success and is significant in all of the rural population density models. With lootable resource endowment interacted with rural population density set at 2.557 (85<sup>th</sup> percentile), and with all other variables held at central values, increasing lootable resource endowment from 0 to 1 results in a 3.7% increase in the probability of peacebuilding success.<sup>38</sup>

One explanation for the positive effect of lootable resource endowment could be that lootable resources provide substantial revenue for states so long as the state has enough power to protect these resources from insurgents. Furthermore, lootable resources require little expertise and infrastructure, thereby making them especially useful for countries lacking in these capacities.

#### *HYPOTHESIS 6. Lootable Resource Endowment & Rural Population Density*

Lootable resource endowment interacted with rural population density is negative and significant in all 8 models. As previously stated, high rural population density combined with lootable resource endowment corresponds with a 28.8% decrease in the probability of

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<sup>38</sup> Approximately 30% of the cases are endowed with lootable resources. Setting lootable resource endowment interacted with rural population density at the 85<sup>th</sup> percentile corresponds to the mid-range for cases endowed with lootable resources.

peacebuilding success (refer to Hypothesis 1. State Power). This suggests that larger rural populations with access to lootable resources create an environment less favorable to peacebuilding success.

#### *HYPOTHESIS 7. Ethnic & Religious Fractionalization*

Both ethnic fractionalization and religious fractionalization have mixed results. Ethnic fractionalization negatively correlates with peacebuilding success, but is not significant in any of the models. Similarly, religious fractionalization is also never significant, however, the direction of its relationship with peacebuilding success is inconsistent (e.g. negative in 3 of the 4 percent urban populations and positive for the other 5 models). These results suggest that ethnic and religious fractionalization independently do not have a relationship with peacebuilding success.

#### *HYPOTHESIS 8. Ethnic & Religious Fractionalization & Electricity Consumption Per Capita*

Ethnic fractionalization interacted with electricity consumption per capita is not significant in any of the models. Religious fractionalization interacted with electricity consumption per capita is negative and significant in all of the rural population density models. Although ethnic fractionalization interacted with electricity consumption per capita does not show a relationship with peacebuilding success, religious fractionalization does prove to be problematic in environments with socioeconomic growth thereby decreasing the probability of peacebuilding success. As previously states, the strong positive effect of high electricity consumption per capita on peacebuilding success can be drastically offset by high religious fractionalization (refer to Hypothesis 2. Socioeconomic Capital).

*HYPOTHESIS 9. Ethnic & Religious Dominance*

Although religious dominance is never significant and does not follow the predicted direction, ethnic dominance is negative and significant in all of the models. Holding all other variables at central values, and with Diaspora size interacted with ethnic dominance set at 0.209 (75<sup>th</sup> percentile), increasing ethnic dominance from 0 to 1 results in a 5.1% decrease in the likelihood of peacebuilding success.<sup>39</sup> Furthermore, with Diaspora size interacted with ethnic dominance set at 0.209 (75<sup>th</sup> percentile), and religious dominance and its interaction both set at 0, holding all other variables at central values, increasing ethnic dominance from 0 to 1 results in a 3.5% decrease in the probability of peacebuilding success. Therefore, ethnic dominance, in the absence of religious dominance and combined with moderate Diaspora size, lowers the likelihood of peacebuilding success by 3.5%.

Holding all other variables at central values, and with Diaspora size interacted with ethnic dominance set at 0.209 (75<sup>th</sup> percentile), Diaspora size interacted with religious dominance set at 0.464 (75<sup>th</sup> percentile), and religious dominance set at 1, increasing ethnic dominance from 0 to 1 results in a 5.1% decrease in the chances of peacebuilding success. These results indicate that when ethnic dominance is combined with religious dominance and a moderate Diaspora size, the probability of peacebuilding success decreases by 5.1%.

When ethnic dominance increases from 0 to 1, with Diaspora size set at 2.844 (90<sup>th</sup> percentile), its interaction with ethnic dominance set at 2.844 (90<sup>th</sup> percentile), and religious dominance

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<sup>39</sup> The 75<sup>th</sup> percentile was chosen because approximately 50% of the cases exhibit ethnic dominance, thereby making the 75<sup>th</sup> percentile around the mid-range for the cases that exhibit ethnic dominance.

and its interaction both set at 0, holding all other variables at central values, the probability of peacebuilding success decreases by 6.2%. These results suggest that ethnic dominance, in the absence of religious dominance and combined with a large Diaspora size, correspond with a 6.2% decrease in the likelihood of peacebuilding success.

