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A Cautionary Tale on Polygyny, Conflict and Gender Inequality

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A cautionary tale on polygyny, conflict and gender inequality*

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Abstract

Kanazawa (*J of Politics*, 2009) claims that polygyny may be the "first law of intergroup conflict (civil wars)". Gleditsch et al. (*J of Politics*, 2011) reject this claim by showing that the effect of polygyny on civil war onset disappears once misogyny is controlled for. Our paper recapitulates this theoretical and empirical debate. We explore further theoretical arguments and replicate and extend the empirical analysis of Gleditsch et al. Our analysis is based on data from 123 countries from the period 1981–2011. Our results show that there is some truth to the empirical claims of both articles: Both polygyny and gender inequality matter in explaining the onset of internal conflicts. However, the results are sensitive to regional sample splits as well as the choice of the dimensions of gender inequality. The most pronounced effects can be found in a subsample of 40 African countries.

JEL-Codes: D74, J12, J16

Keywords: Polygyny, Misogyny, Gender Inequality, Intrastate Conflict, Civil War

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INTRODUCTION

What is the role of polygyny (the practice of one man being married to more than one wife at the same time) in explaining intrastate conflict? Applying evolutionary psychology, Kanazawa (2009) argues that those men left without reproductive possibilities attack others in order to 'capture wives'. Assuming this to be a particularly strong trigger for conflict, he concludes that "*polygyny may be the first law of intergroup conflict (civil wars)*" (p. 25). Gleditsch et al. (2011) criticize Kanazawa both on theoretical and empirical grounds[1]. They argue that polygyny only captures the effect of gender inequality (or 'misogyny') that fuels violent conflict within societies.

In this paper, we provide new insights into this debate. Theoretically, we argue that polygyny and gender inequality provide two distinct channels through which intrastate conflict may be fueled. We follow a broad understanding of gender inequality in the sense that women do not possess the same economic, political or social possibilities as men (for an in-depth discussion, see for example Caprioli, 2005). Furthermore, we disentangle different dimensions of gender inequality. Arguably, polygyny and gender inequality may even exert a combined effect. Empirically, we use Gleditsch et al.'s analysis as a starting point and add several extensions with updated (and partly alternative) data from 123 countries from 1981 until 2011. Among other things, we employ time polynomials and regional sample splits, use a broader definition for conflict which is more in line with theoretical reasoning, and use a principal component analysis (as well as, in an extension, interaction terms) to shed light on potential joint effects. Our findings suggest that polygyny and gender inequality indeed exert independent effects on conflict, and also jointly explain it.

THEORETICAL ARGUMENTS

Kanazawa (2009) argues that when some men monopolize women in polygynous societies, other men lack reproductive possibilities as a result. These men may then attack other groups in society in order to capture wives for reproduction. Since they often take an ancestral perspective on capturing wives, which may have become a folkway of their group, the resulting conflicts are typically small, hardly organized and locally concentrated, i.e. they are usually not interstate wars[2]. In an evolutionary sense, this type of continuous conflict becomes deeply engrained in a society over time and may explain today's civil wars.

According to Gleditsch et al. (2011), this argumentation is hardly in line with recent research on civil wars. They suspect that it is not polygyny, but the relative status of women that fuels civil war. They refer to the argument that equal gender roles and a greater influence of women in society coincide with increasing occurrences of norms and (state) behavior that rely on peace, justice and

respect, including a ban of polygyny. Recent empirical evidence supports the conflict-inducing effect of gender inequality (e.g., Caprioli 2005; Hudson et al. 2015), while Bjarnegard and Melander (2017) show that peaceful attitudes correlate positively with attitudes favoring gender equality. By definition, polygyny implies unequal treatment and a lack of rights for women. It is a highly patriarchal institution characterized by the persistent subordination of wives and daughters (McDermott and Cowden, 2015).

Is polygyny, however, merely a proxy for gender inequality, as Gleditsch et al. (2011) suggest? We argue that there is a distinct and separate effect of polygyny on conflict that goes beyond the one proposed in Kanazawa (2009). This direct channel, which may complement the effect of gender inequality, has been neglected by Gleditsch et al. (2011). It relates mainly to inequality and deprivation among *men* as a consequence of polygyny. More specifically, polygyny implies that women (or wives) are rare and that households are bigger, making polygyny costly. Therefore, only rich or powerful (elite) men are able to monopolize women, inducing inequality among men.

There are several reasons why polygynous marriage patterns can have destabilizing consequences for societies. A large pool, or rather 'surplus', of unmarried men with little prospect of marrying and having a family in the near future is often associated with violence and crime (Henrich et al. 2012; Hudson and Den Boer 2002). Further grievances may result from, e.g., restricted access to public-sector jobs which are given preferably to elite (family) members (Hudson et al. 2015), restricted social mobility (De la Croix and Mariani 2015) and increased intra-sexual competition for reproduction (Henrich et al. 2012, McDermott, 2015), especially when the number of wives and children are status symbols (Zeitzen, 2008) or positively associated with productivity (Becker, 1974), or when children are a substitute for social security for elderly people (e.g. Tertilt, 2005). In addition, conflict arising within the elites may trickle down to broader parts of population. This is because the fast-growing families, or clans, of polygynous elites need more resources, which they extract from other clans or the rest of the society. Finally, succession of clan leaders is precarious and may result in conflict (Andreski 1968; Hudson et al. 2015).

Yet another theoretical challenge arises from the multidimensionality of gender (in-)equality. A precise, singular dimension of gender (in-)equality does not exist. For some, women's political participation is seen as crucial (Sundström et al., 2017), while others emphasize the security of women in society (Hudson et al., 2015). Political participation (or political empowerment) of women is often approached through rather visible measures like the share of women in parliament. However, without (physical) security and equal rights and liberties (for example regarding marriage or divorce, mobility or property rights), the opportunities for women to actively participate in the political process are still

likely to be bounded (Ertan et al., 2018). This is even more apparent when discriminatory family laws or limited efforts to enforce women's physical security come into play, both of which reinforce high levels of gender inequality despite—de jure—political participation of women.

In more practical terms, both distinct and combined effects of polygyny and gender inequality could arise depending on the dimensions looked at. Gender inequality might be deeply rooted and bolstered in a society with physical and social insecurity, which would e.g. be the case when legal consequences for sexual violence (in and outside of marriage) are absent. Under such circumstances, women may have too little influence on the (internal) political process and on groups engaged in conflict to promote peaceful solutions (Caprioli 2005); in addition, more hostile behavior in general (Bjarnegard and Melander, 2017) could reinforce the direct conflict-inducing effects of polygyny (i.e., capturing women, relative deprivation of non-elite men as well as within-elite conflicts). Furthermore, a measurable degree of gender inequality (especially regarding minimum marriage age and access to education) may result from international pressure to establish 'western' and more (gender-)equal institutions. These efforts might be countered by the elite, who—partly violently—defend traditional clientelist or clan governance structures (Krieger and Meierrieks 2015).

However, the influence of women on politics (and conflicts) increases with their possibilities to take charge of their own political empowerment. Notably, political empowerment and social institutions might not develop at the same pace (or not even in the same direction). That is, discriminatory law and traditions that hinder women's political participation could weaken their political influence. For example, although Mali has rather high female political empowerment values (in the 70th centile)[3], it also scores the maximum value of unequal social institutions for women and has the highest level of polygyny. In this case, the combined effect is difficult to predict, as on the one hand frustrated non-elite men's struggles may coincide with conflicts from within the elite, while on the other hand this might be counteracted by the politically pacifying effect of women's political participation. In addition, inequality in social institutions might mitigate the political participation of women, thus making predictions about total effects again difficult.

DATA AND METHODS

For our country-level analysis, we build on the country-level data and model by Gleditsch et al. (2011), who rely on Fearon and Laitin's (2003) established framework for the determinants of civil wars. They estimate a logit model for the onset of civil war with at least 1000 battle deaths over the entire conflict and on average 100 per year between 1946 and 1999 (or 1980-1999, resp., when gender inequality is included). We deviate in the following ways from their analysis: In contrast to Gleditsch

et al. (2011), we restrict the time period to 1981-2011 and 123 countries, for which we have data on gender inequality and our set of control variables. In addition to civil war, gender inequality and polygyny should cause smaller conflicts in general; therefore, we look at the onset of armed internal conflicts with a smaller threshold of 25 battle deaths for 1981-2011 from the UCDP/PRIO Armed Conflict Dataset (Pettersson and Wallensteen, 2015). To account for time dependence, we add cubic time polynomials. This procedure is preferred to time dummies (which decrease efficiency) or splines (which require a high degree of information on the dependence between time and outcome) (Carter and Signorino, 2010).

