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Which Institutions Matter? Re-Considering the Democratic Civil Peace*

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Despite decades of research, there is no consensus on the relationship between democratic institutions and risk of civil war. We alleviate measurement issues and theoretical ambiguity in much existing work by theoretically and empirically unpacking core features of democracy and their relationship to civil war. We distinguish between institutions that impose vertical constraints on leaders from the population at large, and institutions that allow various groups, including non-incumbent elites, to place horizontal constraints on leader behavior. Both types of democratic institutions, we argue, help leaders overcome commitment problems related to potential agents of rebellion, thus reducing civil war risk. This is particularly so when these institutional mechanisms reinforce each other. Using precise institutional indicators from Varieties of Democracy, we disentangle and separately measure the dimensions of interest. Both vertical and (especially) horizontal constraints mitigate civil war risk, but only clearly so when both types of constraining institutions co-exist in so-called liberal democracies. Absent constraints from a capable parliament or independent judiciary, improvements to the freeness and fairness of elections do not mitigate civil war onset.

Malgré des décennies de recherche, il n'existe aucun consensus sur la relation entre les institutions démocratiques et les guerres civiles. Nous atténuons les problèmes de mesure et l'ambiguité théorique de nombreux travaux existants en analysant les caractéristiques fondamentales de la démocratie et leur relation avec les guerres civiles dun point de vue théorique et empirique. Nous distinguons les institutions qui imposent des contraintes verticales aux dirigeants par le biais de la population globale de celles qui permettent á divers groupes, y compris aux élites qui ne sont pas au pouvoir, dimposer des contraintes horizontales pour le comportement des dirigeants. Nous soutenons que ces deux types d'institutions démocratiques aident les dirigeants á surmonter les problèmes dengagement liés aux agents rebelles potentiels, réduisant ainsi le risque de guerre civile. Cela est particulièrement vrai lorsque ces mécanismes institutionnels se renforcent mutuellement. Nous nous appuyons sur des indicateurs institutionnels précis issus de V-Dem pour dégager et mesurer séparément les dimensions dintérêt. Les contraintes verticales et horizontales atténuent toutes deux le risque de guerre civile, mais uniquement lorsque les deux types dinstitutions contraignantes coexistent dans des démocraties dites libérales. En l'absence de contraintes émanant dun parlement compétent ou d'un système judiciaire indépendant, les améliorations apportées á la liberté et á l'équité des élections n'atténuent pas le risque de déclenchement de guerre civile.

A pesar de las décadas de investigación, no hay consenso sobre la relación entre las instituciones democráticas y el riesgo de una guerra civil. Minimizamos los problemas de medición y la ambiguedad teórica en gran parte del trabajo existente desentrañando de manera teórica y empírica los rasgos fundamentales de la democracia y su relación con la guerra civil. Realizamos una distinción entre las instituciones que imponen restricciones verticales a los líderes de la población en general y las instituciones que permiten a varios grupos, incluidas las elites no tradicionales, imponer restricciones horizontales al comportamiento de los líderes. Sostenemos que ambos tipos de instituciones democráticas ayudan a los líderes a enfrentar los problemas de compromiso relacionados con los posibles agentes de la rebelión a fin de reducir el riesgo de una guerra civil. Esto es particularmente cierto cuando dichos mecanismos institucionales se refuerzan entre sí. Mediante indicadores institucionales precisos de variedades de democracia (Varieties of Democracy, V-Dem), esclarecemos y medimos por separado las dimensiones de interés. Tanto las restricciones verticales como las horizontales minimizan el riesgo de una guerra civil, pero solo cuando ambos tipos de instituciones restrictivas coexisten en lo que conocemos como democracias liberales. En ausencia de las restricciones de un parlamento competente o de un poder judicial independiente, las mejoras en la libertad e imparcialidad de las elecciones no reducen la posibilidad de que se desate una guerra civil.

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Introduction

The relationship between political institutions and the risk of civil war has been subject to a longstanding academic debate (c.f. Huntington 1965; Gurr 1968; Muller and Weede 1990; Hegre et al. 2001).[1] Still, there is no consensus on which specific institutions have the strongest potential to mitigate civil war, or even whether democratic institutions such as multi-party elections reduce the risk at all. Jones and Lupu (2018) review more than 100 studies addressing the hypothesis that regimes that are neither fully democratic, nor fully autocratic, have a higher risk of political violence (of various kinds). They conclude that "despite decades of research, the extent to which such theories are empirically supported is unclear" (ibid, 652). After improving on the empirical data and methods, Jones and Lupu (2018) report that "regimes in the middle" have a higher risk of minor civil conflict. Although this recent study places the aggregate relationship between regime type and civil conflict risk on a firmer empirical footing, ambiguity remains regarding what this finding actually entails.