*HYPOTHESIS 10. Ethnic Dominance, Religious Dominance & Diaspora Size*

Ethnic dominance interacted with Diaspora size does not follow the predicted direction and is never significant. Similarly, Religious dominance interacted with Diaspora size is also not significant in any of the models, however, its coefficient alternates directions. None of the models show ethnic and religious dominance interacted with Diaspora size to have a significant relationship with peacebuilding success.

*HYPOTHESIS 11. Previous Experience with Political Pluralism*

The two proxies for previous experience with political pluralism both follow the predicted positive direction, however, only the democracy score is significant. The democracy score is positive and significant in 3 of the 4 models thereby suggesting that more experience with political pluralism corresponds with a greater likelihood of peacebuilding success. Increasing democracy from 0.820 (50<sup>th</sup> percentile) to 16.240 (90<sup>th</sup> percentile) results in a 4.2% increase in the probability of peacebuilding success, with all other variables held at central values.

Moreover, if democracy is increased from 0 to 31 (99<sup>th</sup> percentile), the likelihood of peacebuilding success increases by a drastic 35.2%.<sup>40</sup> These figures indicate that democracy

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<sup>40</sup> Increasing democracy from 25 to 31 increases the likelihood of peacebuilding success by 0.137, or 13.7%.

does noticeably increase the chances of peacebuilding success and countries that reach the 99<sup>th</sup> percentile radically heighten their chances of peacebuilding success.

#### *HYPOTHESIS 12. Deaths & Displacements*

As predicted, greater war-related deaths and displacements negatively correlate with the probability of peacebuilding success and is significant in all 8 models. Holding all other variables at central values, the most drastic effect of deaths and displacements occurs when increased from 8.385 (1<sup>st</sup> percentile) to 11.197 (10<sup>th</sup> percentile), which corresponds with a 4.6% decrease in the probability of peacebuilding success. Increasing accumulated deaths and displacements from 11.547 (25<sup>th</sup> percentile) to 13.384 (75<sup>th</sup> percentile) decreases the likelihood of peacebuilding success by a mere 1.3%. Due to large variance, the natural log of deaths and displacements is used in this analysis. These results suggest that a relatively small number of deaths and displacements, say around 4,380 (1<sup>st</sup> percentile), has a much smaller effect on the probability of peacebuilding success than say around 72,911 (10<sup>th</sup> percentile). Once a conflict has accumulated approximately 72,911 deaths and displacements, any additional deaths and displacements has a relatively small affect on the probability of peacebuilding success.

#### *HYPOTHESIS 13. War Duration*

Contradicting the predicted direction, war duration proves to be significant in all models and to negatively correlate with peacebuilding success. As previously discussed, war duration could be argued either way. If war duration is changed from 1.609 (10<sup>th</sup> percentile) to 5.288 (90<sup>th</sup> percentile) the likelihood of peacebuilding success moderately decreases by 0.035, with all

other variables held at central values. These results suggest that longer wars create environments less favorable for peacebuilding success. Although this could seem puzzling given the results of hypothesis 12, longer wars also correspond with more embedded war economies and longer exposure to a culture of impunity, both of which theoretically correspond with a lower likelihood of peacebuilding success.

#### *HYPOTHESIS 14. Identity Wars*

Identity wars proved to be negative and significant in all of the 8 models. Holding all other variables at central values, ethnoreligious wars decrease the probability of peacebuilding success by 0.035, or 3.5%. This suggests that ethnic and religious wars are less conducive to peacebuilding success.

#### *HYPOTHESIS 15. Signed Peace Treaty*

The presence of a signed peace treaty proves to be positive and significant in 3 of the 8 models (e.g. Models 5, 6, and 8). The probability of peacebuilding success increases by 0.035 when a war has ended with a signed peace treaty, with all other variables held at central values.

#### *HYPOTHESIS 16. UN Mandate*

The presence of a UN peace operation does not prove to be significant by itself or when interacted with signed peace treaty.

### **New Local Capacity Indexes**

Using the results from the 8 logistic models, 8 local capacities indexes were created and tested (see Appendix E). The chosen local capacities index is shown in Model 7. All three indexes prove to be significant and all of the coefficients follow their expected directions.<sup>41</sup> The model correctly classifies 82.91% of the cases.<sup>42</sup> In comparison to Sambanis and Doyle's (2006) local capacities index (mean: 0.095; variance: 0.023), the new local capacities index has a slightly larger mean of 0.132 and variance of 0.031.