For polygyny, Gleditsch et al. (2011) use a measure from WomanStats from 2010 that combines prevalence and legality and ranges from 0 (no polygyny) to 4 (polygyny is common). They create a polygyny dummy that is '0' for countries with a scale value of 0 or 1 (i.e. less than 2 percent of women are married polygynously) and '1' for higher values. We define the polygyny dummy similarly as Gleditsch et al. (2011), but rely on the original WomanStats polygyny scale for 2010 that was re-coded in 2016. In our preferred specification, we include the polygyny scale itself, which allows us to exploit more variation.[4]

Gleditsch et al. (2011) use a summary indicator for gender inequality: CIRI, based on sub-indices on women's political, social and economic rights by Cingranelli and Richards (2010). After rescaling, the CIRI indicator is a continuous measure that ranges from 0 (no rights at all) to 1 (rights are enforced and strong). We employ different measures for gender inequality. First, we update the CIRI indicator, which now includes only women's economic and political rights (the social rights measure was dropped in 2005). Second, although only available for the year 2014, we include the Social Institutions and Gender Index (SIGI) (OECD, 2014), which ranges continuously from 0 (no discrimination) to 1 (very high discrimination) and covers discriminatory family codes, restricted physical integrity, son bias, restricted resources and assets, as well as restricted civil liberties for women. Third, the *framework for gender equality* (coded in 2015 by WomanStats) is used as a variable capturing the existence and strength of government policies directed at gender equality. It ranges from 0 (strong policies) to 7 (no or weak policies). Finally, the women's political empowerment index (WPEI) from the V-DEM project (Sundström et al., 2017) measures women's civil liberties[5], civil society participation and political participation. Here, '0' means no empowerment; while at the other end of the range '1' is full empowerment. Note that the available samples differ for these measures, thus impeding comparisons. Furthermore, all measures have certain drawbacks (ranging from time invariance to different measurement approaches), which is why we do not strictly prefer one of these measures over the others.

We also update all controls used by Gleditsch et al. (2011) for our longer sample period, i.e., conflict in the previous period; GDP per capita and the size of the population, both in logs and lagged one period; mountainous terrain; whether a country is non-contiguous; oil rents; whether a state is new; whether it has an unstable political system; and a state's ethnic or religious fractionalization. Detailed information on coding and data sources can be found in the online appendix.

RESULTS

Column 1 in Table 1 replicates the results from Gleditsch et al. (2011, p. 268, Table 1, Column 4): When polygyny and CIRI are included simultaneously, only an increase in CIRI (i.e. a decrease in gender inequality with respect to economic and social rights) is significantly negatively associated with the onset of civil wars. Once we update CIRI and polygyny (until 2011) and replace the polygyny dummy with the polygyny scale (column 2), CIRI is no longer significant. Neither is the polygyny scale.

Starting with column 3, we use the armed internal conflict variable as the dependent variable.[6] Throughout the different models tested for the total sample, polygyny is consistently positive, although it is hardly significant. At the same time, reduced gender inequality (i.e. higher CIRI) is consistently negatively associated with conflict onset. However, the coefficients are not robustly significant. Time dependence and geographic regions matter in our analysis: Once we include cubed time polynomials (from column 3 on) and region dummies (column 4) the goodness of fit increases, albeit the effect of polygyny is insignificant. In column (5), we test whether the level of polygyny is informative: Entering the polygyny scale categories as dummies shows that the positive effect is mostly driven by very high levels of polygyny (scale equal to 4) while a value of 1 even has a negative sign (but also a very high standard error). Thus, we can conclude that addressing time dependence and regional effects as well as levels of polygyny matters for the discussion of the nexus of polygyny-gender inequality and conflict.[7] As polygyny is not practiced in the Americas, Australia and Europe (with very few local exceptions), let us now turn to Africa to gain further insights into the polygyny–gender inequality–conflict nexus. Here, the polygyny scale varies between 2 and 4. To account for the fact that the Middle East and North Africa (MENA) region is often described as different from Sub-Saharan Africa, we add a dummy for MENA countries to our baseline. Due to data availability in the gender inequality measures, the sample is reduced to 40 countries and 20 conflict onsets. Table 2 shows that irrespective of the dimension of gender inequality included, polygyny is positively associated with conflict. However, the estimates are barely significant at the 10% level. Column 2 shows that high levels of polygyny are decisive for these effects. All gender inequality measures point

in the same direction: More gender inequality has a positive association with conflict onset; however, the significance of the estimates differs. CIRI and WPEI are negatively significant (columns 1 and 4), indicating that decreasing gender inequality correlates negatively with conflict onset. At the same time, SIGI and the WomanStats framework have positive signs (i.e. more discriminatory institutions or less effective government frameworks for gender equality correlate with conflict onset) but are not significant (columns 3 and 4).

Including all four measures of gender inequality and polygyny simultaneously (column 6), the estimated coefficients and standard errors are comparable to the results from columns 1 to 4. The coefficient for polygyny is significant and positive, while WPEI is the only significant measure for gender inequality. Comparisons of the goodness of fit (adjusted R-squared, the Bayesian information criterion or Akaike's information criterion) indicate that the model including all dimensions has the best fit.[8]

Figure 1 provides an interpretation of the sizes of the effect size for the specification controlling for CIRI and all dimensions of gender inequality: Keeping all other variables at their sample mean, for the highest level of polygyny (4) the likelihood of conflict onset is also highest.

One particularly interesting question is whether specific patterns can be identified that show how polygyny and the different dimensions of gender inequality affect conflict levels in a combined way. By running a principal component analysis on the African sample, we test for common factors captured by these five variables. Our analysis extracts two relevant components that together account for 62 percent of the variation among the five variables. The first component has an eigenvalue of 1.74 and explains 35 percent of the variation. Based on its loadings (polygyny 0.28, WomanStats framework –0.54, political empowerment 0.56, CIRI 0.51, SIGI –0.27), this component can be said to capture the various *efforts to foster equal treatment and opportunities of women*. In contrast, the second component can be interpreted to capture *unequal social institutions and family laws* with polygyny being most influential (loadings: polygyny 0.7, WomanStats framework –0.25, political empowerment –0.05, CIRI –0.25, SIGI 0.62). Using the predicted scores for the two components in our baseline regression (column 7) yields the following results: there is a negative but insignificant sign for the first component (efforts for equal treatment have a decreasing effect on conflict-risk) and a significant and conflict-increasing effect for the second one. That is, unequal social institutions and polygyny combined are positively correlated with conflict onset.

Including interaction terms of polygyny with CIRI and WPEI with polygyny also hint, although somewhat less robustly, to a mutually enforcing effect of low levels of CIRI and WPEI (i.e. high

levels of gender inequality) and high levels of polygyny (please refer to the Online Appendix). Arguably, there may be more variables connecting polygyny, gender inequality and conflict. Adding the shares of religious groups in the population as controls yields similar results (see Table A2, Online Appendix).

The African continent is not the only region where polygyny is present – various levels of polygyny can be found in Asia as well. Comparing the means of African and Asian countries shows that polygyny as well as all measures of gender inequality discussed above differ significantly between the two continents. This is in line with the observation of vast regional heterogeneity of women's political empowerment by Ertan et al. (2018). Changing the sample to Asia shows an interesting puzzle: In Table 3 (columns 1 to 3) polygyny enters the regression negatively (conflict-reducing) and significantly while none of the gender inequality measures is significant. For all three[9] testable dimensions, the standard errors increase strongly, hinting at imprecise estimation of effects. Again, we cannot be sure about possibly omitted variables that are connected to gender inequality, polygyny and conflict onset at the same time. It would be interesting to have a closer look at the remarkable results for Asia; however, data availability is too restricted to allow reliable findings. Including appropriate controls reduces the number of countries by so much that reliable inference is hardly possible. As a rough measure, we included dummies for regions within Asia as well as major religion shares. In all specifications, the results for polygyny are stable (Table 3, columns 4 and 5). We may speculate on theoretical grounds that the conflict-reducing effect of polygyny in Asia might be due to traditional son preference resulting in missing women and skewed sex ratios in some parts of Asia. The skewed sex ratios can be linked directly to more violent-prone societies (Hudson and Den Boer, 2002) and might contribute to a scarcity of brides. Such scarcity often leads to high bride prices that further limit marriage possibilities for non-elite men and increase their willingness to participate in conflict (Hudson and Matfess, 2017). Another explanation could be different patterns in agriculture due to geographic differences that have long-standing effects on institutions (e.g. the plough-suitability of crops and its effects on female labor force participation as pointed out by Alesina, Giuilanio and Nunn, 2013).