The challenge to ascertain exactly which aspects of regimes are critical for civil war risk is partly one of measurement. The predominant measure in the literature has been the Polity scale. But, since Polity aggregates several distinct regime characteristics into one scale, very different configurations of authority structures can underlie similar scores (Gleditsch and Ward 1997; Munck and Verkuilen 2002; Treier and Jackman 2008). Which institutional configurations are the most conducive to civil peace therefore remains an open, empirical question. We do not know, for example, whether the inverted-U relationship between regime type and civil war comes from intermediate scores on all democracy dimensions enhancing risk, or from particular institutional configurations (e.g., high scores on one dimension and low on another) yielding very high conflict risk. This unresolved heterogeneity has limited a precise and coherent theoretical understanding of the conflict-proneness of "inconsistent" regimes.

The challenge raised above is also related to a broader theoretical divide regarding which democratic features are more important. Some researchers highlight the pacifying impact of electoral institutions and the representation of broad societal interests. (e.g., Dahl 1971; Przeworski 1991; Hegre et al. 2001). Others instead underline the importance of checks and balances on (even elected) executives from alternative institutional entities such as independent courts or autonomous and capable parliaments (e.g., Snyder 2000; O'Donnell 1998; Schedler 2002; Gandhi and Przeworski 2006; Walter 2015). We refer to institutions pertaining to the former aspects as institutions providing *vertical constraints* on the incumbent, and the latter as institutions providing *horizontal constraints*.[2] Existing research is often unclear on which institutional cluster is more important for conflict risk. Many studies collapse the two and discuss combined implications. Hegre et al. (2001, 33), for example, note that "semi-democracies are partly open, yet somewhat repressive," invoking both institutional avenues for popular mobilization and lack of constraints on government excess as explanations for the conflict proneness of these regimes. Others focus only on one component (Carey 2007; Bartusevicius and Skaaning 2018). The relative importance of institutions of vertical or horizontal constraints, or how they *interact* in affecting civil war, thus remains poorly understood.

We address this theoretical and empirical ambiguity by unpacking the relationship between democratic institutions and civil war onset. We expect that institutions that place vertical constraints *and* those that place horizontal constraints on incumbents mitigate civil war risk, as they enable incumbents to make credible commitments to different, possible agents of rebellion. Competitive elections and extensive suffrage should alleviate commitment problems vis-á-vis the mass public by providing an institutional avenue to voice majority preference, and enabling coordinated action against incumbents transgressing on these political rights (c.f. Acemoglu and Robinson 2006; Fearon 2011). Strong and autonomous legislatures and judiciaries should alleviate commitment problems vis-á-vis particular segments of the population, such as non-incumbent, but still powerful, elite actors, by enabling them to monitor and take coordinated action to veto incumbents that encroach on their rights (Myerson 2008).[3] We also expect interaction effects: horizontal constraints are central *also* for making leaders' promises of upholding *future* electoral rights more credible. Absent horizontal constraints, even elected incumbents may undermine the credibility of electoral institutions and renege on political promises before the next elections.

We probe the importance of these institutional dimensions—separately and jointly—for reducing probability of civil conflict, using data from Varieties of Democracy (V-Dem) (Coppedge et al. 2017). Our results suggest that both vertically constraining institutions—clean elections combined with extensive suffrage—and (especially) horizontally constraining institutions—notably autonomous legislatures and independent judiciaries—predict civil peace. These results hold up when accounting for linear and squared terms of the widely used Polity measure of democracy. While the vertical constraints result is less robust, and there are indications of non-linearities for both dimensions, we, generally, find stronger support that these

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[1] We use "civil war" broadly to refer to armed conflicts within states that involve a government and an armed non-state group, independent of conflict intensity.