Both of the rural population density local capacities indexes excluding the probability of intrastate conflict dimension prove to be significant, correctly classifying 76.27% and 78.81% of the cases; however, the percent urban population local capacities index excluding the probability of intrastate conflict dimension is insignificant (see Models 1, 2, and 3 in Appendix F). Therefore, the probability of intrastate conflict dimension improves the percent correctly classified by 6.64% and 4.10%. None of the local capacities indexes excluding the propensity for democratization dimension are significant, which suggests that propensity for democratization is an important dimension of the local capacities index (see Models 4 and 5 in Appendix F). Furthermore, the local capacities index excluding the socioeconomic endowment dimension is significant, correctly classifying 75.63% of the cases (see Model 6 in Appendix F). The socioeconomic endowment dimension improves the percent correctly classified by 7.28%. These results suggest that, though excluding two of the three local capacities dimensions does

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<sup>41</sup> Although Model 3 has a slightly lower log pseudo-likelihood ratio (e.g. -55.988), its mean (e.g. 0.086) and variance (e.g. 0.016) are actually slightly lower than Sambanis and Doyle's (2006) index.

<sup>42</sup> Sambanis and Doyle's (2006) model correctly classifies 80.17% of the cases.

not make the local capacities index insignificant, including all three dimensions does prove to make the strongest local capacities index (e.g. with the best percentage correctly classified, 82.91%).

The purpose of the new local capacities index is to better capture the dynamics of the domestic realm with respect to building peace. The new local capacities index should better depict the realities of the domestic post-conflict terrain thereby improving the predictability of the peacebuilding triangle model in addition to shedding light on the relationship between domestic politics and peace. Theoretically, cases that exhibit a relatively high level of socioeconomic development, the sole variable of Sambanis and Doyle's (2006) local capacities index, while also displaying some of the negative factors that contribute to civil war onset, should be better represented by the new local capacities index and peacebuilding model. This analysis will explore a few examples of cases that should be better captured by the new local capacities index in order to see if the index enhances its accuracy where expected.

Acknowledging that these examples do not serve as in depth case studies, this analysis uses these examples as a basic test and nothing more.

This analysis includes three civil wars in Angola between the UNITA and the government. As a result of Angola's relatively higher level of electricity consumption per capita, all three of the civil wars were classified by Sambanis and Doyle's (2006) as having a local capacities level between the 25<sup>th</sup> and 50<sup>th</sup> percentile, meaning that Angola is considered to have more domestic capacity for building peace than approximately 25% to 50% of the cases. Angola has

an especially problematic environment for building peace because of its high natural resource dependency (99<sup>th</sup> percentile), significant lootable resource endowment and relatively high rural population density (50<sup>th</sup> percentile), and zero previous experience with political pluralism.

Therefore, the expected new local capacities level would be considerably lower than Sambanis and Doyle's (2006) local capacities index would depict. The new local capacities index measures the three Angolan post-conflict environments at around the 10<sup>th</sup> percentile, meaning that Angola's domestic capacity for building peace is lower than around 90% of the cases.

Furthermore, the new local capacities index predicts the probability of peacebuilding success to be 15%, 34% and 34% in comparison to Sambanis and Doyle's prediction of 22%, 43%, and 42%.<sup>43</sup> In this case, it seems that the new local capacities index portrays a more accurate depiction of the domestic capacity for building peace.

Iraq is another case with a difficult post-conflict environment and a higher level of socioeconomic development (90<sup>th</sup> percentile). Sambanis and Doyle (2006) measured Iraq's local capacities level to be around the 90<sup>th</sup> percentile, which indicates that Iraq has greater domestic capacity for building peace than approximately 90% of the cases included in this analysis. Iraq's post-conflict environment is particularly problematic because of its extremely low rural population density (5<sup>th</sup> to 10<sup>th</sup> percentile), the presence of ethnic dominance, its relatively moderate Diaspora size (25<sup>th</sup> to 50<sup>th</sup> percentile), and its lack of previous experience with political pluralism. Low rural population density is unfavorable to peacebuilding success

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<sup>43</sup> These figures are listed in chronological order, with the first war beginning in 1975 and ending in 1991, the second war existing between 1992 and 1994, and the final war beginning in 1997 and lasting until 2002. Moreover, the results of Model 3 determine the probability of peacebuilding success to be 0.17, 0.35, and 0.35.

because it tends to coincide with greater rural population dispersion, thereby making the broadcast of state power a laborious task. Furthermore, Iraq has an incredibly high dependence on natural resource rents (0.273, which falls between the 75<sup>th</sup> and 90<sup>th</sup> percentiles) which falls closely to what Collier (2007) identifies as the most precarious level of natural resource dependency, 26%. The new local capacities index predicts the probability of peacebuilding success to be between 0.06 and 0.10, which seems more accurate in comparison to Sambanis and Doyle's (2006) prediction of between 0.17 and 0.23.<sup>44</sup>

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<sup>44</sup> The figures are listed in chronological order, with the first war existing from 1974 to 1975, the second war beginning in 1985 and ending in 1996, and the final war lasting from 1991 to 1993. Furthermore, the results of Model 3 determine the probability of peacebuilding success to be between 0.07 and 0.12.

