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Civil War and Women's Political Representation

Civil War and Trajectories of Change in Women's Political Representation in Africa, 1985–2010

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In recent decades, the expansion of women's political representation in sub-Saharan Africa has been nothing short of remarkable. The number of women legislators in African parliaments tripled between 1990 and 2010, resulting in African countries having among the highest rates of women's legislative representation in the world. The dominant explanations for this change have been institutional factors (namely, the adoption of gender quotas and presence of proportional representation systems) and democratization. We suggest that existing research has not gone far enough to evaluate the effects of one powerful structural change: the end of civil war. Using Latent Growth Curve modeling, we show that the end of long-standing armed conflict had large positive impacts on women's political representation, above what can be explained by electoral institutions and democratization alone. However, post-conflict increases in women's legislative representation materialize only after 2000, amid emerging international and regional norms of women's political inclusion. In countries exiting armed conflict in these recent years, women's movement into national legislatures follows a trajectory of social change that is much faster and more extensive than what we observe in other African countries.

Over the past thirty years, the expansion of women's political representation in sub-Saharan Africa has been nothing short of remarkable. The number of women legislators in African parliaments tripled between 1990 and 2010, resulting in many of the poorest countries in the world enjoying some of the highest rates of women's legislative representation. For decades, African women consistently fell well below the world average in political representation. Today, in contrast, women in Africa hold, on average, 22.4 percent of national legislative seats—slightly higher than the world average of 21.8 percent (IPU 2014). This article explores the reasons for these dramatic changes, showing both that: (1) the ending

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of recent civil wars has influenced these trends, and (2) typical explanations for why war might matter are insufficient.

Gains for women in politics matter beyond numbers alone (Paxton and Hughes 2013). States with more women in national legislatures spend more on social welfare (e.g., Bolzendahl and Brooks 2007) and have better child health outcomes, particularly in the most economically disadvantaged countries (Swiss, Fallon, and Burgos 2012). Women legislators are also more likely to sponsor legislation that serves women (e.g., Yoon 2013). Even in authoritarian and hybrid regimes, increasing women's representation may increase women's rights legislation, as in the case of Uganda (Wang 2013). But, the diversity of representative institutions impacts more than legislation. In Africa, rising women's political representation has been shown to impact women's civic engagement and self-esteem, as well as men's assessments of women's capabilities (Barnes and Burchard 2012; Johnson, Kabuchu, and Kayonga 2003).

Patterns of legislative change in Africa challenge classic gender stratification models that suggest inequality in formal politics should decline only after women make substantial gains in other institutions (e.g., Blumberg 1984; Chafetz 1990). It is therefore surprising that only a handful of sociologists have empirically investigated the striking and often unexpected gains in women's political representation in the developing world (del Campo 2005; Fallon, Swiss, and Viterna 2012; Hughes 2009; Viterna, Fallon, and Beckfield 2008). This scholarship—along with research by political scientists and regional specialists—has considered various factors that *could* contribute to African women's recent political success, including changes to electoral institutions, democratization, economic development, women's growing education and labor-force participation, the rise of left-leaning political parties, increasing international pressures from the UN and various regional organizations, and the influx of foreign aid (e.g., Bush 2011; Lindberg 2004; Tripp and Kang 2008; Yoon 2004). We suggest that existing research has not gone far enough in appreciating the effects of one powerful social force: the end of civil war.

Sub-Saharan Africa provides an ideal test site for considering how ending civil conflict affects women's political representation. Although a correlation between the end of conflict and women's female representation exists globally (Hughes 2009), countries affected by major internal armed conflicts are overwhelmingly in Africa. After World War II, Africa experienced the highest rates of civil conflict in the world, followed by significant declines in conflict over the past two decades, and accompanied by dramatic growth in women's legislative representation. Shortly after exiting a bloody civil war and ethnic genocide, Rwanda elected the world's highest ratio of women in parliament and in 2008 became the first country to elect women to a majority of national legislative seats. In 2010, women held an average of 27 percent of the parliamentary seats in African post-conflict countries, compared to just 14 percent in remaining countries. In this article, we propose that the decline of war and women's increasing political representation are not just contemporaneous, but are causally related.

What explains the link between ending civil wars and women's political representation in sub-Saharan Africa? Existing research on Africa generally centers on two explanations. First, it is widely acknowledged that recent endings of major

armed conflicts in Africa brought changes to electoral institutions such as the adoption of proportional representation (PR) electoral systems and electoral gender quotas, each of which could independently increase women's numbers in legislatures. Second, exiting armed conflict also proceeded alongside modest levels of democratization, which has been shown to increase women's political representation over time (Fallon, Swiss, and Viterna 2012; Paxton, Hughes, and Painter 2010). This research leaves key questions unanswered: Does armed conflict influence women's legislative representation solely because it facilitates institutional change and democratization? Or, do African countries emerging from major armed conflict follow distinct patterns of change in women's representation even after accounting for the adoption of women-friendly electoral institutions and the expansion of democracy?

In this article, we suggest that the decline of civil war explains much of the high levels of women's political representation in Africa today. We contend that the end of armed conflict generated a boost in African women's legislative presence *beyond what we expect from electoral rule changes and democratization alone*. Across the continent, civil-war endings enabled faster and more sweeping changes in women's legislative representation, setting these countries on a fundamentally different trajectory of reform.

This is not to say, however, that the positive relationship between ending armed conflict and growing women's political representation has always existed. Earlier civil conflicts and independence wars did not leave significant changes in women's status in their wake. Although women's participation in military action and/or peace movements mobilized women and challenged gender relations, ending conflicts typically brought a return to politics as usual. However, after the 1995 UN Women's World Conference in Beijing, women's rights activists were better positioned to involve themselves in peace talks, constitution-making exercises, new electoral commissions, and truth and reconciliation processes. They were particularly adept at leveraging their peacebuilding activities into meaningful changes after war subsided.

To investigate our claims about the impact of armed conflict on women's political representation, we employ Latent Growth Curve (LGC) modeling, a highly flexible longitudinal approach (Bollen and Curran 2006), to estimate growth in women's legislative representation between 1985 and 2010. This analysis constitutes the first ever quantitative longitudinal investigation of the effects of ending armed conflicts on the political representation of women in sub-Saharan Africa.

Civil War and Women's Legislative Representation

A central goal of our study is to better understand how social structures change. To think about the ways that civil war might alter societies, we draw from William Sewell's (2009) framework for understanding historical events. Sewell suggests that historical events can trigger a series of occurrences that transform existing structures and practices. A series of interrelated ruptures or dislocations can disturb a social structure in such a way that it becomes impossible to fix, creating circumstances that allow for new understandings of what is possible and

desirable (Sewell 2009). In this study, we see evidence that a particular form of disruption—large-scale civil wars—can have cascading effects on gender relations, fueling transformations at the highest levels of legislative politics.

Of particular interest to us here is how *gendered* social structures change, especially in developing countries. Unlike classic theories of gender stratification that theorize change operating first through institutions such as education and the labor force (e.g., Blumberg 1984; Chafetz 1990), here we theorize rapid political change fueled by widespread social disruption. Certainly, we are not the first to link the rise of women in leadership to conflict or crisis. In the midst of social, economic, or political unrest, women have risen to lead companies (Bruckmüller and Branscombe 2010) and even countries (e.g., Beckwith 2009). Here, we articulate a broader process, where disruption can create more systemic change. War can and has brought women to national leadership in Africa (e.g., Liberian President Ellen Johnson-Sirleaf), but we are interested in the ways that the end of armed conflict can create seismic shifts in the gender composition of national legislative bodies, quite literally changing the face of politics.

On a practical level, understanding the specific role of ending armed conflicts in sub-Saharan Africa is also important because armed conflict patterns have shifted in recent decades: after 1990, many long-standing conflicts came to an end, and numbers of new civil wars sharply declined. The number of conflicts starting outnumbered those ending until 1995, when the momentum shifted. Between 1995 and 2004, eight major conflicts started in Africa, while twenty ended. Because of when conflicts ended, we expect to see gains in women's political representation after 2000 and especially after 2005. These patterns, though most pronounced in Africa, fit a global trend in declining armed conflicts (Goldstein 2011).

Our study builds on prior claims about the effects of armed conflict on women's rights and representation that have yet to be fully substantiated. Presently, the idea that ending conflict increases women's political representation is not widely accepted. Much of the literature on gender and war has focused on backlash against women as a consequence and legacy of conflict (e.g., Meintjes, Pillay, and Turshen 2002; Pankhurst 2003; Pankhurst and Pearce 1997). As Pankhurst (2003, 161) explains: "Rather than receiving support at the end of wars, women usually suffer a backlash against any new-found freedoms, and they are forced 'back' into kitchens and fields. Where governments and/or warring parties establish new constitutions or peace processes, they often neglect the needs of women or outwardly limit or restrict the rights of women."

More recently, studies have mentioned a positive connection between armed conflict and women's political representation in Africa (Bauer and Britton 2006; Tripp et al. 2009; Zuckerman and Greenberg 2004) and more generally (Fallon, Swiss, and Viterna 2012; Hughes 2009). But, existing research typically links conflict to a causal story involving electoral institutions and democratization, a story that might explain the growth of women's representation with or without civil war. Here, we suggest something different, that transitioning out of armed conflict can set women on a new and fundamentally different trajectory toward greater political inclusion.