[2] Different terms are used to refer to similar concepts by others. Notably, Davenport (2007, 13) refers to institutions ensuring *"voice"* versus *"veto,"* with the former roughly corresponding to horizontal constraints and the latter to vertical constraints. Lührmann, Marquardt, and Mechkova (2020) theorize and measure institutions that ensure different forms of "accountability," distinguishing "vertical" from "horizontal" accountability, but also adding "diagonal" accountability (accountability ensured by a free media and vibrant civil society). Our concept of "vertical constraints" presupposes not only electoral institutions of "vertical accountability," but also, e.g., a free media, which makes electoral institutions more effective in constraining incumbents.

[3] Yet, as for instance the US' Founding Fathers highlighted, institutions of horizontal constraints may also protect the rights of various minority and other groups from transgressions by incumbents, and mitigate commitment problems relative to these non-elite groups as well.

democratic features mitigate armed conflict than what existing studies using other measures suggest.

Importantly, we find even clearer support for an *interaction* between vertical and horizontal constraints. More specifically, electoral institutions only reduce civil conflict risk where constraints on executives are already quite high, i.e., in what is often termed "liberal democracies" (Coppedge et al. 2011). Popular elections combined with weak horizontal constraints yield relatively high conflict risk. This finding follows the broader notion from previous studies that "mixed regimes" are the most conflict-prone, but highlight the specific combinations of institutions that underpin this relationship.

Existing Literature

Decades of research has probed the link between democratic institutions and political violence, with inconsistent conclusions.[4] More specifically, influential work argues that civil war is more common in regimes that are neither fully democratic, nor autocratic. Inconsistent regimes, according to Muller and Weede (1990), are neither sufficiently repressive to deter violence through disabling collective mobilization, nor sufficiently accommodative to facilitate transitions to more peaceful modes of political action and dissent. Numerous studies, mostly using the the Polity scale to measure regimes (Marshall and Jaggers 2002), thus propose an inverted-U relationship between democracy and armed civil conflict (e.g., Hegre et al. 2001; Fearon and Laitin 2003; Gleditsch and Ruggeri 2010), although some studies fail to corroborate this relationship (e.g., Sambanis 2001).

The uncertainty regarding the relationship has been compounded by political violence being partly inherent to the much-used Polity measure. After purging Polity of its endogenous component, Vreeland (2008) finds no support for the curvilinear expectation, nor any other robust relationship between democracy and armed conflict. Others report different results. When using Vreeland's modified version of the Polity scale (XPolity), and relaxing assumptions about a particular functional form, Jones and Lupu (2018) reaffirm the curvilinear relationship. Yet, ambiguity remains about what this general relationship entails. It could reflect the non-linear impact of particular features of democracy, *or* particular configurations of different institutions being especially conductive to conflict.

The more prominent theoretical arguments do not clarify the interpretation either—very different mechanisms are invoked to explain the inverted-U shaped curve (c.f. Mueller and Weede 1990, Hegre et al. 2001). Gleditsch and Ruggeri (2010), for example, note how Polity is often used to proxy both the "repressive capacity of undemocratic states and the accommodative capacity of more democratic regimes" (p. 302), and choose to proxy for states' repressive capacity through variables distinct from democracy—level of repression and democracy do not necessarily move in tandem (Davenport and Armstrong 2004). Another approach to circumvent the ambiguity of the aggregated index is to disaggregate Polity into its constituent parts, and separate components related to participation and competition from those related to constraints. Davenport (2007) probes the association between diverse aspects of democracy and the coercive behavior of states. He establishes a hierarchy in the impact of indicators of "voice" (mass-based political features) and "veto" (elite-based political features), suggesting that the former is more important in accounting for the domestic democratic peace, but that the impact is larger when both increase in tandem.[5]

In explicating the link between particular aspects of democracy and civil war risk, we start from Davenport's observation that some institutional features (related to participation and competition) impose accountability from the citizenry at large, others (related to independent courts and capable legislatures) impose accountability from non-incumbent elite actors. Admittedly, this is a simplification: courts and legislatures can protect the rights also of various non-elite groups, such as ethnic minorities. Yet, the conceptualization is useful because it points to the role of different institutions in mitigating conflict vis-á-vis distinct type of actors. Existing theorizing on regime type and civil war focus mainly on how democratic institutions shape the mobilization capacity and form of mass-based opposition.[6] Yet, civil wars do not merely follow from popular mobilizations, but also from shifting elite alignments and fall-outs among actors that hold economic and political privileges (e.g., Gandhi and Przeworski 2006; Reno 1998; Roessler 2011).[7] We turn to the comparativist literature on regime types and institutions and develop an argument on how incumbents use different institutions to co-opt and diffuse challenges from various groups.