## 7. CONCLUSION

All of the three dimensions – socioeconomic endowment, probability of intrastate conflict, and propensity for democratization – do influence the probability of building post-conflict peace. Under the socioeconomic endowment dimension, the two state power proxies, rural population density and percent urban population, proved to be both significant in their respective models; however, rural population density is positively correlated with peacebuilding success while percent urban population is negatively correlated with peacebuilding success. Additionally, two of the socioeconomic endowment proxies, electricity consumption per capita and rural population density interacted with electricity consumption per capita, proved to be significant in their expected directions for the rural population density models.<sup>45</sup> Several of the proxies of the probability of intrastate conflict dimension proved to be significant. First, natural resource dependency and oil dependency were both negative and significant in their respective models. Second, Diaspora size also proved to be negative and significant. In contrast to the predicted direction, lootable resource endowment proved to be positive and significant in all of the models. Nevertheless, lootable resource endowment interacted with rural population density proved to be negative and significant, as expected. These results could mean that lootable resources are only problematic when they are outside of the realm of state power; otherwise, lootable resource endowment actually enhances the prospects for building peace. Fifth, although ethnic fractionalization and religious fractionalization did not prove to be significant independently, religious fractionalization

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<sup>45</sup> Percent urban population interacted with electricity consumption per capita did not prove to be significant in any of the models.

interacted with electricity consumption per capita did prove to be negative and significant, as predicted. Sixth, ethnic dominance proved to be negative and significant. Under the final local capacities dimension, propensity for democratization, the democracy score measure proved to be positive and significant.

Several implications can be derived from the results of this analysis pertaining to the broader question concerning what peacebuilders can do to maximize the prospect of peace. First, securing and building up the rural domain is of the utmost importance. Whether one argues that low rural population density is problematic because it allows insurgents to live outside the realm of state power, or if one chooses to argue that low rural population density is problematic because it captures the inability of the rural domain to sustain populations, or provide populations with basic physical security, the conclusion is the same. Peacebuilders should focus on building physical infrastructure – creating channels of communication and transportation between the rural periphery and the urban centers – in the rural hinterland. Second, peacebuilders can improve the prospect of peace by increasing exposure to political pluralism. Moreover, for countries with considerable Diaspora, peacebuilders should focus on Diaspora inclusion in the peace process. Lastly, for countries endowed with lootable resources, peacebuilders should focus on securing these resources from insurgent control. In general, peace is unlikely when rebels have access to lucrative revenue sources and when the state is unable to monopolize the legitimate use of force.

Adding dimensions to the local capacities index does improve the overall predictability of the peacebuilding triangle model. Moreover, the new local capacities index does seem to better portray the cases theoretically expected to be improved by the new index. More in depth case study comparison is required in order to determine the precise extent to which the local capacities index captures the domestic capacity for peace. This analysis shows how confining the domestic realm to a single measure of socioeconomic development overlooks the complex relationship between domestic qualities and peace.

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## Appendix A: Sambanis and Doyle's (2006) Indexes

	Hostility Index	Local Capacities Index	International Capacities Index
<b>MODEL ONE</b>	war type log of deaths and displacements war duration	electricity consumption per capita	interaction between the type of UN mandate and signed peace treaty
<b>MODEL TWO</b>	war type log of deaths and displacements war duration number of factions	per capita GDP rate of growth of per capita GDP primary commodity exports as a percent of GDP	interaction between the type of UN mandate and signed peace treaty net current transfers to the balance of payments
<b>MODEL THREE</b>	war type log of deaths and displacements war duration	per capita GDP rate of growth of per capita GDP primary commodity exports as a percent of GDP (*different imputation of missing values)	interaction between the type of UN mandate and signed peace treaty net current transfers to the balance of payments index of the troops strength of the UN mission
<b>Control Variables:</b> (1) decade war started; (2) cold war conflict; (3) geographic region; (4) military personnel (in thousands, at the end of the war of closest year)			
<b>Note:</b> Sambanis and Doyle (2006) also explored the a measure of oil exports greater than 30% of GDP as part of the local capacities index.			