Armed Conflict, Electoral Institutions, and Democratization

Why might exiting armed conflict fundamentally shift the trajectories of women's political representation? Certainly, we agree with previous scholars that institutions are key. The end of major armed conflicts can help fuel the adoption of gender quotas (e.g., Anderson and Swiss 2014; Hughes, Krook, and Paxton forthcoming). Gender quotas—in the form of reserved seats, legislative quotas, or party quotas—aim to ensure that women gain representation in national legislatures by influencing the candidate nomination process (Dahlerup 2006; Krook 2009). Qualitative and country studies suggest that quotas have met these aims in Africa, impacting the gender composition of national legislatures across the continent (Bauer 2004; Britton 2005; Geisler 2004; Goetz and Hassim 2003; Tamale 1999; Tripp 2000; Tripp et al. 2009).

Why might war facilitate quota adoption? Societies recovering from civil war often try to re-create themselves through the writing of new constitutions and peace agreements, and the implementation of new rules of governance. During such periods of instability and renewal, emerging leaders create new institutions and practices rather than reform old ones, making it easier to adopt more radical measures. In Africa, women's organizations seized on these moments of flux to demand greater political representation, typically by demanding gender quotas (Tripp forthcoming). Moreover, because institutions were often reconstructed and male incumbents were not losing seats, resistance to gender quotas may have been lower than in more stable environments. Although we may know that gender quota adoption is more likely in countries transitioning out of civil wars, researchers have overlooked whether quota effects differ in post-conflict countries, an important part of our study.

Beyond quotas, the end of armed conflict provides opportunities for the adoption of other electoral institutions known to be favorable to women. Global studies consistently find that PR systems are favorable to and majoritarian systems work against women's legislative representation (e.g., Paxton 1997; Paxton, Hughes, and Green 2006; Reynolds 1999). Some countries emerging from conflict, such as South Africa and Rwanda, have adopted PR systems. Yet, recent research finds that PR systems may be less effective in emerging or developing democracies (Fallon, Swiss, and Viterna 2012; Hughes 2009, 2011; Viterna and Fallon 2008). Consequently, the role that PR systems play in Africa's story of social change is still somewhat unclear.

Research suggests that democratization may also help explain women's political success in post-conflict countries. Generally, comparative research on Latin America, Eastern Europe, and elsewhere argues that democratization has *not* benefited women in any particular way (e.g., Franceschet 2005; Jaquette and Wolchik 1998; Waylen 1994, 2007) and may even be negatively correlated with women's political representation (Paxton 1997; Tripp and Kang 2008). However, studies focusing on Africa often connect the increases in women's representation to the democratizing trends that have swept the continent since the early 1990s (e.g., Fallon 2008). Lindberg (2004), for example, finds that with each successive round of elections (three cycles) between 1989 and 2003, women's legislative representation increased. Research increasingly shows that the benefits of democracy may

unfold over time (Fallon, Swiss, and Viterna 2012; Paxton, Hughes, and Painter 2010). Expanding civil liberties, in particular, may create the space for women to organize and agitate for change (Paxton, Hughes, and Painter 2010). However, research on Africa has not fully considered whether democratization's benefits to women follow from, or are independent of, the ending of major civil wars.

Only one study has tested effects of quotas, democratization, and civil strife on women's political representation over time. Fallon, Swiss, and Viterna (2012) use random-effects models to test the influences of transitioning to democracy from civil strife on women's political representation across 118 developing countries between 1975 and 2009. They find that timing is important: women's representation increases sharply in countries that adopt gender quotas and transition from civil strife prior to 1995 (Mozambique, the Philippines, and South Africa), but "after 1995, the effectiveness of quotas on women's legislative representation becomes more universal, such that countries transitioning from civil strife are no longer significantly distinct" (Fallon, Swiss, and Viterna 2012, 398). However, in their models, conflict is measured only amid successful democratization, meaning that the effects of armed conflict in countries that did not successfully transition to democracy (e.g., Rwanda) are not included. Here, we reevaluate the relationships between electoral institutions, democratization, and armed conflict in a different context with different methods, placing conflict at the center of the analysis. In doing so, we find that post-conflict countries follow a distinct path to women's representation in contrast to other countries in Africa, and that exiting armed conflict becomes more important (not less so) after 1995.

Conflict Intensity and the Effects of Timing

We expect fundamentally different paths of gendered social change across sub-Saharan Africa because conflict has effects on society that run much deeper than electoral reforms alone. Conflict creates ruptures in gender relations, forcing women to take on new roles in their homes, communities, and broader society. Gaining access to political decision-making roles represents just one aspect of a profound shift in social life. But, armed conflict also shifts the gender landscape in ways that are expressly political. Because women are perceived, rightly or wrongly, as having had less of a hand in creating conflict, civil war can create political legitimacy for women (Adams 2008).

Although we cannot model profound changes in gender relations or women's newfound political legitimacy with quantitative covariates, we would expect such shifts to have occurred during prolonged or especially deadly armed conflicts. Consequently, we estimate effects of conflict intensity. In addition, the presence of broader changes in gender relations suggests that post-conflict countries might follow distinct paths toward women's political representation. We are able to look for observable differences in trajectories of women's legislative representation, comparing countries exiting civil wars to those that did not recently transition out of armed conflict.

That the relationships between ending armed conflicts and women's political representation may have shifted in Africa over time is an important part of our causal story. Over time, global norms regarding women's political rights and

appropriate levels of political incorporation for women have shifted dramatically (Paxton, Hughes, and Green 2006; Snyder 2006; Tripp 2006). The 1995 UN Conference on Women in Beijing was a watershed moment for women's international organizing, resulting in a Platform for Action that called on member states to take steps to advance female leadership in all arenas. Multilateral organizations like the UN and international donors began to ratchet up pressure on governments to improve the status of women. Given the changing global context, we expect African countries exiting major armed conflict during the late 1990s and early 2000s to experience boosts in women's legislative representation that are more substantial than countries exiting conflict earlier. Consistent with other longitudinal research (Paxton, Hughes, and Green 2006; Fallon, Swiss, and Viterna 2012), we evaluate the role of the changing global context by paying particular attention to timing—in this case how effects of armed conflict changed before and after Beijing (1995).

To be clear, international pressures for women's rights spread across much of Africa during the 1990s and early 2000s, whether or not armed conflict was coming to an end. But in countries exiting conflict, where gender relations are already in flux, women may be better positioned to take advantage of broader international shifts to press for change. On the flip side, a longitudinal perspective helps explain why previous research generally does not find higher rates of female representation in post-conflict countries in earlier time periods. Without the support of international actors, particularly UN agencies, women were less successful when they demanded a seat at the negotiating table. In more recent years, it became more difficult for states reconstituting themselves to ignore women's claims. Returning to politics as usual was no longer an option.

Additional Explanations

To understand changes in women's political representation in Africa, it is important to account for other factors suggested by prior research, including left-leaning political parties, colonialism, foreign aid, international organizations, economic development, and women's position in the social structure (e.g., Bush 2011; Lindberg 2004; Yoon 2004; Tripp 2005).

To begin, left-leaning parties have tended to be more egalitarian in orientation, hence more open to women's access to leadership (e.g., Caul 2001). Dominant political parties in countries exiting armed independence struggles often leaned left, for example the African National Congress (South Africa), Frelimo (Mozambique), South West African People's Organisation (Namibia), and Eritrean People's Liberation Front. However, the effects of left-leaning parties on women's political representation in Africa are not well understood. On the one hand, left parties may have broad effects, benefiting women even outside the post-conflict context. For example, in Seychelles, women held 46 percent of legislative seats in 1991 when a left-leaning party came to power, and once again in 2011 women claimed 44 percent of the seats under similar circumstances. On the other hand, empowering left-leaning parties does not always advance women's political representation, as evidenced by Ghana (Viterna and Fallon 2008). Here, we investigate the extent to which left-party rule increases women's legislative presence and

whether when controlling for party effects we still see conflict as an important force driving greater gender equality in Africa's legislatures.

Given our focus on changing global norms, we also consider other international influences. A handful of studies have identified the effects of colonialism on women's political representation (e.g., Paxton, Hughes, and Green 2006). Colonialism is thought to create ongoing relationships between colonizers and former colonies that may facilitate the spread of new norms of women's greater political representation. For example, in 1996, the Commonwealth—an association of former British colonies—established a 30 percent goal for women in decision-making (Hughes, Krook, and Paxton forthcoming). Effects of colonialism are particularly salient in Africa, where almost all countries were colonized. Foreign aid might also influence women's political representation in Africa. Countries dependent on foreign aid may be more likely to try to "signal" that they are democratic by adopting gender quotas (Bush 2011, 104). However, the only study to directly estimate the effects of foreign aid dependence on women's political representation in Africa finds no significant effects (Lindberg 2004).

International pressures are also mediated by regional bodies like the African Union and Southern African Development Community (SADC). SADC was influenced by women's movements in the region and, in turn, pressured countries to increase political representation of women. In November 1997, SADC Heads of Government adopted a "Declaration on Gender and Development," committing themselves to achieving 30 percent representation of women in politics by 2005 (Tripp 2005). New targets for 2010 were set at 50 percent. Research has yet to test the effects of SADC membership on women's political representation in Africa over time.