CONCLUSION

In this note, we provided evidence that the nexus between polygyny, misogyny and conflict is sensitive to specifications that differ with respect to sample splits, alternative measures for gender inequality and polygyny, among other things. Specifically, we reject the idea of a 'first law' by which polygyny increases intrastate conflict. Nevertheless, we acknowledge that after controlling for gender

inequality, our results point to a conflict-increasing effect of polygyny (although not always significantly). For Africa, an increase in polygyny is negatively associated with peace, while female political empowerment as well as economic and political rights seem to be pacifying. Combining polygyny with different dimensions of gender inequality seems helpful in accounting for heterogeneity across countries and dimensions. A principal component analysis shows that two patterns seem to combine polygyny and gender inequality: First, efforts to foster equal treatment and opportunities for women, and second, unequal social institutions and family law (which is significantly positively associated with conflict onset).

Interestingly, for Asia the effects differ greatly. Potential explanations could be rather different institutions and norms regarding family law. However, due to limited data availability we do not want to make too strong of an inference from these results, instead leaving the Asian polygyny puzzle to future research. In summary, we find support for our argument that solely focusing on the misogyny-conflict nexus neglects an important channel which ought to explain the risk of intrastate conflict. We discussed several explanations for this: In addition to being related to gender inequality, polygyny creates and enforces deprivation among men: It creates a pool of unmarried men who might rebel (or might be easily convinced to join a violent conflict) due to manifested income inequality, hindered social mobility and reproductive frustration, which are all reinforced through polygyny. Furthermore, feuds from within the polygynous elite might trickle down to the general population and result in violent conflict.

ENDNOTES

[1]Gleditsch et al. (2011) also criticize Kanazawa (2009) for not providing his data for replication. The lack of this data is also the reason why we decided to take only Gleditsch et al.'s data as the starting point of our empirical analysis (see details below).

[2]Kanazawa (2009) stresses this point to distinguish between intrastate and interstate conflicts, thereby ruling out the latter. We believe, however, that this description of conflict also speaks to the use of broader measures of conflict than civil wars (i.e. internal conflicts with more than 1,000 battle deaths). This is why we use a more fine-grained conflict measure below.

[3]This relies on the mean value of the Women's Political Empowerment Index for Mali. The Index is explained below and in the appendix.

[4]Otherwise, all African countries would score a dummy value of '1'.

[5]Both SIGI and WPEI include the category "civil liberties", but these categories include different aspects (see Online Appendix).

[6]Note that when we use the new dependent variable that includes smaller armed conflicts, some of the control variables' coefficients change size, significance or sign (ongoing war, fractionalization or GDP). This is in line with other works on the determinants of armed conflict and civil war (e.g. Hegre and Sambanis, 2006). Looking further into the differences between the two samples reveals that the drop in significance of the CIRI seems to stem from the updated definition of CIRI. Using the same sample but replacing war onset with internal armed conflict onset and the updated CIRI and polygyny yields similar results (Online Appendix, Table A1).

[7]Comparing the goodness of fit for the total sample (adjusted Rsquared, the Bayesian information criterion or Akaike's information criterion, all calculated by STATA and all incorporating the number of variables) shows that the model with region dummies and time controls performs best. Further results for the total sample are displayed in the Online Appendix, Table A2.

[8]Including all dimensions could increase collinearity; however, there is no sign that this is worrisome. The correlation among these 5 variables is not too high; the same holds for the VIF values if tested after a linear regression on the same sample.

[9]We do not include the SIGI since data availability is so small that standard errors would not be reliable.

REFERENCES

Alesina, A., Giuliano, P., & Nunn, N. (2013). On the Origins of Gender Roles: Women and the Plough. *The Quarterly Journal of Economics*, 128(2), 469-530.

Andreski, S. (1968). *The African Predicament*. London: Michael Joseph.

Branisa, B., Klasen, S., Ziegler, M., Drechsler, D., & Jütting, J. (2014). The Institutional Basis of Gender Inequality: The Social Institutions and Gender Index (SIGI). *Feminist Economics*, 20(2), 29-64

Becker, Gary S. (1974). A Theory of Marriage: Part II. *Journal of Political Economy*, 82(2), S11-S26.

Bjarnegård, E., & Melander, E. (2017). Pacific Men: How the Feminist Gap Explains Hostility. *The Pacific Review*, 30(4), 478-493.

Caprioli, M. (2005). Primed for Violence: The Role of Gender Inequality in Predicting Internal Conflict. *International Studies Quarterly* 49(2), 161-178.

Carter, D. B., & Signorino, C. S. (2010). Back to the Future: Modeling Time Dependence in Binary Data. *Political Analysis*, 18(3), 271-292.

Cingranelli, D. L., & Richards, D. L. (2010). The Cingranelli and Richards (CIRI) Human Rights Data Project. *Human Rights Quarterly*, 32(2), 401-424.

De La Croix, D., & Mariani, F. (2015). From Polygyny to Serial Monogamy: A Unified Theory of Marriage Institutions. *Review of Economic Studies* 82(2), 565-607.

Ertan, S., Monroy, C., Vallejo, J. P., Romero, G., & Erazo, A. C. (2018). The Status of Women's Political Empowerment Worldwide. In *Measuring Women's Political Empowerment across the Globe* Palgrave Macmillan, Cham, 55-76.

Fearon, J. D., & Laitin, D. D. (2003). Ethnicity, Insurgency, and Civil War. *American Political Science Review*, 97(1), 75-90.

Gleditsch, K. S., Wucherpfennig, J., Hug, S., & Reigstad, K. G. (2011). Polygyny or Misogyny? Reexamining the 'First Law of Intergroup Conflict'. *Journal of Politics* 73(1), 265-270.

Henrich, J., Boyd, R., & Richerson, P. J. (2012). The Puzzle of Monogamous Marriage. *Philosophical Transactions of the Royal Society of London B: Biological Sciences* 367(1589), 657-669.

Hegre, H., & Sambanis N. (2006). Sensitivity Analysis of Empirical Results on Civil War Onset. *Journal of Conflict Resolution*, 50 (4), 508-535.

Hudson, V. M., & Den Boer, A. (2002). A Surplus of Men, a Deficit of Peace: Security and Sex Ratios in Asia's Largest States. *International Security*, 26(4), 5-38.

Hudson, V. M., Bowen, D. L., & Nielsen, P. L. (2015). Clan Governance and State Stability: The Relationship between Female Subordination and Political Order. *American Political Science Review*, 109(3), 535-555.

Hudson, V.M. & Matfess, H. (2017). In Plain Sight. The Neglected Linkage between Brideprice and Violent Conflict. *International Security*, 41 (1), 7-40.

Kanazawa, S. (2009). Evolutionary Psychological Foundations of Civil Wars. *Journal of Politics* 71(1), 25-34.

Krieger, T., & Meierrieks, D. (2015). The Rise of Capitalism and the Roots of Anti-American Terrorism. *Journal of Peace Research*, 52(1), 46-61.

McDermott, R., & Cowden, J. (2015). Polygyny and Violence Against Women. *Emory Law Journal*, 64, 1767-1815.

McDermott, R. (2015). Sex and Death: Gender Differences in Aggression and Motivations for Violence. *International Organization*, 69(3), 753-775.

OECD (2014). SIGI Methodological Background Paper.

Pettersson, T. & Wallensteen, P. (2015). Armed Conflicts, 1946-2014. *Journal of Peace Research*, 52(4), 536-550.

Sundström, A., Paxton, P., Yi-Ting, W., & Lindberg, S. (2017). Women's Political Empowerment: A New Global Index, 1900-2012. *World Development*, 94, 321-335.

Tertilt, M. (2005). Polygyny, Fertility, and Savings. *Journal of Political Economy*, 113(6), 1341-1371.

Zeitzen, M. K. (2008). *Polygamy: A cross-cultural analysis*. Oxford: Berg Publishers.