## Appendix B: Descriptive Statistics

	<b>MEAN</b>	<b>MEDIAN</b>	<b>ST.DEV</b>	<b>RANGE</b>	<b>VARIANCE</b>
<b>war</b>	0.659	1.000	0.475	1.000	0.225
<b>duration*</b>	3.536	3.761	1.417	6.169	2.010
<b>deaths.disp*</b>	12.392	11.913	1.317	7.059	1.734
<b>unman</b>	0.781	0.000	1.423	5.000	2.025
<b>treaty</b>	0.306	0.000	0.462	1.000	0.213
<b>treaty.unman</b>	0.530	0.000	1.245	5.000	1.552
<b>cold war</b>	0.688	1.000	0.464	1.000	0.215
<b>army*</b>	4.410	3.912	1.840	8.575	3.386
<b>safrica</b>	0.344	0.000	0.476	1.000	0.227
<b>elect</b>	6.069	2.200	9.827	53.770	96.584
<b>r.density</b>	3.989	2.623	7.330	79.377	53.736
<b>elect.r.den</b>	4.172	0.510	10.609	79.304	112.563
<b>u.pop</b>	34.270	31.378	19.894	88.620	395.772
<b>u.pop.elect</b>	263.426	44.356	571.170	4896.327	326236.000
<b>nr.depend</b>	0.164	0.113	0.186	1.011	0.034
<b>oil.depend</b>	0.205	0.000	0.405	1.000	0.164
<b>loot.r.den</b>	0.930	0.000	1.716	6.862	2.947
<b>loot</b>	0.311	0.000	0.464	1.000	0.215
<b>eth.frac</b>	0.503	0.551	0.297	0.897	0.088
<b>rel.frac</b>	0.410	0.445	0.211	0.782	0.044

## Appendix B: Descriptive Statistics (continued)

	<b>MEAN</b>	<b>MEDIAN</b>	<b>ST.DEV</b>	<b>RANGE</b>	<b>VARIANCE</b>
<b>eth.dom</b>	0.517	1.000	0.501	1.000	0.251
<b>rel.dom</b>	0.743	1.000	0.438	1.000	0.192
<b>diaspora</b>	1.047	0.121	1.317	4.933	1.736
<b>eth.frac.elect</b>	1.956	0.806	3.355	28.183	11.258
<b>rel.frac.elect</b>	1.901	0.646	3.664	28.676	13.427
<b>diasp.e.dom</b>	0.567	0.002	1.128	4.933	1.274
<b>diasp.r.dom</b>	0.672	0.023	1.180	4.933	1.393
<b>democracy</b>	4.837	0.820	7.228	32.100	52.253
<b>participation</b>	17.823	14.350	17.480	60.350	305.584

*Note:* \* indicates log transformation.