Structural changes in sub-Saharan Africa may also account for the growth of women's legislative representation in recent decades. Because levels of economic development in Africa lag far behind those of the rest of the world, it is reasonable to consider whether economics influences women's political status. Findings to date are mixed, depending on how development is measured and the time period examined. For example, Tripp and Kang (2008), Paxton, Hughes, and Green (2006), and Inglehart and Norris (2003) found a strong correlation between industrial/postindustrial development and gender inequality. Yet, neither Yoon (2004) nor Stockemer (2011) found effects of GDP in cross-sectional analyses of Africa. Here, we consider whether economic growth, not just levels of development, benefits women politically in Africa.

Education and labor-force participation, widely tested in global studies predicting women in politics, are generally not expected to matter in Africa, where rates of education are low and most women participate in agricultural production and the informal economy. The only quantitative studies that predict women's legislative representation in Africa confirm such intuitions, finding no significant positive effects of women's adult literacy, secondary education enrollment, or labor-force participation on political inclusion (Lindberg 2004; Yoon 2004). Nevertheless, education and labor-force participation have sometimes been shown to matter in studies of developing countries (e.g., Fallon, Swiss, and Viterna 2012).

Data, Measures, and Methodology

To better understand the mechanisms fueling growth in women's political representation in Africa, we analyze women's national legislative representation across 25 years. We begin our analysis in 1985—when African countries exhibit some variation in women's political outcomes, but when women legislators are less common than in most of the world—and continue our study through 2010. We include all 48 countries recognized as independent in sub-Saharan Africa in 2010. The dependent variable is the percentage of women in the legislature (lower house or unicameral body) measured in five-year increments. Across all years, the value of the dependent variable ranges from a low of 0 to a high of 56.3 percent. Operationalization and coding of all variables appears in Appendix A.

The central independent variable in this study marks the end of major armed conflict. Major conflicts reach at least 1,000 battle-related deaths at any time during the conflict. Exiting conflict is expected to affect women's representation in politics in the following two elections, provided that conflict did not resume. We also code transitional or interim governments as post-conflict to capture conflict-related changes that occurred before armed conflict formally drew to a close. Alternatively, conflict may not be best measured as a short-term effect, but rather as transforming a country's trajectory fundamentally. To investigate such fundamental differences, we also code a grouping variable that flags the 17 countries that are post-conflict in 2000, 2005, and/or 2010. In auxiliary analyses, we test two additional measures of conflict intensity: (1) minor conflict endings (< 1,000 battle-related deaths), which we do not expect to be influential, and (2) the population gender ratio as a proxy for the scale of armed conflict, as a greater number of men die in major war.[1]

To isolate the role of post-conflict impacts, we incorporate existing explanations for variation in women's legislative representation into our models. We measure two institutional effects on women's political representation: quotas and PR electoral systems. There are three types of quotas in Africa: (1) reserved seats that set aside seats for women, (2) national legislative quotas that require all parties to nominate women as candidates, and (3) party quotas adopted by one or more political parties within a country. All three are collapsed into one dummy variable indicating the presence or absence of a quota, although party quotas are counted only if adopted by the leading party or coalition. We also include a dummy variable to measure the effects of having a PR electoral system over the period.

Next, we consider other important controls. We examine the impact effects of left-leaning dominant parties. We consulted the Socialist International membership list, but also coded ruling parties known to be Afro-Marxist, as well as parties espousing a version of African Socialism. Countries are coded as left leaning at a given time point only if the leading party or coalition is left leaning; accounting for ideology of the second leading party does not alter the substantive results. We estimate the effects of colonial ties, treating former British colonies as the reference category, against which we estimate the effects of being a former French colony, or being neither a former French nor a former British colony. In auxiliary analysis, we also test the effects of additional colonial histories (Portuguese),

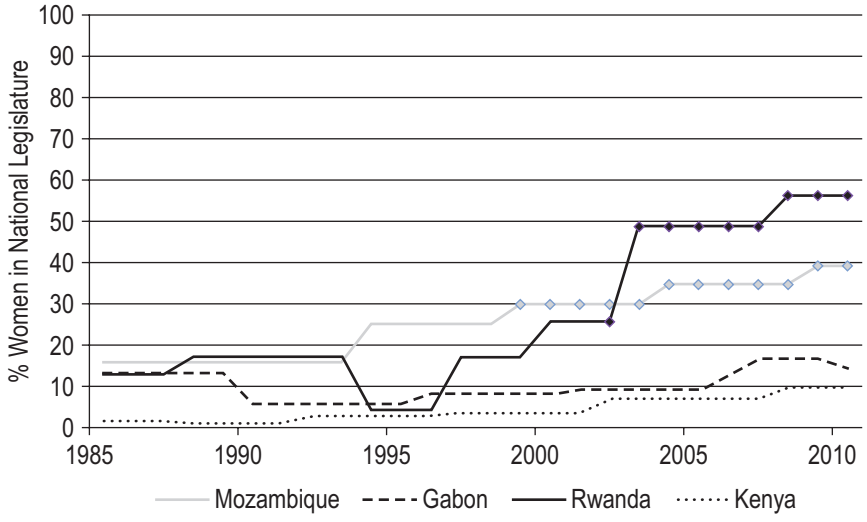
foreign aid dependence (measured as net official development assistance divided by gross domestic product),[2] membership in the Southern African Development Community (SADC), girls' share of secondary education, and labor-force participation.[3] We report notable results below.

Incremental social changes such as economic development or democratization may also influence trajectories of women's legislative representation in Africa. We proxy economic development with logged gross domestic product (GDP) per capita. We measure democratization as growth in civil liberties, which may reflect an opening of political space for women's organizations to lobby for greater representation (Paxton, Hughes, and Painter 2010). In auxiliary analyses, we test the effects of changing political rights, democracy overall, and transitions to democracy in different time periods (Fallon, Swiss, and Viterna 2012), discussing results below where relevant.

Estimation Strategy

We analyze the growth of women's political representation in Africa from 1985 to 2010 using Latent Growth Curve (LGC) models (Bollen and Curran 2006). LGC models analyze change over time by focusing on intra-country change, estimating both starting positions (intercepts) and trends (slopes) for each country's growth trajectory. Take, for example, figure 1, which presents trajectories of women's political representation for four African countries between 1985 and 2010. Years following the end of major armed conflict are marked with diamonds. Interestingly, Rwanda and Gabon begin the period with similar levels of women's representation, 13 percent, but follow substantially different trajectories over time. Rwanda experiences significant growth in women's representation beginning in 2000, ending the period with 56 percent women in the legislature.

Figure 1. Women's legislative representation in Gabon, Kenya, Mozambique, and Rwanda, 1985–2010



Alternatively, Gabon has only 3 percent more women in the legislature in 2010 than in 1985. Thus, the two countries will have similar intercept values but different slope estimations. Notably, the two countries with the greatest gains, Rwanda and Mozambique, have experienced intense conflict. Gabon and Kenya, in contrast, did not endure civil wars over the period and experience slower growth.

To analyze the individual country trajectories like those above, we first estimate the intercepts and slopes of each country to gauge an average pattern of growth. Thus, the first model we estimate is an unconditional linear model with no predictors, which estimates the average starting point, or intercept, of women's legislative representation in Africa in 1985 and the average rate of change, or slope, in women's legislative representation from 1985 to 2010.

Next, we include covariates to predict variation in the trajectories of women's legislative representation. That is, we include predictors to explain when and why countries deviate from the average growth trajectory. We begin by analyzing the effects of ending major conflict as a time-varying covariate. Modeled in this way, we are considering whether the end of recent conflicts pushes countries off their average growth trajectory in subsequent time points. Represented in equation form,

$$y_{it} = \alpha_i + \lambda_t\beta_i + \gamma_{y_t c_i} c_{it} + \varepsilon_{it}. \quad (1)$$

y represents women's legislative representation for the ith country at time t; α is the intercept for country i; β is the slope for country i; λ is a constant manipulated to capture linear change over time; γ represents the regression coefficients for effects of a recent civil war ending c; and ε is an error term for each country i at time t.

After establishing an effect of conflict on women's political outcomes, we add other variables to the model that could potentially explain the effects of war endings. We include two additional time-varying covariates: gender quotas and left-party rule.

We also investigate the effects of factors that are time invariant or change relatively little over the time period—PR electoral systems and colonialism—modeling their effects on the slope and intercept of the growth trajectory. Adding PR to the model, for example, produces the following level-two equations:

$$\alpha_i = \mu_\alpha + \gamma_{\alpha 1} p_i + \zeta_{\alpha i} \quad (2)$$

$$\beta_i = \mu_\beta + \gamma_{\beta 1} p_i + \zeta_{\beta i}. \quad (3)$$

The first equation represents a country's average starting point (α_i) as a function of the world average intercept in 1985 (μ_α), the presence of a PR system (p_i), and a disturbance term (ζ_α). The second equation represents a country's slope (β_i) as a function of the world average slope (μ_β), effects of a PR system (p_i), and a disturbance term (ζ_β). The γs represent the regression coefficients and estimate the expected impact of having a PR system on the random intercepts and slopes, controlling for all other variables in the equation.[4]

We also consider the impact of more gradual changes in economic development and civil liberties by modeling additional LGCs.[5] These models allow us to consider, for example, whether 1985 levels of economic development (the intercept, EI_i) and/or economic growth over the entire time period (the slope, ES_i) affect growth trajectories of women's legislative representation:

$$\alpha_i = \mu_\alpha + \gamma_{\alpha 1} EI_i + \zeta_{\alpha i} \quad (4)$$

$$\beta_i = \mu_\beta + \gamma_{\beta 1} EI_i + \gamma_{\beta 2} ES_i + \zeta_{\beta i}. \quad (5)$$

Similarly, we test whether civil liberties in 1985 and/or the expansion of civil liberties explains variation in the trajectories of women in African legislatures.