Civil War Outbreak and the Role of Institutions

A large literature points to the instrumental role of institutions in enhancing the credibility of regime commitments towards restive groups, be it the citizenry at large, specific minority groups, or rival elite actors. Institutional concessions, including the granting of electoral rights or establishing bodies of judicial and legislative oversights, provide these groups with the requisite tools to alleviate monitoring and coordination problems, which must be overcome to resist attempts from incumbent executives to monopolize power (Weingast 1997; Acemoglu and Robinson 2006; Gandhi 2008; Fearon 2011; Boix and Svolik 2013). By restraining the possible actions that chief executives can take at their own discretion, these institutions enable credible commitments by the government to observe the limits on its authority also in the future, and to not encroach on the economic and political rights of non-incumbent groups. Institutional concessions may thus help regimes stay in power, since they placate various groups and thus diffuse threats to the incumbent regime (e.g., Acemoglu and Robinson 2006; Gandhi 2008; Walter 2009; Boix and Svolik 2013).[8]

Below, we explicitly distinguish between institutions that protect the political interests of the citizenry at large, by enforcing vertical constraints on the ruler, and institutions of horizontal constraints, which are particularly important for contending elites or minority groups that are unlikely

[4] We do not consider research on democratic institutions and inter-state peace (see Hegre 2014). We also bracket several other significant drivers of civil conflict risk, including horizontal inequalities (Cederman, Wimmer, and Min 2010; Østby 2013) and state weakness (Fearon and Laitin 2003).

[5] Davenport (2007) considers armed conflict only as a confounding variable.

[6] A largely distinct body of literature on ethnic conflict has addressed the role of specific democratic institutions, often broadly related to consociationalism (Lijphart 1969), in mitigating violent mobilization by aggrieved minority groups (see, e.g., Bormann et al. 2019; Binningsbø 2013).

[7] While simultaneously modelling both threats is rare, Svolik (2012) explicitly analyzes how autocrats face the dual threat of rebellion from the majority excluded from power and from elites with whom the incumbent shares power.

[8] We primarily address the *constraining* role of institutions. Other institutional features that protect minority groups from "the tyranny of the majority" (c.f. Mukand and Rodrik 2017) are "dispersive institutions" such as federalism and autonomy arrangement, and "inclusive institutions" such as minority quotas (Gates et al. 2016).

to gain influence through popular elections. Strong institutionalization along both dimensions are the hallmarks of "liberal democracy" (see Coppedge et al. 2011). Yet, when looking beyond this regime category, the existence and relative weight of the different institutional provisions vary substantially across regimes (see, e.g., O'Donnell 1998; Slater and Arugay 2018; Lührmann, Marquardt, and Mechkova 2020). Focusing on civil war, we thus, first, theorize these two institutional dimensions as conflict-mitigating mechanisms in a disaggregated manner, before we consider how they interact.

Vertical Constraints

We assume that the citizenry at large is primarily concerned with gaining political rights that transfer power from relatively narrow elites to the majority *and* make leaders accountable and responsive to this majority (c.f. Boix 2003; Acemoglu and Robinson 2006; Przeworski 2006; Mukand and Rodrik 2017). Institutions designed to keep leaders accountable to the majority are sometimes referred to as institutions providing "vertical constraints" (e.g., Fukuyama 2014). Two institutional aspects stand out as especially important for enabling the masses to ensure that political leaders rule in their interest, namely, contested multi-party elections and extensive franchise rights.

Competitative multi-party elections entail that leaders face a non-negligible probability of being removed and replaced by new leaders if they pursue policies aligned with their own preferences rather than those of their "principals" (i.e., electorates). Ensuring truly competitive elections, where an informed electorate can choose between various options, requires more than formally guaranteed multi-party competition, however. There are several avenues through which autocrats can manipulate elections (e.g., Schedler 2002), and Dahl (1971, 1998) highlights that freedoms of speech and association are critical for ensuring, respectively, an informed electorate and the formation of opposition parties. Checks against election fraud and freedoms of speech and association are thus all prerequisites for elections to be truly competitive. Extensive franchise rights ensures that the broader masses are included among the principals. Together, these institutional features are the cornerstones of electoral democracy (Munck and Verkuilen 2002; Teorell et al. 2019).