## Appendix C: Logit Regression Models

	MODEL 1.	MODEL 2.	MODEL 3.	MODEL 4.	MODEL 5.	MODEL 6.	MODEL 7.	MODEL 8.
war	<b>-1.401</b> [0.527]	<b>-1.185</b> [0.571]	<b>-1.537</b> 0.535]	<b>-1.601</b> [0.588]	<b>-1.631</b> [0.576]	-1.365 [0.611]	<b>-1.869</b> [0.611]	<b>-1.787</b> [0.671]
duration*	<b>-0.567</b> 0.252]	<b>-0.473</b> [0.239]	<b>-0.460</b> [0.237]	<b>-0.387</b> [0.209]	<b>-0.580</b> [0.259]	<b>-0.493</b> [0.255]	<b>-0.461</b> [0.235]	<b>-0.393</b> [0.219]
deaths.disp*	<b>-0.629</b> [0.364]	<b>-0.789</b> [0.377]	<b>-0.626</b> [0.361]	<b>-0.813</b> [0.358]	<b>-0.686</b> [0.361]	<b>-0.803</b> [0.365]	<b>-0.665</b> [0.354]	<b>-0.838</b> [0.357]
unman	-0.683 [0.887]	-0.463 [0.720]	-0.671 [0.972]	-0.370 [0.777]	-0.590 [0.858]	-0.365 [0.632]	-0.629 [0.985]	-0.362 [0.789]
treaty	1.206 [0.838]	1.370 [0.867]	1.140 [0.873]	1.311 [0.846]	<i>1.467</i> [0.810]	<b>1.592</b> [0.833]	1.327 [0.909]	<i>1.371</i> [0.820]
treaty.unmar	1.860 [1.324]	1.541 [1.120]	1.748 [1.347]	1.345 [1.096]	1.754 [1.294]	1.413 [1.023]	1.686 [1.365]	1.330 [1.124]
cold war	0.307 [0.962]	0.145 [0.839]	-0.335 [0.886]	-0.586 [0.827]	0.827 [0.972]	0.383 [0.809]	0.117 [0.769]	-0.313 [0.776]
army*	0.081 [0.389]	0.275 [0.408]	-0.078 [0.334]	0.128 [0.292]	0.009 [0.335]	0.232 [0.354]	-0.193 [0.296]	0.042 [0.265]
safrica	-0.367 [0.971]	-0.445 [1.001]	-0.556 [1.067]	-0.570 [1.062]	-0.699 [1.011]	-0.712 [1.059]	-1.118 [1.114]	-1.054 [1.119]
electricity	<b>0.345</b> [0.126]	<b>0.365</b> [0.106]	0.274 [0.176]	0.237 [0.149]	<b>0.330</b> [0.132]	<b>0.334</b> [0.116]	0.229 [0.177]	0.210 [0.161]
r.density	0.152 [0.128]	<b>0.210</b> [0.089]			<b>0.233</b> [0.109]	<b>0.248</b> [0.077]		
elect.r.den	<b>-0.116</b> [0.048]	<b>-0.086</b> [0.033]			<b>-0.109</b> [0.051]	<b>-0.077</b> [0.030]		
u.pop			<i>-0.033</i> [0.018]	<b>-0.045</b> [0.018]			<b>-0.037</b> [0.019]	<b>-0.046</b> [0.018]
u.pop.elect			-0.001 [0.001]	0.000 [0.001]			-0.001 [0.001]	0.000 [0.001]
nr.depend	<b>-13.071</b> [3.809]		<b>-12.462</b> [3.505]		<b>-13.907</b> [4.636]		<b>-13.205</b> [3.839]	
oil.depend		<b>-3.229</b> [0.711]		<b>-2.637</b> [0.652]		<b>-3.290</b> [0.708]		<b>-2.708</b> [0.593]
loot.r.den	<b>-1.100</b> [0.234]	<b>-1.200</b> [0.304]	<b>-0.582</b> [0.241]	<b>-0.674</b> [0.286]	<b>-1.035</b> [0.233]	<b>-1.091</b> [0.269]	<b>-0.458</b> [0.226]	<b>-0.540</b> [0.245]
loot	<b>2.565</b> [1.248]	<b>2.639</b> [1.005]	0.930 [1.155]	1.068 [1.039]	2.270 [1.227]	<b>2.296</b> [1.126]	0.423 [1.070]	0.618 [0.996]
eth.frac	-1.069 [1.992]	-1.808 [1.979]	-0.407 [1.958]	-1.331 [2.246]	-0.624 [1.738]	-1.359 [1.904]	-0.013 [1.812]	-0.913 [2.144]
rel.frac	1.890 [3.914]	1.488 [3.666]	-0.008 [3.679]	-0.762 [3.743]	2.034 [3.452]	1.374 [3.217]	0.460 [3.068]	-0.514 [3.276]
eth.dom	<b>-1.767</b> [0.958]	<b>-2.004</b> [0.966]	<b>-1.829</b> [0.958]	<b>-2.058</b> [1.020]	<b>-1.936</b> [0.976]	<b>-1.951</b> [0.978]	<b>-1.871</b> [0.903]	<b>-1.950</b> [0.980]
rel.dom	0.412 [0.735]	0.729 [0.632]	0.806 [0.803]	0.991 [0.694]	0.207 [0.708]	0.616 [0.596]	0.606 [0.801]	0.868 [0.715]
diaspora	<b>-1.351</b> [0.692]	<b>-1.279</b> [0.589]	<i>-0.981</i> [0.573]	<i>-0.996</i> [0.551]	<b>-1.647</b> [0.775]	<b>-1.438</b> [0.624]	<b>-1.287</b> [0.545]	<b>-1.206</b> [0.517]

## Appendix C: Logit Regression Models (continued)

	MODEL 1.	MODEL 2.	MODEL 3.	MODEL 4.	MODEL 5.	MODEL 6.	MODEL 7.	MODEL 8.
<b>e.frac.elect</b>	0.328 [0.355]	0.217 [0.244]	0.258 [0.395]	0.189 [0.332]	0.406 [0.375]	0.264 [0.386]	0.361 [0.342]	0.222 [0.386]
<b>r.frac.elect</b>	<b>-0.907</b> [0.447]	<b>-0.939</b> [0.400]	-0.614 [0.375]	-0.645 [0.410]	<i>-0.729</i> [0.393]	<b>-0.729</b> [0.318]	-0.373 [0.308]	-0.374 [0.330]
<b>diasp.e.dom</b>	0.399 [0.950]	0.516 [1.158]	0.895 [1.028]	1.111 [1.102]	0.391 [0.768]	0.511 [1.059]	0.832 [0.799]	1.086 [0.956]
<b>diasp.r.dom</b>	0.451 [1.009]	0.131 [1.210]	-0.262 [0.798]	-0.514 [0.879]	0.789 [0.935]	0.301 [1.141]	0.077 [0.698]	-0.319 [0.804]
<b>democracy</b>	<i>0.136</i> [0.076]	0.113 [0.075]	<b>0.158</b> [0.053]	<b>0.141</b> [0.059]				
<b>participation</b>					0.025 [0.022]	0.013 [0.021]	0.033 [0.020]	0.021 [0.022]
<b>constant</b>	<i>9.529</i> [5.591]	<i>9.506</i> [5.631]	<b>11.803</b> [5.539]	<b>13.357</b> [5.202]	<i>10.018</i> [5.600]	<i>9.720</i> [5.171]	<b>12.655</b> [5.576]	<b>13.959</b> [5.304]
<b>N</b>	116	116	116	116	116	116	116	116
<b>Pseudo-R2</b>	0.530	0.520	0.500	0.491	0.492	0.473	0.461	0.444
<b>P-Log-L</b>	-32.974	-33.651	-35.036	-35.693	-35.614	-36.928	-37.805	-38.970
<b>% CC</b>	89.66	88.79	88.79	88.79	87.07	86.21	87.93	85.34
<b>% ROE</b>	62.52	58.06	54.55	53.34	58.06	58.06	46.69	41.36