LGC models are also flexible enough to test in a single model whether some units follow systematically different growth trajectories than other units. That is, we are able to go beyond testing for differences in latent means and slopes to permit more radical dissimilarities in growth trajectories (differences in the factor variances and covariances, time-specific error variances, and functional form) (Bollen and Curran 2006). We use multiple group LGC analysis to consider whether and how trajectories for recent post-conflict countries might differ from other countries in Africa. However, given the modest number of post-conflict countries in our study, we treat the results of multiple group analysis with caution.[6]

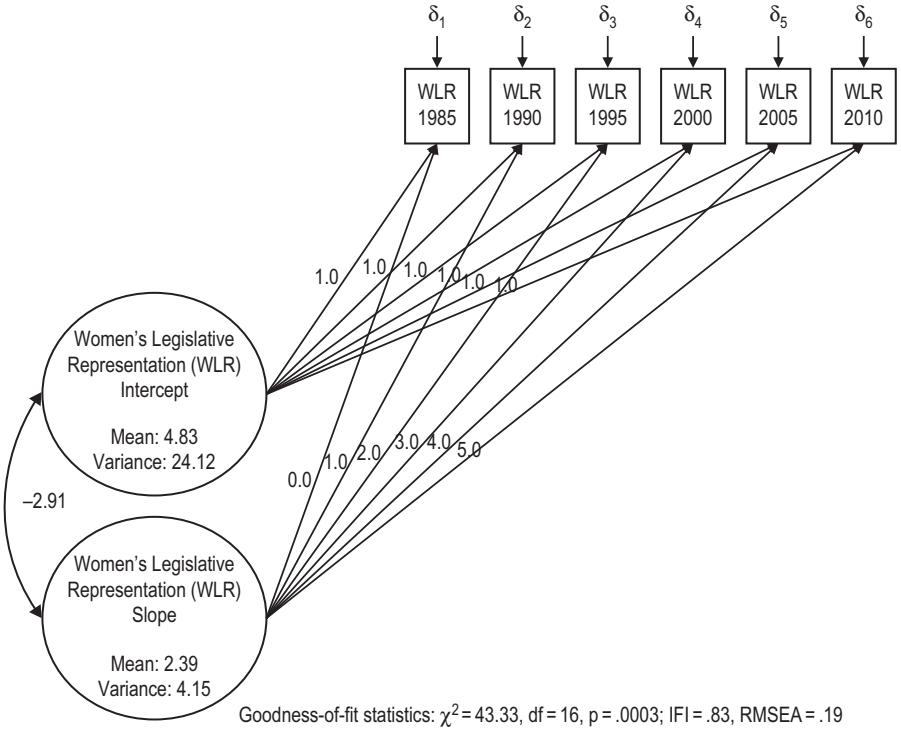
All models reported in this study specify a linear growth trajectory.[7] All LGC models are analyzed using AMOS 22.0. We account for missing data using maximum likelihood estimation (FIML). We assess model fit using a range of fit statistics, including the chi-square test statistic, the Incremental Fit Index (IFI) (Bollen 1989), and the root mean squared error of approximation (RMSEA) (Steiger and Lind 1980). Significant chi-square statistics indicate that the model does not fit the data perfectly, so non-significant chi-square statistics are viewed as indicators of excellent fit. IFI values closer to 1.0 indicate better model fit. Typically, values 0.85–0.90 are considered mediocre, above 0.90 are good, and above 0.95 are optimal. In contrast, RMSEA values closer to 0 indicate better model fit, and values below 0.05 are typically considered excellent (Browne and Cudeck 1993). Recent research suggests that especially in small samples, using a 0.05 cutoff leads to the rejection of valid models (Chen et al. 2008). Thus, we aim for a more reasonable 0.10 threshold for the RMSEA. Considering multiple fit statistics together provides a more complete evaluation of model fit.

Results

Average Growth in Women's Legislative Representation in Africa

To begin, we fit an unconditional linear LGC model, represented as a path diagram in figure 2. Examining the results provides a general picture of the average growth of women's political representation in Africa over time. The mean of the intercept term indicates that, on average, countries have slightly less than 5 percent

Figure 2. Unconditional linear growth curve model predicting women's legislative representation in 48 African countries, 1985–2010



women in the national legislature in 1985. There is also meaningful country-level variation around the sample average (the variance of the intercept is significant at $p < 0.001$). The mean latent slope indicates that, on average, women's political representation in Africa grew slowly over the time period, 2.4 percent every five years, and again, we find significant country variation around the mean ($p < 0.001$). Unsurprisingly, with no predictors, the model does not fit the data well ($\chi^2 = 43.33$, $p = 0.000$; IFI = 0.83; RMSEA = 0.19). The significant chi-square statistic, coupled with an IFI far below 0.90 and an RMSEA far above 0.10, suggest there is substantial room for improvement.

Predicting Growth in Women's Political Representation in African Legislatures

Table 1 presents the results of our first three predictive models of women's representation in African national legislatures. Model 2 adds the effects of ending major armed conflict. As expected, in the most recent time points, women's legislative representation is higher in post-conflict countries. The end of major armed conflict increases women's legislative representation in 2005 and 2010 by 4–6 percent, on average; such effect sizes are substantial given that models control for the country's prior growth trajectory. In contrast, exiting conflict during

Table 1. Results from Linear Growth Curve Models Predicting Women's Political Representation with Major Armed Conflict, Gender Quotas, PR Electoral Systems, Left-Party Rule, and French Colonialism across 48 African countries, 1985–2010

	WLR 85	WLR 90	WLR 95	WLR 00	WLR 05	WLR 10	WLR α	WLR β
Model 2—Major conflict								
Maj conflict	–1.34 (2.56)	–3.97* (1.86)	1.40 (2.06)	–1.29 (1.74)	4.08** (1.66)	5.60* (2.38)		
Goodness-of-fit statistics: $\chi^2 = 97.78$, d.f. = 34, $p = .000$; IFI = .83, RMSEA = .20								
Model 3—Institutional effects								
Maj conflict	0.23 (2.17)	–3.29^t (1.90)	1.92 (2.24)	0.32 (1.61)	3.01* (1.42)	4.06* (2.06)		
Quotas	–	–	4.52^t (2.38)	4.82** (1.51)	7.51*** (1.30)	8.32*** (1.56)		
PR electoral systems							3.55^t (1.83)	–0.16 (0.67)
Goodness-of-fit statistics: $\chi^2 = 154.33$, d.f. = 70, $p = .000$; IFI = .84, RMSEA = .16								
Model 4—Party ideology and colonialism								
Maj conflict	–0.11 (2.25)	–5.51** (1.78)	2.44 (2.24)	0.83 (1.62)	3.33* (1.44)	4.29* (2.15)		
Quotas	–	–	5.34* (2.39)	4.29** (2.15)	7.43*** (1.30)	8.12*** (1.70)		
Left party	3.50* (1.41)	5.07*** (1.18)	0.47 (1.40)	2.04 (1.32)	1.44 (1.46)	1.35 (2.03)		
PR electoral systems							1.03 (1.68)	0.33 (0.70)
French colonialism							1.36 (1.69)	–1.29^t (0.69)
Not British or French colony							3.70* (1.77)	–1.00 (0.74)
Goodness-of-fit statistics: $\chi^2 = 238.83$, d.f. = 102, $p = .000$; IFI = .85, RMSEA = .15								

Note: WLR = women's legislative representation; maj conflict = major armed conflict.
***$p < .001$ **$p < .01$ *$p < .05$ $^t p < .10$, two-tailed; standard errors are in parentheses.

earlier time points is associated with no change or even lower levels of women's legislative representation.

All post-conflict effects are moderated slightly in model 3, which adds gender quotas and PR electoral systems into the analysis. The conflict measures remain positive and statistically significant in 2005 and 2010, although the effect sizes are reduced by about 25 percent. Given that quotas are commonly adopted in post-conflict countries to increase women's political representation, this is unsurprising. As expected, gender quotas have a strong and statistically significant effect when they enter the analysis in 1995.[8] In that year, African countries with gender quotas have 4.5 percent more women in the national legislature, on average, than African countries without quotas. These effects increase over time such that by 2010, gender quotas push countries off their trajectory by more than 8 percent, on average.[9] In model 3, countries with PR systems have higher initial levels of women's political representation but do not grow at a faster rate than

countries with plurality-majority systems. Yet, to better isolate effects of PR, including left-party effects is important, as PR and left-party dominance coincide in Africa ($\chi^2 = 10.29$, $p < 0.01$).