Competitive multi-party elections and extensive franchise rights work in tandem to mitigate civil war because they jointly enhance the accountability of elites relative to the broader citizenry (see Cheibub and Hays 2017; Bartusevicius and Skaaning 2018). There are two distinct aspects to this mechanism. First, competitive elections with an extensive franchise is associated with broader political representation in government. Elections provide a low-cost institutional avenue for citizens to articulate their preferences. Political pluralism is also conducive to more accommodative governance, as the political constituency to whom the regime is accountable represents broader interests in society (Davenport 2007). These regimes are thus less likely to adopt discriminatory or exclusionary policies—policies that otherwise facilitate anti-regime mass-mobilization.

Yet, elections not only align leaders with the preferences of citizens on key policy dimensions; they also provide a low-cost institutional channel through which citizens can depose of leaders that fail to live up to prior promises or transgress on citizen rights (e.g., Przeworski 1991). Even absent elections, citizens may obtain *de facto* bargaining power, for instance by threatening violent mobilization, which, in turn, could allow them to extract policy concessions from the regime. But without citizen influence being translated into *de jure* power, regimes can renege on such promises if power relations shift. Institutional concessions of electoral rights solve this commitment problem (Acemoglu and Robinson 2006), as elections constitute a useful coordination device for citizens aiming to remove incumbents (Fearon 1999; Weingast 1997). Absent competitive elections, revolutionary uprisings, and violent insurrections may be the only option left for removing incumbents. Thus, well-functioning electoral institutions should reduce the risk of civil conflict because it creates a *credible* threat from the majority of citizens to coordinate and depose of the incumbent, and forward-looking incumbents will thus pre-emptively moderate their policies. Hence, our first hypothesis is that:

Hypothesis 1. *Institutions imposing vertical constraints on the executive reduce the risk of internal armed conflict*

Horizontal Constraints

Institutions of vertical constraints enhance the accountability of leaders to the population at large. Yet, the institutionalization of political rights for the majority may do little to satisfy concerns of elite actors—be they landowners, business groups, or high-level party cadres—or other, less privileged minority groups that seek protection from the "tyranny of the majority" (Mukand and Rodrik 2017). Disgruntled elite actors may be especially critical for civil war to occur, as they possess ample economic and other resources that help underpin the mobilization of viable dissent. Hence, we focus on them below. Besides political rights, elite actors are presumably concerned with the stability and continuation of rights that protect their economic assets (Ansell and Samuels 2014; Mukand and Rodrik 2017). To secure their loyalty, incumbents must therefore provide credible commitments to non-incumbent elites on safeguarding their property and privilege.

We posit that institutions of horizontal constraints, such as a powerful legislature and an independent judiciary, are particularly important for enhancing the credibility of property rights and the rule of law (see Ansell and Samuels 2014).[9] An incumbent that perceives threats from rival elites, in principle, could try to co-opt these elites by temporarily channeling wealth or other private rewards (Bueno de Mesquita et al. 2003). Confiscation of assets from other segments of non-incumbent elites can fund such discretionary redistribution and be an effective strategy for the incumbent, particularly right after coming to power (Albertus and Menaldo 2012). However, if rival elites—even those who are co-opted at present—fear that their privileges will be withdrawn in the future, they may still prefer violence over a temporary buy-out (Svolik 2012). Institutional arrangements that instead constrain the leader's discretionary power and serve to uphold the rule of law and protect property help transform (uncertain) personal privilege into (stable) impersonal rights (North, Wallis, and Weingast 2009). Horizontally constraining institutions provide elite actors with the institutional means to monitor incumbents and to take

[9]Another view is that property rights and rule of law result from market capitalist norms (Mousseau 2012) and that capitalist development thus explains the prevalence of civil peace in liberal democracies. Our perspective is more consistent with property rights theorists such as Clague et al. (1996), who emphasize the role of the state in credibly upholding contracts, thereby facilitating peaceful (and wealth-generating) behavior. We do not aspire to contribute empirically to this debate, but recognize the roles of prosperity and income as confounders in our empirical tests.

coordinated action against power-grabs, expropriation of assets, and civil right violations.