Reported: coefficients and robust standard errors (in parentheses); estimates in bold are significant at least at the 0.05 level with two-tailed test; estimates in italics are significant at the 0.10 level; \* indicates log transformation.

## Appendix D: Individual Dimension Logit Regression Models

	<b>MODEL 1.</b>	<b>MODEL 2.</b>	<b>MODEL 3.</b>
<b>war</b>	<b>-1.309</b>	<b>-1.626</b>	<b>-1.612</b>
	[0.477]	[0.553]	[0.561]
<b>duration*</b>	-0.292	<b>-0.611</b>	-0.423
	[0.186]	[0.255]	[0.240]
<b>deaths.disp*</b>	<b>-0.673</b>	-0.706	-0.529
	[0.277]	[0.382]	[0.287]
<b>unman</b>	-0.104	-0.527	-0.407
	[0.496]	[0.788]	[0.624]
<b>treaty</b>	0.981	1.517	1.027
	[0.753]	[0.816]	[0.798]
<b>treaty.unman</b>	0.812	1.730	1.386
	[0.666]	[1.239]	[0.880]
<b>cold war</b>	0.671	0.764	-0.100
	[0.669]	[0.980]	[0.842]
<b>army*</b>	0.096	-0.006	-0.126
	[0.167]	[0.355]	[0.341]
<b>safrica</b>	0.288	-0.284	-0.264
	[0.744]	[0.968]	[0.941]
<b>elect</b>	<b>0.101</b>	<b>0.316</b>	
	[0.038]	[0.129]	
<b>r.density</b>	0.073	<b>0.294</b>	
	[0.064]	[0.089]	
<b>elect.r.den</b>	<b>-0.039</b>	<b>-0.094</b>	
	[0.014]	[0.039]	
<b>nr.depend</b>		<b>-12.205</b>	<b>-13.697</b>
		[3.284]	[3.321]
<b>loot.r.den</b>		<b>-0.979</b>	<b>-0.590</b>
		[0.220]	[0.220]
<b>loot</b>		2.228	1.147
		[1.305]	[1.090]
<b>eth.frac</b>		-0.509	-1.499
		[1.739]	[2.039]
<b>rel.frac</b>		0.913	-0.157
		[3.343]	[3.505]
<b>eth.dom</b>		<b>-1.830</b>	<b>-1.881</b>
		[0.953]	[0.970]
<b>rel.dom</b>		0.311	0.340
		[0.709]	[0.713]
<b>diaspora</b>		<b>-1.520</b>	<b>-1.320</b>
		[0.664]	[0.640]

## Appendix D: Individual Dimension Logit Regression Models (continued)

	<b>MODEL 1.</b>	<b>MODEL 2.</b>	<b>MODEL 3.</b>
<b>eth.frac.elect</b>		0.418 [0.376]	0.534 [0.398]
<b>rel.frac.elect</b>		<i>-0.651</i> [0.379]	-0.385 [0.316]
<b>diasp.e.dom</b>		0.367 [0.821]	0.779 [1.005]
<b>diasp.r.dom</b>		0.677 [0.907]	0.125 [0.841]
<b>democracy</b>	0.051 [0.038]		<b>0.137</b> [0.054]
<b>constant</b>	<i>6.657</i> [3.754]	<i>10.437</i> [6.039]	<b>10.924</b> [4.725]
<b>N</b>	117	116	116
<b>Pseudo-R2</b>	0.253	0.516	0.459
<b>Wald Statistic</b>	26.450	114.030	89.190
<b>P-Log-L</b>	-53.349	-33.963	-37.943
<b>%CC</b>	84.62	88.79	86.21
<b>%ROE</b>	28.02	58.06	50.01

Reported: coefficients and robust standard errors (in parantheses); estimates in bold are significant at least at the 0.05 level with two-tailed test; estimates in italics are significant at the 0.10 level; \* indicates log transformation.