Model 4 adds party ideology and colonialism to the model. First and foremost, the post-conflict variables remain statistically significant. Post-conflict countries continue to have 3–4 percent more women, on average, than countries not exiting large-scale armed conflicts. Left-party rule has strong significant effects on women's political representation in the earlier time points, but the magnitude of the effects declines over time. In the 1980s, countries led by left-leaning parties were the only ones that had slightly elevated rates of women's representation. But, following the end of the Cold War, left-party effects disappear altogether.

Model 4 also demonstrates that trajectories of women's legislative representation differ by colonial history. Although French postcolonial states do not start off with levels of women any different than British colonies, growth in women's representation in these countries is slower by 1.29 percent, on average. Alternatively, countries not colonized by either the French or British start with higher levels of women's political representation in 1985, but grow at similar rates to British colonies over time.[10] Overall, these results suggest continuing effects of colonialism on trajectories of women's political representation in Africa.

Once left-leaning rule and colonialism are included, PR electoral systems no longer significantly affect women's legislative representation in Africa. Notably, auxiliary analyses stepping in foreign aid, female labor-force participation, and SADC membership to model 4 (or to subsequent models) produce no statistically significant effects on women's legislative outcomes in Africa.[11] In contrast, girls' secondary education enrollment has marginally significant effects in 2005 and 2010, but effects are weak: a 25 percent increase in girls' enrollment is associated with just a 2 percent gain in women's political representation. Adding girls' education does not affect the significance or size of armed conflict or any other measure.[12]

Aside from the substantive results, we should note that as expected, model fit does improve once predictor variables are included in the model. For example, for model 4, an IFI of 0.85 and an RMSEA of 0.15 suggest the model fit is mediocre. Notably, this same model estimated in ten-year rather than five-year intervals results in even better fit indices (e.g., an IFI of 0.95 indicating excellent fit).

Table 2 presents the results from models incorporating secondary growth curves. Model 5 considers the effects of initial economic development and economic growth on women's political representation. Neither economic development nor growth is statistically significant; their inclusion does not alter any previous findings and reduces model fit.

Model 6 predicts the intercept and slope of women's political representation with the intercept and slope of civil liberties. As with GDP, initial levels of civil liberties in Africa do not affect initial levels of women's representation in 1985, nor growth in women's representation across time. However, we find that expanding civil liberties produces growth in women's legislative representation.[13]

Before moving on, it is noteworthy that we test the effects of additional variables related to the intensity of armed conflict on women's political representation. As expected, the positive effects of recent major armed conflicts do not translate to minor or low-intensity conflicts. Indeed, when adding measures

Table 2. Results from Linear Growth Curve Models Predicting Women's Political Representation Adding Economic Development and Civil Liberties Growth Curves across 48 African Countries, 1985–2010

	WLR 85	WLR 90	WLR 95	WLR 00	WLR 05	WLR 10	WLR α	WLR β
Model 5—Economic growth								
Maj conflict	0.24 (2.19)	–5.31 (1.82)	2.36 (2.24)	0.76 (1.61)	3.26* (1.46)	4.19* (2.14)		
Quotas	–	–	5.31* (2.39)	4.20** (1.54)	7.15*** (1.33)	7.80*** (1.71)		
Left party	3.51* (1.21)	5.06*** (1.20)	0.47 (1.37)	2.00 (1.31)	1.36 (1.46)	1.27 (2.02)		
French colonialism							1.52 (1.70)	–1.00 (0.69)
Not British or French colony							4.02* (1.71)	–0.50 (0.71)
Economic development, 1980							–0.25 (0.46)	0.26 (0.21)
Economic growth, 1980–2005							–	0.31 (0.36)
Goodness-of-fit statistics: $\chi^2 = 432.24$, d.f. = 156, $p = .000$; IFI = .80, RMSEA = .19								
Model 6—Civil liberties								
Maj conflict	0.06 (2.20)	–5.45** (1.83)	2.53 (2.19)	1.08 (1.59)	3.65* (1.49)	4.76* (2.11)		
Quotas	–	–	5.59* (2.35)	4.54** (1.50)	7.66*** (1.32)	8.33*** (1.65)		
Left party	4.13** (1.41)	5.39*** (1.22)	0.31 (1.37)	1.72 (1.30)	0.75 (1.50)	0.42 (2.00)		
French colonialism							1.79 (1.74)	–1.77** (0.67)
Not British or French colony							4.06* (1.73)	–0.79* (0.87)
Civil liberties, 1980							0.46 (0.79)	–0.28 (0.32)
Civil liberties growth, 1980–2005							–	0.65** (0.23)
Goodness-of-fit statistics: $\chi^2 = 361.92$, d.f. = 156, $p = .000$; IFI = .81, RMSEA = .17								

Note: WLR = women's legislative representation; maj conflict = major armed conflict.
***$p < .001$ **$p < .01$ *$p < .05$ ⁱ$p < .10$, two-tailed; standard errors are in parentheses.

marking exit from low-intensity conflict to the model, the only statistically significant effects are negative (in 1990 and 2000). We also model the effects of the changing sex ratio, arguably a more nuanced measure of conflict intensity than the dummy variables we include for low- and high-intensity conflicts. We find that in countries where the ratio of men to women declines, women's political representation increases, but the effect is only marginally significant ($p < 0.10$). Notably, when controlling for the changing sex ratio, the effects of a recently ended major armed conflict remain strong and significant, undermining arguments that sex ratio changes explain the positive effects of conflict on women's

representation in Africa. Overall, these auxiliary analyses support our expectations that the intensity of armed conflict influences women's political outcomes.

The results from tables 1 and 2 suggest that traditional explanations cannot account for the gains experienced by post-conflict countries in Africa. Yet, the models presented thus far may not capture the degree to which conflict fundamentally changes how institutions and party politics affect women's political outcomes. Before estimating multi-group models, we first use descriptive analysis to explore differences between recent post-conflict countries and the rest of Africa. Figure 3 presents a Venn diagram that displays how the conjunction of three political factors thought to influence variation in women's legislative representation—gender quotas, dominant left political parties, and PR systems—vary by recent conflict ending.[14] Darker shading is associated with higher levels of women's representation.

The results presented in figure 3 are striking. First, we see that gender quotas can effectively increase women's legislative representation in a variety of contexts. Yet, quotas appear more powerful in post-conflict countries, especially when used in PR systems. Next, looking at dominant left-leaning political parties, we see that for countries that have not recently exited major armed conflict, left-party dominance appears to marginally increase women's representation. But much of the success of left-leaning parties in producing gains for women appears in conjunction with favorable institutions like PR systems and quotas. In sum, our results suggest that the contribution made to women's representation by left-leaning parties *independent* of other effects may be negligible, but left-leaning parties still appear to have played a role in the substantial gains in women's legislative presence across Africa. Finally, the diagram shows why PR has no significant effects in the multivariate analysis: PR systems do not appear to benefit women's representation in Africa independent of left-leaning party dominance and quotas.

Figure 3. Women's legislative representation in sub-Saharan Africa by quotas, left party dominance, and PR for recent post-conflict and all other countries, 1995–2010

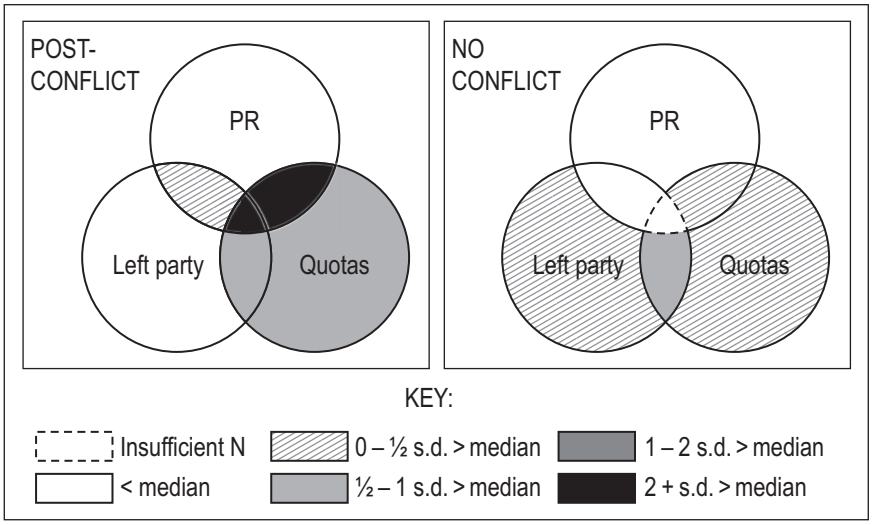


Table 3. Results from Multi-Group Unconditional Linear Growth Curve Models Predicting Women's Political Representation for Post-Conflict and Not Post-Conflict African Countries, 1985–2010

Model 7—Unconditional model				
Group mean	**Post-conflict**	**Not post-conflict**	**Difference**	
Intercept (α)	6.58***	4.91***	1.67	
	(1.47)	(0.97)		
Slope (β)	3.49***	1.56***	1.93**	
	(0.67)	(0.25)		
Goodness-of-fit statistics: $\chi^2 = 62.17$, d.f. = 32, $p = .001$; IFI = .78, RMSEA = .14				
Model 8—Adding effect of quotas				
	WLR 95	**WLR 00**	**WLR 05**	**WLR 10**
Post-conflict	9.89**	9.92***	13.77***	17.26***
($N = 17$)	(3.23)	(1.87)	(1.75)	(1.73)
Not post-conflict	–0.34	1.14	5.24**	5.05*
($N = 31$)	(2.81)	(2.21)	(1.76)	(2.00)
Goodness-of-fit statistics: $\chi^2 = 92.12$, d.f. = 58, $p = .003$; IFI = .90, RMSEA = .10				

Note: WLR = women's legislative representation.
***$p < .001$ **$p < .01$ *$p < .05$ $^t p < .10$, two-tailed; standard errors are in parentheses.