Tables and Figures

	(1) Replication	(2) Updated	(3) New Data	(4) New Data	(5) New Data
Ongoing conflict	-1.339**	-1.876**	-0.0780	-0.0935	-0.0455
	(0.591)	(0.798)	(0.343)	(0.333)	(0.342)
GDP pc	-0.587**	-0.592***	-0.271**	-0.395**	-0.359**
	(0.240)	(0.225)	(0.137)	(0.155)	(0.168)
Population	0.197	0.371**	0.460***	0.449***	0.442***
	(0.125)	(0.152)	(0.0885)	(0.122)	(0.127)
Mountainous Terrain	0.130	0.158	-0.0907	-0.0918	-0.0893
	(0.137)	(0.157)	(0.0987)	(0.102)	(0.115)
Noncontiguous	1.954***	1.927**	0.107	0.0164	-0.0304
	(0.672)	(0.750)	(0.406)	(0.419)	(0.446)
Oil	-0.259	-0.581			
	(0.655)	(0.924)			
Opec state			-0.969**	-0.849**	-0.887**
			(0.425)	(0.427)	(0.417)
New State	3.615***	4.022***	3.762***	3.475***	3.387***
	(0.944)	(0.997)	(0.753)	(0.837)	(0.863)
Instability	0.223	-0.0452	-0.200	-0.253	-0.250
	(0.459)	(0.568)	(0.647)	(0.648)	(0.649)
Polity	0.0361	0.0627*	0.0473	0.0503	0.0525
	(0.0313)	(0.0349)	(0.0322)	(0.0330)	(0.0321)
Ethnic Fractionalization	-0.302	-0.440	0.622	0.568	0.534
	(1.071)	(1.237)	(0.576)	(0.607)	(0.667)
Religious Fractionalization	1.234	0.154	-1.656***	-1.768**	-1.753**
	(1.143)	(1.233)	(0.629)	(0.800)	(0.787)
CIRI	-3.374**				
	(1.376)				
CIRI, updated		-2.157	-1.487	-1.623	-1.575
		(1.586)	(1.060)	(1.093)	(1.075)
Polygyny dummy, Gleditsch	0.501				
	(0.542)				
Polygyny scale		0.447	0.307*	0.294	
		(0.330)	(0.182)	(0.209)	
Polygyny scale = 1					-0.289
					(1.156)
Polygyny scale = 2					0.720
					(0.884)
Polygyny scale = 3					0.657
					(0.939)
Polygyny scale = 4					1.228
					(0.871)
Time Controls			yes	yes	yes
Region dummies				yes	yes
Countries	127	124	123	123	123
Adjusted R^2	0.155	0.178	0.139	0.143	0.144
Observations	2134	2029	3456	3456	123
Log-likelihood	-129.6	-107.9	-225.5	-224.6	-223.7

Dependent variable in column (1) to (2) from Fearon and Laitin (2003): Onset of ethnic conflict (at least 1000 persons killed in entire conflict, at least 100 people per year). Sample period: 1981-1999. Dependent variable in column (3) to (5) from onset dataset from UCDP PRIO: Onset of intrastate armed conflict (at least 25 battle deaths per conflict-year). Sample period: 1981-2011. Constant not shown. A Wald test of whether the time polynomials are simultaneously zero rejects this hypothesis at the 10% level in column (3) to (5). Standard errors (clustered by country) in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 1: Replication and Extensions

	(1) CIRI	(2) CIRI	(3) SIGI	(4) Framework	(5) WPEI	(6) All	(7) PCA
Ongoing conflict	-0.246	-0.273	-0.158	-0.270	-0.469	-0.556	-0.367
	(0.551)	(0.568)	(0.597)	(0.606)	(0.596)	(0.603)	(0.614)
GDP pc	-0.243	-0.279	-0.102	-0.258	-0.405*	-0.453	-0.185
	(0.312)	(0.316)	(0.356)	(0.307)	(0.237)	(0.302)	(0.343)
Population	0.401**	0.407**	0.484**	0.376*	0.601***	0.472**	0.372**
	(0.183)	(0.183)	(0.198)	(0.197)	(0.220)	(0.205)	(0.185)
Mountainous Terrain	-0.0766	-0.101	0.0230	-0.0513	-0.152	-0.192	-0.117
	(0.184)	(0.189)	(0.199)	(0.197)	(0.181)	(0.185)	(0.241)
Opec state	-0.557	-0.532	-0.535	-0.166	-0.262	-0.302	-0.592
	(0.660)	(0.657)	(0.680)	(0.609)	(0.634)	(0.675)	(0.752)
Instability	-0.0281	-0.0370	0.176	0.147	0.0421	-0.213	-0.149
	(1.457)	(1.445)	(1.368)	(1.338)	(1.402)	(1.536)	(1.402)
Polity	0.0855**	0.0875**	0.0851**	0.0952***	0.127***	0.130***	0.0904***
	(0.0373)	(0.0362)	(0.0367)	(0.0346)	(0.0360)	(0.0362)	(0.0331)
Ethnic Fractionalization	-2.089	-2.217	-1.984	-1.864	-2.910*	-3.603*	-1.466
	(1.571)	(1.481)	(1.554)	(1.876)	(1.649)	(2.064)	(1.363)
Religious Fractionalization	-2.526**	-2.457**	-2.292*	-2.802**	-3.755***	-3.723***	-1.872
	(1.228)	(1.210)	(1.327)	(1.209)	(1.129)	(1.111)	(1.235)
MENA Dummy	-0.867	-0.746	-0.856	-0.776	-1.352	-1.262	-1.444
	(1.158)	(1.133)	(1.203)	(1.137)	(0.977)	(0.956)	(1.076)
Polygyny scale	1.145*		1.176*	1.336*	1.645**	1.944**	
	(0.629)		(0.632)	(0.766)	(0.702)	(0.925)	
Polygyny scale = 3		1.571*					
		(0.912)					
Polygyny scale = 4		2.557**					
		(1.217)					
CIRI	-3.550*	-3.597*				-2.585	
	(1.857)	(1.879)				(2.115)	
SIGI			2.156			-1.071	
			(1.409)			(1.401)	
Framework				0.279		0.163	
				(0.173)		(0.195)	
WPEI					-5.710***	-5.358***	
					(1.068)	(1.290)	
Scores for component 1							-0.274
							(0.170)
Scores for component 2							0.541*
							(0.287)
Time Controls	yes	yes	yes	yes	yes	yes	yes
Observations	1059	1,059	1059	1059	1059	1059	1059
Adjusted R^2	0.110	0.110	0.0992	0.103	0.132	0.142	0.108
Countries	40	40	40	40	40	40	40
Log-likelihood	-88.31	-88.25	-89.35	-88.97	-86.11	-85.06	-88.51

Dependent variable from onset dataset from UCDP PRIO: Onset of intrastate armed conflict (at least 25 battle deaths per conflict-year). Sample period: 1981-2011. Constant not shown. The dummies controlling for new states as well as noncontiguity are dropped, as both are one for only one country in the sample. Standard errors (clustered by country) in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 2: Different Dimensions of Gender Inequality and Polygyny, African sample

VARIABLES	(1) Asia	(2) Asia	(3) Asia	(4) Asia	(5) Asia
Ongoing war	-0.598	-0.559	-2.568***	-1.642**	-1.249**
	(0.748)	(0.806)	(0.790)	(0.704)	(0.589)
GDP pc	0.398	0.159	1.387***	0.806**	-0.146
	(0.365)	(0.385)	(0.467)	(0.333)	(0.384)
Population	1.429***	1.113***	1.937***	1.771***	2.536**
	(0.348)	(0.334)	(0.544)	(0.568)	(1.098)
Percent Mountainous Terrain	0.722***	0.724***	0.648***	0.907***	0.873*
	(0.220)	(0.252)	(0.216)	(0.284)	(0.524)
Noncontiguous	0.732	0.780	1.894*	0.221	-0.574
	(0.848)	(0.830)	(1.020)	(0.899)	(1.114)
Opec state	-1.601	-1.568**	-1.554**	-3.783***	-2.013***
	(1.000)	(0.771)	(0.620)	(1.195)	(0.695)
New State	3.617**	5.015***	5.941**	5.196***	5.292*
	(1.421)	(1.696)	(2.371)	(1.843)	(2.892)
Polity	0.0131	0.0380	0.158	0.0739	0.0582
	(0.0625)	(0.0625)	(0.116)	(0.0679)	(0.0671)
Ethnic Fractionalization	-3.608***	-3.346**	-4.929***	-6.263**	-5.371
	(1.156)	(1.373)	(1.833)	(2.491)	(3.492)
Religious Fractionalization	-4.195**	-4.962**	-4.474**	-3.568	-1.090
	(1.881)	(2.509)	(2.099)	(2.181)	(2.247)
Polygyny scale	-1.521***	-1.259***	-2.266***	-1.471***	-2.184**
	(0.469)	(0.453)	(0.750)	(0.517)	(1.018)
CIRI	-1.129				
	(1.938)				
Framework for gender equality		0.225			
		(0.212)			
WPEI			-3.070		
			(2.518)		
Share of Muslims				-0.0140	
				(0.0126)	
Share of Catholics				-0.0442	
				(0.0546)	
Share of Protestants				0.932***	
				(0.327)	
Europe and Central Asia					2.785**
					(1.287)
East Asia and Pacific					3.237*
					(1.802)
Middle East and North Africa					3.663*
					(1.886)
Time Controls	yes	yes	yes	yes	yes
N	872	894	759	894	894
Countries	32	32	30	32	32
Adjusted R2	0.263	0.277	0.362	0.315	0.301
Log-likelihood	-67.39	-69.25	-51.89	-65.63	-66.94