## Appendix E: Index Logit Regression Models

	MODEL 1.	MODEL 2.	MODEL 3.	MODEL 4.	MODEL 5.	MODEL 6.	MODEL 7.	MODEL 8.
<b>hostility</b>	<b>-3.795</b>	<b>-4.082</b>	<b>-3.881</b>	<b>-4.096</b>	<b>-3.985</b>	<b>-4.061</b>	<b>-4.279</b>	<b>-4.167</b>
	[1.274]	[1.263]	[1.283]	[1.263]	[1.253]	[1.273]	[1.290]	[1.250]
<b>local 1.</b>	<i>0.430</i>							
	[0.227]							
<b>local 2.</b>		<i>0.058</i>						
		[0.036]						
<b>local 3.</b>			<b>0.870</b>					
			[0.368]					
<b>local 4.</b>				<i>0.046</i>				
				[0.028]				
<b>local 5.</b>					0.278			
					[0.335]			
<b>local 6.</b>						0.280		
						[0.238]		
<b>local 7.</b>							<b>1.059</b>	
							[0.462]	
<b>local 8.</b>								0.503
								[0.379]
<b>international</b>	<b>2.931</b>	<b>2.904</b>	<b>3.105</b>	<b>2.908</b>	<b>2.802</b>	<b>2.848</b>	<b>3.087</b>	<b>2.964</b>
	[0.980]	[1.008]	[0.955]	[1.004]	[0.970]	[0.978]	[0.961]	[0.953]
<b>_con</b>	0.238	0.702	0.064	0.732	0.580	0.582	0.335	0.554
	[0.637]	[0.586]	[0.600]	[0.581]	[0.606]	[0.606]	[0.577]	[0.582]
<b>N</b>	117	117	117	117	117	117	117	117
<b>Pseudo-R2</b>	0.157	0.138	0.215	0.140	0.132	0.138	0.201	0.170
<b>Wald Statistic</b>	16.59	14.81	19.64	14.92	14.62	14.68	17.51	16.79
<b>P-Log-L</b>	-60.141	-61.482	-55.988	-61.357	-61.91	-61.512	-57.004	-59.202
<b>% CC</b>	76.92	78.63	80.34	79.49	78.63	78.63	82.91	82.05

Reported: coefficients and robust standard errors (in parentheses); bold indicates significance at least at the 0.05 level with two-tailed test; italics indicates significance at the 0.10 level.

## Appendix F: Index Individual Dimension Logit Regression Models

	<b>MODEL 1.</b>	<b>MODEL 2.</b>	<b>MODEL 3.</b>	<b>MODEL 4.</b>	<b>MODEL 5.</b>	<b>MODEL 6.</b>
<b>hostility</b>	<b>-3.781</b>	<b>-3.831</b>	<b>-4.035</b>	<b>-3.819</b>	<b>-3.896</b>	<b>-3.454</b>
	[1.236]	[1.218]	[1.230]	[1.228]	[1.228]	[1.290]
<b>local 1.</b>	<b>7.131</b>					
	[2.057]					
<b>local 2.</b>		<b>6.37</b>				
		[2.118]				
<b>local 3.</b>			3.548			
			[2.518]			
<b>local 4.</b>				1.337		
				[1.281]		
<b>local 5.</b>					0.393	
					[0.732]	
<b>local 6.</b>						5.377
						[2.934]
<b>international</b>	<b>2.782</b>	<b>2.865</b>	<b>2.929</b>	<b>2.797</b>	<b>2.756</b>	<b>2.407</b>
	[1.008]	[0.991]	[0.960]	[0.973]	[0.967]	[0.933]
<b>_con</b>	0.473	0.507	0.493	0.527	0.707	0.257
	[0.551]	[0.543]	[0.584]	[0.616]	[0.595]	[0.634]
<b>N</b>	118	118	119	117	117	119
<b>Pseudo-R2</b>	0.166	0.166	0.152	0.133	0.126	0.139
<b>Wald Statistic</b>	18.23	18.39	15.89	15.73	14.84	12.96
<b>P-Log-L</b>	-60.534	-60.509	-61.822	-61.827	-62.366	-62.797
<b>%CC</b>	76.27	78.81	80.67	76.07	76.07	75.63

Reported: coefficients and robust standard errors (in parentheses); bold indicates significance at least at the 0.05 level with two-tailed test; italics indicates significance at the 0.10 level.