The final step of our analysis is to use multiple group LGC analysis to consider whether post-conflict countries have distinct trajectories of women's representation. Model 7 in table 3 presents the results of a new unconditional linear model. The model estimates a linear pattern of change for both groups but allows intercepts, slopes, variances (including error variances), and covariances to differ for the two groups. Although the intercepts for the two groups are the same, the two groups grow at substantially different rates across time—not surprising, given our analysis thus far. Constraining the latent variances, error variances, or covariances to be the same across the two groups significantly reduces the fit of the models, providing evidence that post-conflict countries have a trajectory of change distinct from other groups. Still, model fit in the unconditional model is poor.

Model 8 builds on the unconditional model by constraining the group intercepts to be equivalent (because they are not significantly different) and adding effects of quotas. Variances and covariances are still allowed to differ between the two groups.[15] These results confirm what we see in the Venn diagram: the effects of quotas are much stronger in post-conflict countries. Yet, we also see that for countries not exiting conflict in recent years, quotas have only a significant impact in the most recent time points. With an IFI of 0.90 and an RMSEA of 0.10, the results of model 8 fit moderately well.

Discussion and Conclusions

The ending of major civil wars in Africa in the late 1990s and early 2000s has had significant implications for African women, many of them tragic. Even after peace agreements are negotiated, women's security, health, and economic well-being are in peril. Yet, the ending of major armed conflicts has also had a positive

byproduct: increased legislative representation for women. Even after accounting for effects of quotas and democratization, the ending of armed conflict has a substantial impact: in 2010, a 4–5 percent boost. Unlike classic theories of gender stratification that theorize political change as a slow trickle up through other social institutions such as education, here we find evidence of rapid political change fueled by widespread social disruption. We also find that post-conflict countries follow a *trajectory* of advancing representation distinct from that of other African countries.

Our study supports existing notions of civil war's impact on women's political representation; we find that quotas and democratization help explain the remarkable changes we have seen in women's political representation in Africa in recent decades. But, our findings also point to causal mechanisms that have received less attention by researchers and that are more difficult to measure directly. We find evidence that changes in women's legislative representation are more likely in countries disrupted by more intense conflicts. Large-scale wars are most likely to produce major disruptions in social relations, creating circumstances that allow for new understandings of women's roles. These ruptures have cascading effects, expressing themselves through women's greater agency, not only in the home and community, but also in legislatures. In Uganda, for example, during conflict women started running businesses and sought new sources of livelihood, supported the household, learned how to drive, and ultimately played more active roles in national politics. These transformations continued long after conflict subsided (Tripp 2000).

The timing of civil war's effects on women's political representation also points to underlying mechanisms at work. In countries exiting armed conflicts during the 1970s, women's organizations pressed for a seat at the table, but their gains were limited. During the 1980s, international and regional organizing began to shift the African landscape. But, it was not until 1995 that women were able to codify demands for greater inclusion in decision-making positions in the Beijing Platform for Action. Women's groups began to marshal international pressure to bolster their claims for representation and to construct women's political representation as the norm for modern nation-states (Towns 2010). In elections taking place after 2000, women were better positioned to consolidate wartime shifts in gender relations into peacetime gains in political representation. Countries exiting armed conflict began to look noticeably different than other countries in Africa.

In this study, we were particularly interested in examining the effects of conflict to see how they interacted with the major explanatory variables that have been advanced in the previous literature: namely, gender quotas, PR electoral systems, and more recently, democratization. Not surprisingly, we found that the introduction of quotas is an important factor in accounting for increases in female representation. However, conflict still emerges as a salient factor with explanatory power beyond that of quotas.

Quotas are also substantially more powerful in countries exiting major conflict. The end of conflict creates new opportunity structures—peace talks, constitution making exercises, new electoral commissions, and truth and reconciliation processes—through which women can assert their demands. Thus, the post-conflict period affords women multiple points of entry through which to try to influence the

process. African women took advantage of these moments to press for gender quotas to institutionalize their position in the future government. But, gender quotas are only part of a broader institutional story. By dismantling existing institutions, war created opportunities for new institution building, thus permitting even more radical changes than the reform of existing structures taking place elsewhere in Africa.

PR systems, perhaps surprisingly, do not feature as a factor in longitudinal analysis in Africa, especially when post-conflict and quota effects are introduced into the model. Only three countries adopted PR in the time period of this study (Rwanda, Namibia, and South Africa), and all are post-conflict countries. Moreover, there are a significant number of plurality-majority electoral systems that have produced relatively high rates of women's representation through the use of reserved seats, for example Uganda and Tanzania. PR cannot, on its own, explain women's political gains in Africa.

The strengthening of democratization and, in particular, of civil liberties emerges as an important explanation of increasing women's legislative representation. Expanding civil liberties creates the conditions necessary for women's mobilization. These results are consistent with recent findings that women's movements play a pivotal role in the institutionalization of women's political representation under new democratic regimes (Viterna and Fallon 2008). However, we cannot fully explain numerical increases in women's political representation in post-conflict countries with democratization alone.

Thinking about the interaction between civil war and democratization raises important questions about the role of women's political presence outside democracies. Is it important to investigate mechanisms that increase women's numbers in legislatures in authoritarian countries, where legislators have limited influence? Such regimes may even manipulate women's levels of representation to maintain power (e.g., Reyntjens 2010). Yet, democracy is not required for women's presence to have an impact (Wang 2013), especially when we consider symbolic effects on women's political behavior and attitudes. We suggest that understanding variation in women's legislative representation across all of sub-Saharan Africa is important.

We also tested effects of economic development and colonial legacy. Neither initial levels of GDP nor economic growth predict levels of women's representation, perhaps unsurprising given the prevalence of low-income African countries with relatively high rates of women's legislative representation. Colonial legacy, alternatively, does predict growth in women's representation; we find that former French colonies have slower growth in women's legislative representation than former British colonies. This may be partly linked to the continuing French security and intelligence umbrella that was provided after independence, which lowered the incidence of major long-term violence. However, the negative effect of French colonialism remains even after controlling for conflict.

While we have focused on sub-Saharan Africa in this article, the findings travel well beyond the region. We saw similar transformations in Algeria, which experienced a bloody civil war between 1991 and 2002, and today has the highest rates of female representation in the Middle East/North Africa, with women claiming 32 percent of the parliamentary seats. Nepal and Timor-Leste have

similarly experienced post-conflict political gains for women for reasons similar to those we observe here.

Our research calls attention to the need for additional scholarship on the role that armed conflict can play in political changes for women. We suggest three directions for future research. First, given the increasing use and sophistication of cross-national surveys in the developing world, we hope that future cross-national research will be able to explore the links between armed conflict, attitudes toward women's roles in society, and changes in women's political representation over time. Second, additional in-depth case research is needed to better flesh out the specific mechanisms for change we have sketched out here. Third, future empirical studies should also consider whether and how armed conflict has systematically influenced gendered patterns of change in other institutional arenas. Recent legislative trends might be just one part of a broader story of social change for Africa's women.

Notes

1. Some researchers claim the changing gender ratio helps explain why armed conflict affects women's status. For example, Powley (2003) argues that the majority of the Rwandese population was female after the 1994 genocide, forcing women to assume new positions in the family, society, and politics. We argue instead that change in the gender ratio is related to conflict intensity, which in turn is correlated with post-conflict effects on women's legislative representation (see also Tripp forthcoming). We acknowledge, however, that our empirical analysis does not allow us to fully adjudicate between these competing explanations.
2. We also tested the natural log of net official development assistance per capita; the substantive results are the same.
3. Data on women's labor-force participation in much of Africa is, at best, questionable. The ILO provides the best data, but measures are not available for early study years. UNESCO data on girls' secondary education enrollment are more reliable but are still incomplete, sometimes generating estimation problems.
4. Measures of electoral systems change slightly in some years. To account for changing institutions, we estimate auxiliary models including a dummy flagging countries that changed to PR and models excluding countries that changed electoral systems. Reported results are robust.
5. Because of time-order issues, we estimate the effect of the slope of the secondary growth curve on the slope of women's representation but not the intercept. Details about the creation of secondary growth curves are available upon request.
6. Seventeen of the 48 countries in our study recently exited major armed conflict (see appendix A for a list), yielding a small sample for subgroup analysis (only 102 country-years). Although LGC models have better reliability with smaller sample sizes than comparable methods (Duncan and Duncan 2004), the performance of multigroup LGC models with such small samples is not well understood.
7. We investigated numerous alternative time specifications. One is a freely nonlinear specification (Bollen and Curran 2006), which demonstrated that average growth in women's representation across Africa is relatively linear over time.
8. Only a handful of countries implemented quotas prior to 1995 (Ghana, Tanzania, Senegal, and Uganda). Quota effects before 1995 are not statistically significant and make model estimation more difficult.