Dependent variable from onset dataset from UCDP PRIO: Onset of intrastate armed conflict (at least 25 battle deaths per conflict-year). Constant not shown. Standard errors (clustered by country) in parentheses. Instability is dropped, since it is 1 for only one country in Asia. The base category for religion is the share of other religions, for regions it is South Asia. The inclusion of SIGI is not possible since the number of countries reduces to 22, which means that the standard errors (clustered on country level) are hardly meaningful. *** p<0.01, ** p<0.05, * p<0.1.

Table 3: Different Dimension of Gender Inequality and Polygyny, Asian Sample

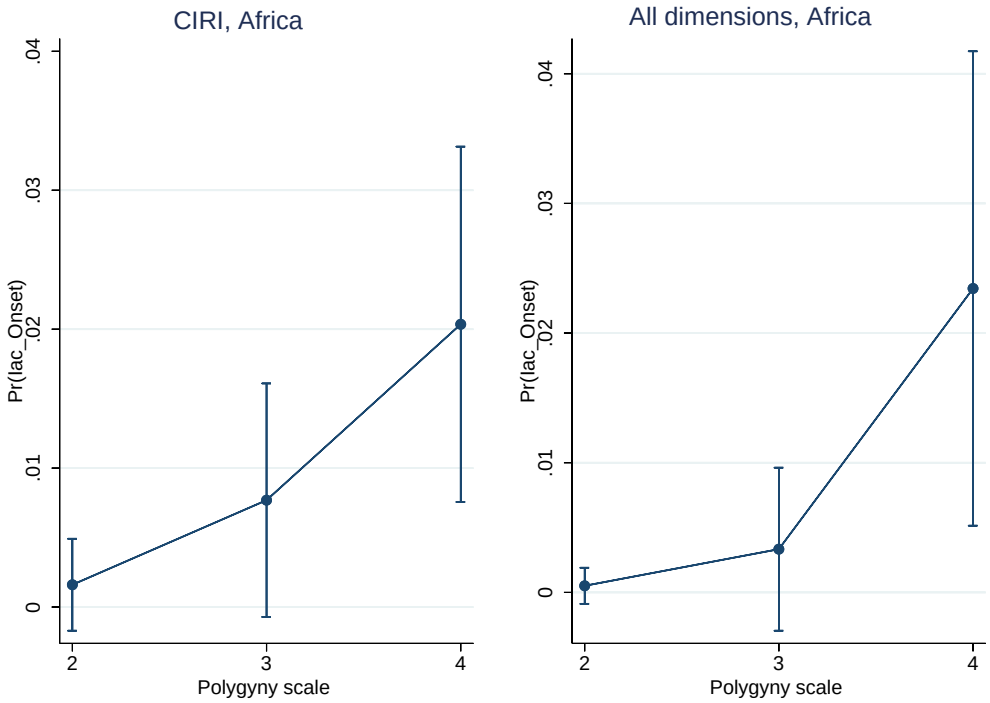

Figure 1: Marginal effects of Polygyny for the African sample, controlling for CIRI (left panel) or all dimensions of gender inequality (right panel)

ONLINE APPENDIX

VARIABLES AND DEFINITIONS

Variable	Description
Onset civil war	Gleditsch et al. (2011) use the data from Fearon and Laitin (2003). The onset dummy is coded as 1 if at least 1000 battle deaths occurred over the entire conflict and on average 100 per year. In addition, they only use civil wars that are coded as ethnic wars. Data comes from the Correlates of War dataset. Gleditsch et al. (2011) have 74 onsets when they consider the period 1946 to 1999, and for the time CIRI is observed (i.e. 1981 to 1999) they observe 35 conflict starts.
Onset of intrastate armed conflict	We use the onset data from UCDP PRIO Armed Conflict Dataset, the onset data goes back to Strand (2006) and the newest UCDP PRIO dataset is in detail described by Pettersson and Wallensteen (2015). The onset dummy is 1 when in the respective country and year a conflict started with more than 25 battle deaths and when it is classified as an internal armed conflict without intervention from other states or as an internationalized internal armed conflict with intervention from other states. The government is always one of the actors in such a conflict. For our period of observation (i.e. when CIRI is available, from 1981-2011) we observe 81 conflict onsets in the total sample and 20 for the Africa sample.
Polygyny Scale	Data from WomanStats, coded in the year 2010. WomanStats (2016) offers a more detailed description on the coding procedure and underlying data. The scale is defined in the following way: • 0 is used when polygyny is extremely rare and illegal, • 1 when it is illegal and this law is enforced, i.e. less than 2 per cent of of the population are polygynously married, • 2 when it is deemed legal for minorities, but less than 5 percent of women are married polygynously, • 3 if it is legal under customary or religious law and between 2 or 25 per cent women are in such a union. • 4 when it is legal or when at least 25 percent of women are in such relationships.
Polygyny Dummy, updated	Relies on the polygyny scale from WomanStats. Following Gleditsch et al. (2011) we assign a 0 if the scale is 0 or 1. The original dummy by Gleditsch et al. (2011) uses additional information for a few countries.
CIRI	CIRI**:** from Cingranelli (2010) that is now available from 1981 until 2011. In the newest version, the indicator combines women's economic and political rights. Originally, data on women's social rights was included, but data collection stopped in 2005. Most importantly, without this category we can be sure that marriage law and practice (and thereby potentially polygyny) do not enter our measure for gender inequality.
SIGI	2014 edition of the SIGI was prepared by the OECD Development Centre's Social Cohesion Unit and is a further development of the index by Branisa et al. (2014). Ranges from 0 (very low levels of discriminiation) to 1 (very high), time invariant. Consists of sub-indices on discriminatory family code,

	restricted physical integrity, son bias, restricted resources and assets, restricted civil liberties. Restricted civil liberties includes whether there exist legal restrictions on freedom of movement or access to public spaces as well as legal quotas for political participation and the share of women in national parliaments.
Framework for gender equality	Time invariant indicator from WomanStats, scaled in 2016. WomanStats (2016) offers a more detailed description on the coding procedure and underlying data. The scale measures if a government has a policy framework to promote gender equality and how it is implemented. • 0-1 Strong policies across all three dimensions (law, action plans, CEDAW) • 2-3 Strong policies exist on most, but not all, dimensions • 4-5 Gender equality policies may exist, but are inadequate on more than one dimension • 6-7 No or very weak policies on gender equality across all three dimensions
WPEI	V-Dem women's political empowerment index (WPEI) constructs an aggregate measure of political empowerment including information on civil liberties, civil society participation and political participation for each country on a yearly basis. It ranges from 0 (no empowerment) to 1 (full empowerment). Civil liberties includes experts' judgments of freedom of domestic movement, from forced labor, property rights and access to justice.For a detailed description see Sundström et al. (2017).
Time invariant controls	Percent of mountainous terrain, ethnical or religious fractionalization are from Gleditsch et al. (2011). For the African sample, we have to drop the dummies for non-contiguity and new states, since this is 1 for only 1 country. The shares of the major religions in the population (roman catholic, protestant, muslim and others) is from Ashraf and Galor (2013), the category "other" is the base category in the regressions.
Time variant controls	For the variables ongoing conflict in the year before, a new state, unstable political system we follow the coding procedure from Fearon and Laitin (2003). Data on GDP per capita and population are taken from the Penn World Tables and logged. We replaced the oil rents variable from Gleditsch et al. (2011) with a for countries belonging to the OPEC since missing data on oil rents makes a lot of imputation necessary.

Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Onset of conflict	4373	0.016	0.126	0.000	1.000
Ongoing conflict	4373	0.188	0.390	0.000	1.000
GDP pc (logged)	4115	8.548	1.242	4.959	12.272
Population (loggeD)	4115	1.927	1.691	-1.937	7.116
Mountainous Terrain	3879	2.066	1.468	0.000	4.557
Noncontiguous	3879	0.098	0.298	0.000	1.000
Opec state	4373	0.099	0.299	0.000	1.000
New State	4373	0.012	0.107	0.000	1.000
Instability	4128	0.058	0.234	0.000	1.000
Polity	4037	1.168	7.131	-10.000	10.000
Ethnic Fractionalization	3879	0.464	0.265	0.005	0.925
Religious Fractionalization	3879	0.391	0.214	0.000	0.783
Polygyny scale	4325	1.735	1.549	0.000	4.000
WPEI	3871	0.632	0.205	0.086	0.965
CIRI	3912	0.503	0.182	0.000	1.000
SIGI	2879	0.196	0.145	0.002	0.563
Framework	4361	2.601	1.661	0.000	7.000

Summary Statistics, Total Sample

Variable	Obs	Mean	Std. Dev.	Min	Max
Onset of conflict	1059	0.019	0.136	0.000	1.000
Ongoing conflict	1059	0.216	0.412	0.000	1.000
GDP pc (logged)	1059	7.453	0.755	4.959	9.771
Population (loggeD)	1059	2.161	1.203	-0.505	5.072
Mountainous Terrain	1059	1.634	1.464	0.000	4.421
Noncontiguous	1059	0.022	0.146	0.000	1.000
Opec state	1059	0.068	0.252	0.000	1.000
New State	1059	0.001	0.031	0.000	1.000
Instability	1059	0.041	0.197	0.000	1.000
Polity	1059	-1.621	5.720	-10.000	9.000
Ethnic Fractionalization	1059	0.643	0.248	0.036	0.925
Religious Fractionalization	1059	0.472	0.193	0.000	0.783
Polygyny scale	1059	3.413	0.714	2.000	4.000
WPEI	1059	0.564	0.167	0.171	0.911
CIRI	1059	0.463	0.125	0.000	0.833
SIGI	1059	0.275	0.134	0.060	0.555
Framework	1059	2.692	1.355	1.000	7.000

Note: This is the final sample for 40 African countries, with 20 conflict onsets, trimmed so that all variables are available in order to make regressions comparable.

Summary Statistics, African Sample

	Polygyny scale	Framework	WPEI	CIRI	SIGI
Polygyny scale	1				
Framework	-0.3535	1			
WPEI	0.1781	-0.251	1		
CIRI	-0.0106	-0.2424	0.3463	1	
SIGI	0.2844	0.1371	-0.1945	-0.1997	1

Correlations of polygyny and gender inequality, African Sample

Analysis of Interaction Effects

Given our results for Africa, we may speculate on interaction effect: Do low levels of gender equality enforce the conflict-increasing effect of polygyny? We expect that the conflict-increasing effect of polygyny is stronger, when gender inequality is more deeply ingrained in society. In this case, aggressions due to deprivation among men from polygyny and the conflict-increasing effect of gender inequality not only add up but the first might be intensified by the latter. On the other hand, if gender equality is developed highly but polygyny is one of the last remaining patriarchal institutions we expect to see less conflicts. Still, some men might be frustrated due to deprivation from reproduction and social mobility or status, but the advancement of more equal treatment and the influence of women on society might help to reduce violence or the acceptance of violence.

Table A3 shows the estimation results for interaction effects. As Ai and Norton (2003) point out, these terms are not meaningful in non-linear models, therefore we calculate marginal effects at different levels of polygyny and gender equality keeping all covariates at their means. Figure A1 shows marginal effects for different combinations of gender inequality and polygyny in Africa: In case of higher gender inequality (low levels of CIRI or WPEI, e.g. below 0.5) in combination with high polygyny (scale=4), the probability of conflict onset is marginally significant and larger compared to low levels of polygyny. When gender equality is high (CIRI or WPEI higher than 0.5), the conflict-inducing effects of different levels of prevalence of polygyny are similarly low and not significant across the board. The average probabilities for high polygyny (scale=4) with low CIRI and WPEI (below 0.5) are marginally significantly different from those at low polygyny (scale=2), as is shown by the contrast of margins in Figure A1. We do not show interactions with SIGI: The correlation between high levels of SIGI and high levels of polygyny is too high to calculate meaningful interactions.

REFERENCES

Ai, C., & Norton, E. C. (2003). Interaction terms in logit and probit models. *Economics letters*, 80(1), 123-129.

Ashraf, Q., & Galor, O. (2013). The "Out of Africa" hypothesis, human genetic diversity, and comparative economic development. *The American Economic Review*, 103(1), 1-46.

Branisa, B., Klasen, S., Ziegler, M., Drechsler, D., & Jütting, J. (2014). The institutional basis of gender inequality: The Social Institutions and Gender Index (SIGI). Feminist economics, 20(2), 29-64

Cingranelli, D. L. and Richards, D. L. (2010). The Cingranelli and Richards (CIRI) human rights data project. *Human Rights Quarterly*, 32(2):401-424.

Fearon, J. D., & Laitin, D. D. (2003). Ethnicity, insurgency, and civil war. American political science review, 97(1), 75-90.

Gleditsch, Kristian S., Julian Wucherpfennig, Simon Hug and Karina G. Reigstad. 2011. "Polygyny or Misogyny? Reexamining the 'First Law of Intergroup Conflict'." *Journal of Politics* 73 (1): 265–270.

Pettersson, T., & Wallensteen, P. (2015). Armed conflicts, 1946–2014. *Journal of Peace Research*, 52(4), 536-550.

Strand, H. (2006). Onset of armed conflict: A new list for the period 1946–2004, with applications.

Sundström, A., Paxton, P., Yi-Ting, W., & Lindberg, S. (2017). Women's Political Empowerment: A New Global Index, 1900-2012. *World Development*, 94, 321-335.

WomanStats Project (2016). WomanStats Codebook. (available at http://www.womanstats.org/new/codebook/)

ADDITIONAL FIGURES AND TABLES

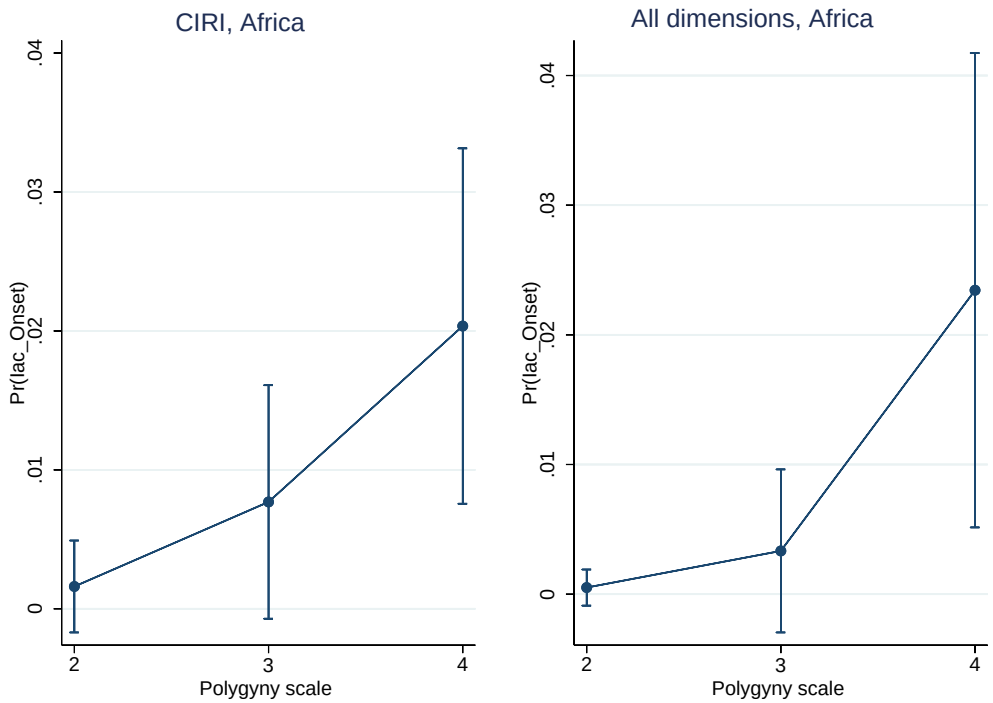

Figure 1: Marginal effects of Polygyny for the African sample, controlling for CIRI (left panel) or all dimensions of gender inequality (right panel)

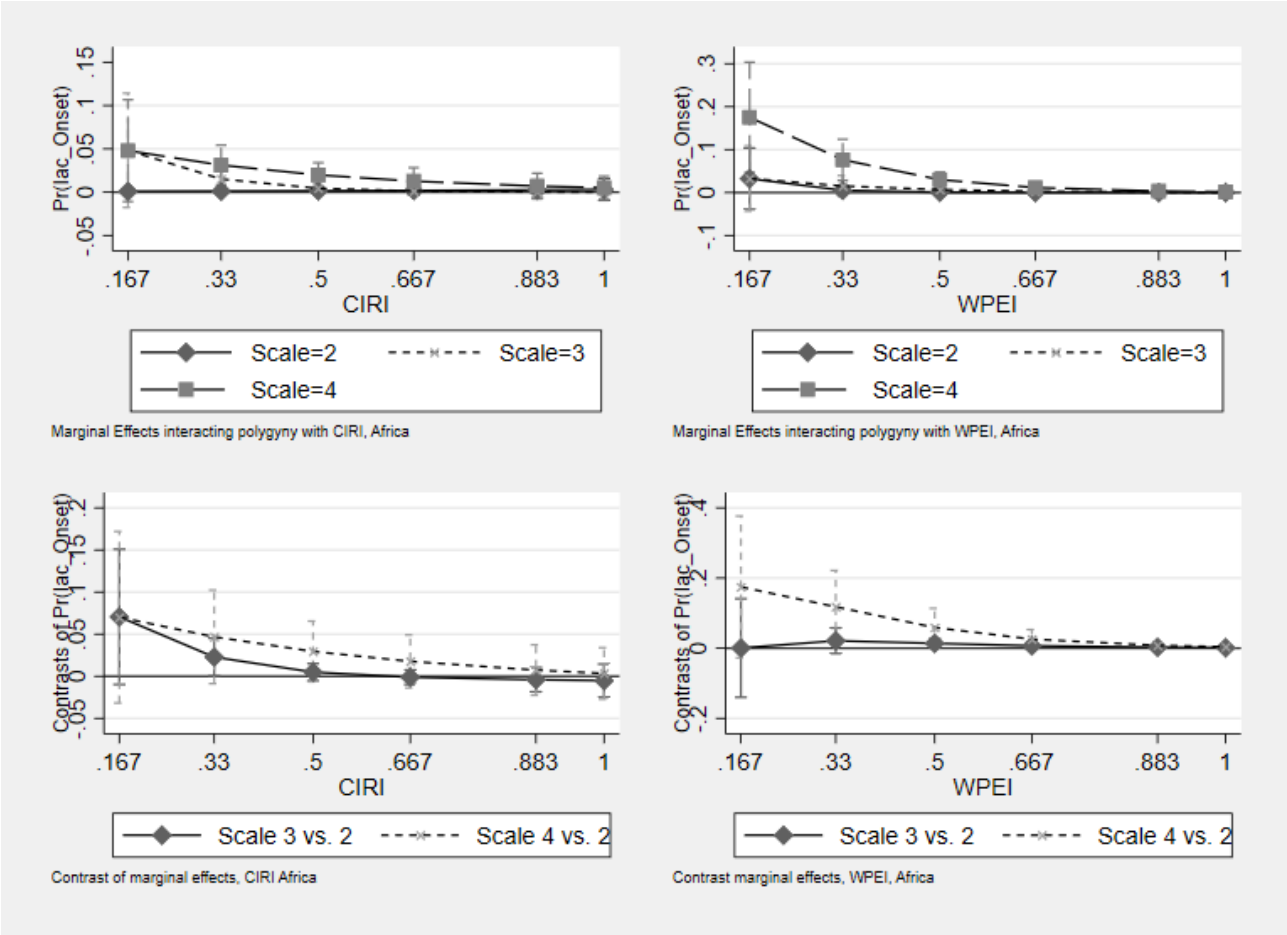

Figure A1: Predictive marginal effects and their contrasts of polygyny at different levels of gender inequality on onset of internal conflict with 95% CI, Africa

	(1) War	(2) War	(3) War	(4) War	(5) War	(6) War	(7) IAC	(8) IAC
Ongoing war	-0.894*	-1.339**	-1.392**	-1.876**	-1.800**	-1.833**	0.687**	0.776**
	(0.478)	(0.591)	(0.634)	(0.798)	(0.804)	(0.833)	(0.318)	(0.341)
GDP pc	-0.627**	-0.587**	-0.601***	-0.592***	-0.599***	-0.462**	-0.134***	-0.132**
	(0.253)	(0.240)	(0.210)	(0.225)	(0.214)	(0.190)	(0.0490)	(0.0604)
Population	0.221**	0.197	0.206	0.371**	0.388**	0.459**	0.300***	0.355***
	(0.107)	(0.125)	(0.129)	(0.152)	(0.165)	(0.220)	(0.0987)	(0.115)
Mountainous Terrain	0.131	0.130	0.190	0.158	0.158	0.187	0.0819	0.106
	(0.126)	(0.137)	(0.158)	(0.157)	(0.159)	(0.189)	(0.108)	(0.0968)
Noncontiguous	1.346**	1.954***	2.403***	1.927**	1.540*	1.631**	0.776*	0.542
	(0.626)	(0.672)	(0.676)	(0.750)	(0.841)	(0.779)	(0.404)	(0.498)
Oil	-0.221	-0.259	-0.326	-0.581	-0.580	-0.586	0.354	0.374
	(0.565)	(0.655)	(0.633)	(0.924)	(0.965)	(1.092)	(0.379)	(0.436)
New State	3.167***	3.615***	3.870***	4.022***	5.284***	5.445***	2.372***	3.073***
	(0.921)	(0.944)	(1.029)	(0.997)	(1.587)	(1.710)	(0.707)	(0.907)
Instability	0.395	0.223	0.174	-0.0452	-0.0780	-0.0410	0.323	0.0823
	(0.440)	(0.459)	(0.466)	(0.568)	(0.629)	(0.635)	(0.265)	(0.275)
Polity	0.0285	0.0361	0.0644**	0.0627*	0.0824*	0.0731	0.0116	0.0243
	(0.0314)	(0.0313)	(0.0316)	(0.0349)	(0.0450)	(0.0500)	(0.0201)	(0.0220)
Ethnic Fractionalization	-0.375	-0.302	-0.809	-0.440	-0.416	-0.355	0.720	0.819
	(1.134)	(1.071)	(1.130)	(1.237)	(1.166)	(1.111)	(0.634)	(0.608)
Religious Fractionalization	0.910	1.234	0.592	0.154	0.223	-0.518	-0.634	-0.850
	(1.091)	(1.143)	(1.106)	(1.233)	(1.238)	(1.493)	(0.699)	(0.882)
CIRI		-3.374**	-3.659**				-0.808	
		(1.376)	(1.426)				(0.862)	
CIRI, updated				-2.157	-1.372	-1.344		-0.755
				(1.586)	(1.505)	(1.465)		(1.079)
Polygyny dummy, Gleditsch	0.904*	0.501					0.458*	
	(0.499)	(0.542)					(0.274)	
Polygyny scale			0.480	0.447	0.455	0.220		0.0136
			(0.305)	(0.330)	(0.332)	(0.448)		(0.144)
Time controls	No	No	No	No	Yes	Yes	No	Yes
Region dummies	No	No	No	No	No	Yes	No	Yes
Countries	129	127	125	124	124	124	127	122
Adjusted R^2	0.136	0.155	0.180	0.178	0.195	0.203	0.157	0.179
Observations	2,191	2,134	2,110	2,029	2,029	2,029	2,134	1,991
Log-likelihood	-144.3	-129.6	-122.0	-107.1	-104.9	-103.9	-374.9	-339.9

Dependent variable in column (1) to (6) from Fearon and Laitin (2003): Onset of ethnic conflict (at least 1000 persons killed in entire conflict, at least 100 people per year). Sample period: 1981-1999. Dependent variable in column (7) to (8) from onset dataset from UCDP PRIO, using the previous sample and control variables. Standard errors (clustered by country) in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table A1: Extended Replication, Total Sample