9. The increasing effects of quotas over time may be nonlinear because of differences in the types of quotas adopted over time. Countries implementing quotas between 1995 and 2000 more often used party quotas (which can have weaker effects) than the national quotas that dominated later.
10. When modeled separately, the growth trajectories of Portuguese colonies are not significantly different from those of former British colonies.
11. When modeled as a time-varying covariate, we find some statistically significant effects of SADC membership, but effects are sensitive to outliers; excluding South Africa, Mozambique, and Namibia in pairs or all together eliminates them.
12. Auxiliary models testing growth in girls' secondary education (rather than as time-varying controls) produce no significant effects.
13. We investigate several alternative specifications of democratization. We estimate the effect of growth of democracy overall and of political rights, but neither generates significant effects. When modeling transitions to democracy, we find that only countries transitioning to democracy between 1981 and 1995 show significantly greater growth in women's representation than countries with no observed transition to democracy. Nonlinear specifications of democratization's effects are also statistically insignificant in auxiliary models. Changing the specification of democratization does not change our substantive results.
14. To generate this figure, we pool data for 1995, 2000, 2005, and 2010 and divide the sample into two groups: 1) countries that recently exited high-intensity conflicts, and 2) countries that did not. We then subdivide these data further according to the political and institutional factors present at the time and look at the median levels of legislative representation for each group. We use the median rather than the mean to account for any effects of skew from outliers like Rwanda.
15. In models that assume a common underlying trajectory (i.e., variance and covariance are constrained to be equal), quotas and post-conflict interactions are statistically insignificant. Thus, acknowledging group differences in the underlying trajectories is necessary to find differences in the effects of quotas across recent post-conflict and other African countries.

Appendix A. Sources of Data and Coding

Main Analyses

WOMEN'S LEGISLATIVE REPRESENTATION	% of seats held by women in lower house of legislature or unicameral body of legislature.
	Source: Paxton, Pamela, Jennifer Green, and Melanie M. Hughes. 2008. *Women in Parliament Dataset, 1893–2003*. ICPSR24340-v1; and Inter-Parliamentary Union, http://www.ipu.org/english/home.htm.
MAJOR ARMED CONFLICT (TIME-VARYING)	1 = major armed conflict (reaching at least 1,000 battle deaths) ended prior to recent election; coded 1 through two elections after a war ending unless fighting resumes; coded 1 in the period directly before conflict ending if identified as transitional or interim government), 0 = conflict is ongoing or did not end recently.
	Note: 1,000 battle deaths can be reached in a given year or cumulatively.
	Source: PRIO Centre for the Study of Civil War and Department of Peace and Conflict Research, Uppsala University, http://www.prio.no/.
RECENT MAJOR ARMED CONFLICT (GROUP)	1 = countries coded 1 for **MAJOR ARMED CONFLICT** in 2000, 2005, and/or 2010 (Angola, Burundi, Congo, Democratic Republic of the Congo, Eritrea, Ethiopia, Guinea-Bissau, Liberia, Mozambique, Namibia, Rwanda, Senegal, Sierra Leone, Somalia, South Africa, Sudan, and Uganda), 0 = other countries in sub-Saharan Africa.
QUOTAS	1 = reserved seats, national legislative quotas, or party quotas (adopted by leading party or coalition) implemented prior to associated election year, 0 = no such quota exists; leading party or parties established using vote share.
	Source: News reports from LexisNexis; *Women in Parliaments 1945–1995* (IPU 1995); the Global Database of Quotas for Women (2008), http://www.quotaproject.org; and IPU PARLINE webpages, http://www.ipu.org/english/home.htm.
PR ELECTORAL SYSTEM	1 = Proportional Representation family electoral system present, 0 = no PR system present.
	Source: *Electoral System Design: The New IDEA Handbook* (Reynolds, Reilly, and Ellis 2004), http://www.idea.int/publications/esd/upload/ESD_Handb_low.pdf; and African Elections Database, http://africanelections.tripod.com.
LEFT PARTY	1 = party/parties with most seats left-leaning, 0 = leading party/parties not left-leaning.
	Source: Socialist International, http://www.socialistinternational.org/viewArticle.cfm?ArticleID=1927; and African Elections Database, http://africanelections.tripod.com/.
COLONIALISM	French: 1 = former French colony, 0 = not French colony. Not British or French: 1 = not a British or French colony, 0 = a British or French colony.
	Source: Paxton, Hughes, and Green (2006).
ECONOMIC DEVELOPMENT	Per capita GDP at current prices – US dollars (medium).
	Source: National Accounts Estimates of Main Aggregates, United Nations Statistics Division, http://unstats.un.org/unsd/databases.htm.
CIVIL LIBERTIES	Coded 1–7, reverse coded such that 1 = least free and 7 = most free.
	Source: Freedom House, https://freedomhouse.org/.

Auxiliary Analyses

POLITICAL RIGHTS	Coded 1–7, reverse coded such that 1 = least free and 7 = most free.
	Source: Freedom House, https://freedomhouse.org/.
DEMOCRACY OVERALL	Average of political rights and civil liberties.
	Source: Freedom House https://freedomhouse.org/.
DEMOCRATIC TRANSITION	Transition 1966–1980: 1 = transitioned to democracy between 1966 and 1980, 0 = transitioned at another time or did not transition to democracy. Transition 1981–1995: 1 = transitioned to democracy between 1981 and 1995, 0 = transitioned at another time or did not transition to democracy. Transition 1996–2009: 1 = transitioned to democracy before 1980, 0 = transitioned at another time or did not transition.
	Source: Fallon, Swiss, and Viterna 2012 (online supplement).
SADC	1 = member Southern African Development Community in 1985, 0 = not a member.
	Source: http://www.sadc.int/.
MINOR ARMED CONFLICT	1 = minor armed conflict (not reaching at least 1,000 battle deaths) ended prior to recent election; coded 1 through two elections after a war ending unless fighting resumes; coded 1 in the period directly before conflict ending if identified as transitional or interim government), 0 = conflict is ongoing or did not end recently.
	Note: 1,000 battle deaths can be reached in a given year or cumulatively.
	Source: See Major Armed Conflict.
GENDER RATIO	Population sex ratio (males per 100 females).
	Source: World Population Prospects 2006 Revision, United Nations Population Division, http://data.un.org/Data.aspx?d=PopDiv&f=variableID%3a13.
SECONDARY EDUCATION ENROLLMENT	Education enrollment secondary, percentage girls.
	Source: UNESCO education,http://data.un.org/Data.aspx?q=enrollment&d=GenderStat&f=inID%3a59.
LABOR-FORCE PARTICIPATION	Women's share of labor-force participation 15+.
	Source: UN Data, http://data.un.org/Data.aspx?d=GenderStat&f=inID%3a107.
FOREIGN AID	Net official development assistance divided by GDP.
DEPENDENCE	**Source:** AidData Beta, http://aiddata.org.

Note: Foreign aid dependence was retrieved January 2013. Democratic transitions data were retrieved August 2014. All other data were originally retrieved from websites February 2009 and updated March 2011.

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Melanie M. Hughes is Associate Professor of Sociology at the University of Pittsburgh. She uses quantitative approaches to study women's empowerment, often focusing on women's representation in national legislatures worldwide. She is coauthor of *Women, Politics, and Power: A Global Perspective* (Sage Publications), currently in its second edition (2013). Her scholarship on gender and politics has also appeared in journals such as *American Sociological Review*, *American Political Science Review*, *Social Problems*, and *International Studies Quarterly*.

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References

Adams, Melinda. 2008. "Liberia's Election of Ellen Johnson-Sirleaf and Women's Executive Leadership in Africa." *Politics & Gender* 4(3):475–84.

Anderson, Miriam J., and Liam Swiss. 2014. "Peace Accords and the Adoption of Electoral Quotas for Women in the Developing World, 1990–2006." *Politics & Gender* 10:33–61.

Barnes, Tiffany D., and Stephanie M. Burchard. 2012. "Engendering Politics: The Impact of Women's Descriptive Representation on Women's Political Engagement in Sub-Saharan Africa." *Comparative Political Studies* 46(7):767–90.

Bauer, Gretchen. 2004. "The Hand That Stirs the Pot Can Also Run the Country: Electing Women to Parliament in Namibia." *Journal of Modern African Studies* 42(4):479–509.

Bauer, Gretchen, and Hannah Britton, eds. 2006. *Women in African Parliaments*. Boulder, CO: Lynne Rienner.

Beckwith, Karen. 2009. "Gendered Competitive Interaction and Women's Executive Electoral Success." *Paper* presented at the Annual Meeting of the American Political Science Association, Toronto, Canada.

Blumberg, Rae L. 1984. "A General Theory of Gender Stratification." *Sociological Theory* 2:23–101.

Bollen, Kenneth A. 1989. *Structural Equations with Latent Variables*. New York: Wiley-Interscience.

Bollen, Kenneth A., and Patrick J. Curran. 2006. *Latent Curve Models: A Structural Equation Perspective*. Hoboken, NJ: Wiley.

Bolzendahl, Catherine, and Clem Brooks. 2007. "Women's Political Resources and Welfare State Spending in 12 Capitalist Democracies." *Social Forces* 85:1509–34.

Britton, Hannah E. 2005. *Women in the South African Parliament: From Resistance to Governance*. Urbana: University of Illinois Press.