	(1) CIRI	(2) SIGI	(3) Framework	(4) WPEI	(5) PCA
Polygyny dummy, 2010	0.820				
	(0.816)				
Polygyny scale		0.320	0.302	0.283	
		(0.211)	(0.188)	(0.204)	
Framework			0.162		
			(0.103)		
WPEI				-2.783***	
				(1.002)	
CIRI	-1.577				
	(1.079)				
SIGI		1.511			
		(1.275)			
Sub-Saharan Africa	-0.549	-0.914	-0.905	-0.579	-1.519*
	(0.879)	(0.774)	(0.743)	(0.778)	(0.910)
MENA	-0.807	-1.587*	-0.988	-0.742	-2.094**
	(0.997)	(0.937)	(0.741)	(0.826)	(0.970)
South Asia	-0.828	-0.636	-0.810	-0.546	-1.050
	(0.828)	(0.611)	(0.608)	(0.710)	(0.804)
East Asia and Pacific	-0.494	-0.116	-0.655	-1.480**	-1.098
	(0.697)	(0.651)	(0.613)	(0.733)	(0.690)
North America region	0.750		0.335	0.379	
	(0.792)		(0.687)	(0.699)	
Latin America and Caribbean	-0.904	-1.083	-0.899	-1.163	-1.596
	(0.882)	(0.823)	(0.717)	(0.900)	(0.980)
Scores for component 1					0.584***
					(0.190)
Scores for component 2					0.0190
					(0.241)
Controls	yes	yes	yes	yes	yes
Time Controls	yes	yes	yes	yes	yes
Adjusted R2	0.124	0.139	0.161	0.156	0.277
Countries	123	93	125	123	92
Observations	3456	2678	3592	3301	2416
Log-likelihood	-224.3	-224.7	-259.0	-227.8	-172.0

Dependent variable from onset dataset from UCDP PRIO: Onset of intrastate armed conflict (at least 25 battledeaths per conflict-year). Sample period: 1981-2011. Constant not shown. Standard errors (clustered by country) in parentheses. The first component derived from the PCA has an eigenvalue of 2.54 and may be interpreted as gender inequality and polygyny (loadings: polygyny 0.469, framework 0.314, WPEI -0.469, SIGI 0.529, CIRI -0.426., the second component has an eigenvalue of 0.862 and is mostly driven by an government framework, CIRI and polygyny, potentially indiciating little governmental actions for gender equality. *** p<0.01, ** p<0.05, * p<0.1.

Table A2: Dimensions of Gender Inequality, Total Sample

	(1) CIRI	(2) SIGI	(3) Framework	(4) WPEI	(5) All	(6) PCA
Polygyny scale	1.212	1.399	1.548	2.483**	2.577**	
	(0.819)	(0.872)	(1.068)	(1.161)	(1.313)	
CIRI	-3.166*				-2.181	
	(1.889)				(2.122)	
SIGI		1.839			-1.452	
		(1.423)			(1.494)	
Framework			0.280		0.132	
			(0.188)		(0.212)	
WPEI				-6.422***	-6.263***	
				(1.197)	(1.558)	
Component 1						-0.261
						(0.171)
Component 2						0.433
						(0.308)
Share of Muslims	0.0161	0.0122	0.0142	0.00185	0.00233	0.0159
	(0.0148)	(0.0162)	(0.0155)	(0.0166)	(0.0162)	(0.0169)
Share of Catholics	0.00423	-4.44e-05	0.00577	-0.0271*	-0.0235	0.0162
	(0.0186)	(0.0194)	(0.0201)	(0.0156)	(0.0155)	(0.0169)
Share of Protestants	0.0304	0.0364	0.0367*	0.0344	0.0267	0.0207
	(0.0207)	(0.0229)	(0.0222)	(0.0286)	(0.0259)	(0.0243)
Controls	yes	yes	yes	yes	yes	yes
Time Controls	yes	yes	yes	yes	yes	yes
Observations	1,059	1,059	1,059	1,059	1,059	1,059
Adjusted R2	0.117	0.107	0.113	0.142	0.149	0.112
AIC / BIC	213/307	215/309	214/308	208/302	212/322	214/308
Countries	40	40	40	40	40	40
Log-likelihood	-87.62	-88.54	-88.02	-85.16	-84.41	-88.11

Dependent variable from onset dataset from UCDP PRIO: Onset of intrastate armed conflict (at least 25 battledeaths per conflict-year). Sample period: 1981-2011. Constant not shown. Standard errors (clustered by country) in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table A3: Africa Robustness Check with Religion, African Sample

	(1) Africa	(2) Africa
CIRI	1.439	
	(2.419)	
WPEI		-11.46***
		(3.424)
Polygyny scale = 3	5.441***	-1.100
	(1.414)	(2.021)
Polygyny scale = 4	4.669***	0.900
	(1.740)	(1.727)
Polygyny scale = 2*CIRI	0	
	(0)	
Polygyny scale = 3*CIRI	-8.749**	
	(3.470)	
Polygyny scale = 4*CIRI	-4.168	
	(3.237)	
Polygyny scale = 2*WPEI		0
		(0)
Polygyny scale = 3* WPEI		6.647
		(4.640)
Polygyny scale = 4* WPEI		5.670
		(3.467)
Time Controls	Yes	Yes
Controls	Yes	Yes
N	1059	1059
Countries	40	40
Adjusted R2	0.118	0.134
Log-likelihood	-87.49	-85.91

Dependent variable from onset dataset from UCDP PRIO: Onset of intrastate armed conflict (at least 25 battledeaths per conflict-year). Sample period: 1981-2011. Constant and all control variables not shown. Standard errors (clustered by country) in parentheses.
*** p<0.01, ** p<0.05, * p<0.1.

Table A5: Interaction effect of Polygyny and Gender Inequality for Africa

Aktuelle Diskussionsbeiträge / Recent discussion papers

2018-02	Tim Krieger, Laura Renner	A Cautionary Tale on Polygyny, Conflict and Gender Inequality
2018-01	Wilfried-Guth-Stiftungsprofessur	Jahresbericht 2017
2017-05	Eugen Dimant, Tim Krieger, Daniel Meierrieks	Negative Returns: U.S. Military Policy and Anti-American Terrorism
2017-04	Mohammad Reza Farzanegan, Tim Krieger	The Response of Income Inequality to Positive Oil Rents Shocks in Iran: Implications for the Post-Sanction Period
2017-03	Malte Dold	Back to Buchanan? Explorations of Welfare and Subjectivism in Behavioral Economics [To appear in: *Journal of Economic Methodology*.]
2017-02	Malte Dold, Tim Krieger	Competition or Conflict? Beyond Traditional Ordo-Liberalism [Published in: Joerges, C.; Hien, J. (eds.): Ordoliberalism, Law and the Rule of Economics. Hart Publishing, Oxford, pp. 245-260]
2017-01	Wilfried-Guth-Stiftungsprofessur	Jahresbericht 2016
2016-07	Malte Dold, Tim Krieger	Ordoliberalism is not Responsible for Jihadist Terrorism in Europe – A Reply to Van der Walt (2016) [Published in: *New Perspectives* 25(2), pp. 105-115.]
2016-06	Tim Krieger	Der Ordoliberalismus: Chance oder Gefahr für Europa? Einführende Bemerkungen [Published in: Baden-Badener Unternehmergespräche (ed.): Der Ordoliberalismus: Chance oder Gefahr für Europa?. Ch. Goetz-Verlag, München, pp. 41-57.]
2016-05	Daniel Meierrieks, Laura Renner	Stymied Ambition: Does a Lack of Economic Freedom Lead to Migration? [Published in: *Journal of Population Economics* 30(3), 2017, pp. 977-1005.]
2016-04	Tim Krieger, Daniel Meierrieks	Land Grabbing and Ethnic Conflict [Published in: *Homo Oeconomicus* 33(3), 2016, pp. 243-260.]
2016-03	Carsten Hänisch, Jonas Klos	Long-run Effects of Career Interruptions: A Micro-Simulation Study
2016-02	Malte Dold, Tim Krieger	Informationelle Selbstbestimmung aus ordnungsökonomischer Sicht [Published in: Friedewald, M.; Roßnagel, A.; Lamla, J. (Hrsg.) (2017): Informationelle Selbstbestimmung im digitalen Wandel. Wiesbaden: Springer Vieweg, pp. 181-198.]
2016-01	Wilfried-Guth-Stiftungsprofessur	Jahresbericht 2015