Browne, Michael W., and Robert Cudeck. 1993. "Alternative Ways of Assessing Model Fit." In *Testing Structural Equation Models*, edited by Bollen, Kenneth A., and J. Scott Long, 136–62. Newbury Park, CA: Sage.

Bruckmüller, Susanne, and Nyla R. Branscombe. 2010. "The Glass Cliff: When and Why Women Are Selected as Leaders in Crisis Contexts." *British Journal of Social Psychology* 49:433–51.

Bush, Sarah. 2011. "International Politics and the Spread of Quotas for Women in Legislatures." *International Organization* 65(1):103–37.

Caul, Miki. 2001. "Political Parties and the Adoption of Candidate Gender Quotas: A Cross-National Analysis." *Journal of Politics* 64(4):1214–29.

Chafetz, Janet S. 1990. *Gender Equity: An Integrated Theory of Stability and Change*. Newbury Park, CA: Sage.

Chen, Feinian, Patrick Curran, Ken Bollen, James Kirby, and Pamela Paxton. 2008. "An Empirical Evaluation of the Use of Fixed Cutoff Points in the RMSEA Test Statistic in Structural Equation Models." *Sociological Methods and Research* 36:462–94.

Dahlerup, Drude, ed. 2006. *Women, Quotas and Politics*. New York: Routledge.

del Campo, Esther. 2005. "Women and Politics in Latin America: Perspectives and Limits of the Institutional Aspects of Women's Political Representation." *Social Forces* 83(4):1697–725.

Duncan, Terry E., and Susan C. Duncan. 2004. "An Introduction to Latent Growth Curve Modeling." *Behavior Therapy* 35(2):333–63.

Fallon, Kathleen M. 2008. *Democracy and the Rise of Women's Movements in Sub-Saharan Africa*. Baltimore, MD: Johns Hopkins University Press.

Fallon, Kathleen, Liam Swiss, and Jocelyn Viterna. 2012. "Resolving the Democracy Paradox: Democratization and Women's Legislative Representation in Developing Nations, 1975 to 2009." *American Sociological Review* 77(3):380–408.

Franceschet, Susan. 2005. *Women and Politics in Chile*. Boulder, CO: Lynne Rienner.

Geisler, Gisela G. 2004. *Women and the Remaking of Politics in Southern Africa: Negotiating Autonomy, Incorporation, and Representation*. Uppsala: Nordiska Afrikainstitutet.

Goetz, Anne Marie, and Shireen Hassim. 2003. *No Shortcuts to Power: African Women in Politics and Policy Making*. London: Zed Books.

Goldstein, Joshua. 2011. *Winning the War on War: The Decline of Armed Conflict Worldwide*. New York: Dutton/Penguin.

Hughes, Melanie M. 2009. "Armed Conflict, International Linkages, and Women's Parliamentary Representation in Developing Nations." *Social Problems* 56(1):174–204.

Hughes, Melanie M. 2011. "Intersectionality, Quotas, and Minority Women's Political Representation Worldwide." *American Political Science Review* 105(3):604–20.

Hughes, Melanie M., Mona Lena Krook, and Pamela Paxton. Forthcoming. "Transnational Women's Activism and the Global Diffusion of Gender Quotas." *International Studies Quarterly*.

Inglehart, Ronald, and Pippa Norris. 2003. *Rising Tide: Gender Equality and Cultural Change Around the World*. Cambridge: Cambridge University Press.

IPU. 2014. "Women in National Parliaments." http://www.ipu.org/wmn-e/world.htm.

Jaquette, Jane S., and Sharon L. Wolchik. 1998. *Women and Democracy: Latin America and Central and Eastern Europe*. Baltimore, MD: Johns Hopkins University Press.

Johnson, Deb, Hope Kabuchu, and Santa Vusiya Kayonga. 2003. "Women in Ugandan Local Government." *Gender and Development* 11(3):8–18.

Krook, Mona. 2009. *Quotas for Women in Politics: Gender and Candidate Selection Reform Worldwide*. New York: Oxford University Press.

Lindberg, Staffan I. 2004. "Women's Empowerment and Democratization." *Studies in Comparative International Development* 39(1):28–53.

Meintjes, Sheila, Anu Pillay, and Merideth Turshen. 2002. *The Aftermath Women in Post-Conflict Transformation*. London: Zed Books.

Pankhurst, Donna. 2003. "The 'Sex War' and Other Wars: Towards a Feminist Approach to Peace Building." *Development in Practice* 13(2–3):154–77.

Pankhurst, Donna, and Jenny Pearce. 1997. "Engendering the Analysis of Conflict: Perspectives from the South." In *Women and Empowerment*, edited by Afshar, H., 155–63. London: Routledge.

Paxton, Pamela. 1997. "Women in National Legislatures: A Cross-National Analysis." *Social Science Research* 26:442–64.

Paxton, Pamela, and Melanie M. Hughes. 2013. *Women Politics and Power: A Global Perspective*, 2nd ed. Thousand Oaks, CA: Sage Publications.

Paxton, Pamela, Melanie M. Hughes, and Jennifer Green. 2006. "The International Women's Movement and Women's Political Representation, 1893–2003." *American Sociological Review* 71:898–920.

Paxton, Pamela, Melanie M. Hughes, and Matthew Painter. 2010. "The Difference Time Makes: Latent Growth Curve Models of Women's Political Representation." *European Journal of Political Research* 49(1):25–52.

Powley, Elizabeth. 2003. "Strengthening Governance: The Role of Women in Rwanda's Transition." Women Waging Peace Policy Commission.

Reynolds, Andrew. 1999. "Women in the Legislatures and Executives of the World." *World Politics* 51(4):547–72.

Reyntjens, Filip. 2010. "Constructing the Truth, Dealing with Dissent, Domesticating the World: Governance in Post-Genocide Rwanda." *African Affairs* 110(438):1–34.

Sewell, William H. Jr. 2009. *Logics of History: Social Theory and Social Transformation*. Chicago: University of Chicago Press.

Snyder, Margaret. 2006. "Unlikely Godmother: The UN and the Global Women's Movement." In *Global Feminism: Transnational Women's Activism, Organizing, and Human Rights* edited by Ferree, M. M., and A. M. Tripp, 25–50. New York: NYU Press.

Steiger, James H., and John C. Lind. 1980. "Statistically Based Tests for the Number of Common Factors." Paper presented at the Spring Meeting of the Psychometric Society, Iowa City, IA, USA.

Stockemer, Daniel. 2011. "Women's Parliamentary Representation in Africa: The Impact of Democracy and Corruption on the Number of Female Deputies in National Parliaments." *Political Studies* 59:693–712.

Swiss, Liam, Kathleen Fallon, and Giovani Burgos. 2012. "Reaching a Critical Mass: Women's Political Representation and Child Health in Developing Countries." *Social Forces* 91(2):531–58.

Tamale, Sylvia. 1999. *When Hens Begin to Crow: Gender and Parliamentary Politics in Uganda*. Boulder, CO: Westview Press.

Towns, Ann. 2010. *Women and States*. Cambridge: Cambridge University Press.

Tripp, Aili Mari. 2000. *Women & Politics in Uganda*. Madison: University of Wisconsin Press; and Oxford: Fountain Publishers.

_____. 2005. "Regional Networking as Transnational Feminism: African Experiences." *Feminist Africa* 4:46–63.

_____. 2006. "The Evolution of Transnational Feminisms: Consensus, Conflict, and New Dynamics." In *Global Feminism: Transnational Women's Activism, Organizing, and Human Rights*, edited by Ferree, M. M., and A. M. Tripp, 51–75. New York: NYU Press.

_____. Forthcoming. *Women and Power in Post-Conflict Africa*. New York: Cambridge University Press .

Tripp, Aili Mari, Isabel Casimiro, Joy Kwesiga, and Alice Mungwa. 2009. *African Women's Movements: Transforming Political Landscapes*. New York: Cambridge University Press.

Tripp, Aili Mari, and Alice Kang. 2008. "The Global Impact of Quotas." *Comparative Political Studies* 41:338–61.

Viterna, Jocelyn, and Kathleen M. Fallon. 2008. "Democratization, Women's Movements, and Gender Equitable States." *American Sociological Review* 73(4):668–89.

Viterna, Jocelyn, Kathleen M. Fallon, and Jason Beckfield. 2008. "How Development Matters: A Research Note on the Relationship between Development, Democracy, and Women's Political Representation." *International Journal of Comparative Sociology* 49(6):455–77.

Wang, Vibeke. 2013. "Women Changing Policy Outcomes: Learning from Pro-Women Legislation in the Ugandan Parliament." *Women's Studies International Forum* 41:113–12.

Waylen, Georgina. 1994. "Women and Democratisation: Conceptualising Gender Relations in Transition Politics." *World Politics* 46(3):327–54.

_____. 2007. *Engendering Transitions: Women's Mobilization, Institutions, and Gender Outcomes*. Oxford: Oxford University Press.

Yoon, Mi Yung. 2004. "Explaining Women's Legislative Representation in Sub-Saharan Africa." *Legislative Studies Quarterly* 29(3):447–68.

_____. 2013. "Special Seats for Women in the National Legislature: The Case of Tanzania." *Africa Today* 51(1):60–86.

Zuckerman, Elaine, and Marcia Greenberg. 2004. "The Gender Dimensions of Post-Conflict Reconstruction." *Gender and Development* 12(3):70–82.