Two institutions are particularly important for enforcing horizontal constraints, namely, strong bodies of judicial and legislative oversight. Independent high courts may commit executives to constitutional stipulations, and thus leave less room for decisions that arbitrarily "withdraw favors" for competing elites or other minority groups (Myerson 2008). A powerful legislature provides an especially effective institutional mechanism for rival elites to scrutinize the executive's policies (Tsebelis 2002; Myerson 2008). Indeed, the literature on autocratic politics highlights legislatures, alongside ruling parties (e.g., Magaloni 2008; Magaloni and Kricheli 2010), as *the* central device for elites to monitor and coordinate action against the executive, should s/he transgress on their rights (Myerson 2008; Gandhi 2008; Svolik 2012; Boix and Svolik 2013).[10]

Independent judiciaries and powerful legislatures even affect rival elites' incentives to violently challenge the regime through another mechanism; they reduce the relative attractiveness of being the incumbent. If the current incumbent is subject to commitment devices that prevent them from short-term optimization (i.e., selecting policies according to private preferences), competing elites will expect the same institutions to constrain them from doing so, should they gain power. Thus, effective constraints on executive power reduce the stakes of elite-based conflicts by lowering the private rewards from holding office (Fearon and Laitin 2003).

In sum, institutions that provide horizontal constraints on the executive—including an independent judiciary and a capable legislature with a clear mandate to monitor, alter, and even veto executive decisions—help ensure that property rights, rule of law and other arrangements that protect the influence of rival elites are perceived as credible. This mitigates the incentives of these groups to violently mobilize against the incumbent. Hence, our second hypothesis is:

Hypothesis 2. *Institutions imposing horizontal constraints on the executive reduce the risk of internal armed conflict*

Institutional Complementarities

So far we have treated the two types of institutional constraints—vertical and horizontal—separately when discussing their potential role in mitigating conflict. Yet, we anticipate that these two types of constraints interact; the presence of one type of institution may matter more for reducing civil war risk when the other type of institution is present.

We surmise that horizontally constraining institutions reinforce the conflict-reducing effect of vertical constraining institutions, leaving both the majority population and other elite groups with fewer incentives to rebel. Horizontally constraining institutions may help safeguard future multi-party elections and disabling incumbents from usurping power and trespassing on electoral rights after being elected. Let us elaborate:

In order for the majority population to be appeased by electoral rights, they need guarantees that these electoral rights will be upheld also in the future. Without guarantees, elected leaders may renege on earlier promises and accumulate power. The "shadow of the future" is central for whether or not democracy will be self-enforcing (Przeworski 1991). Hence, for free and fair elections to be truly effective in mitigating the incentives of the masses to rebel, the regime should display properties that make their decisions binding also longer-term. The logic of vertical accountability—ensuring that elected leaders are responsive to the electorate—only functions if the leader is up for reelection and the electoral playing field continues to be level. Under such conditions, the leader will take citizens' concerns into account by catering to retrospective voters, who are amenable to throw out leaders reneging on promises (Ferejohn 1986).

This mechanism, we propose, is not easy to ensure only by formally providing electoral rights in the present. Instead, a strong legislature or an independent judiciary are crucial for preventing that freely and fairly elected executives usurp and abuse power. Such constraints help limit any uncertainty that groups of citizens may have about the regime's future actions, and thus any temptation of raising a rebellion to conduct pre-emptive strikes before the incumbent grows too powerful (Svolik 2012). If leaders are unopposed by horizontal institutional constraints, even elected leaders can grab power and alter the playing field for upcoming multiparty elections. Power grabs and self-coups among popularly elected leaders is fairly common (Levitsky and Way 2010; Beaulieu 2014). Some incumbents unlawfully extend term limits: in Burundi in 2015, for example, President Nkurunziza's bid for a third term led to widespread popular protest and eventually triggered civil conflict, as the rebel group Popular Forces of Burundi Les Force formed to overthrow the regime. Strong legislatures or an independent judiciary that can check executive transgressions could be a key factor in mitigating such developments.

Horizontally constraining institutions can also mitigate the risk that extensions of electoral rights precipitate rebellion by more privileged elite groups. Electoral rights under widespread suffrage shift power to the majority population, incentivizing incumbents to align economic policy with median voter preferences. While reducing the threat of popular rebellion, improved vertical constraints could lead elite groups to fear increased redistributive demands and threats to their privileges (Acemoglu and Robinson 2006). The violent class conflict of the Spanish civil war in 1936 may be interpreted in these terms, with a popularly elected left-leaning government enacting radical policies of, e.g., land appropriation, thereby catalyzing violent mobilization from elite segments (Lapuente and Rothstein 2014). In sum, extensive electoral rights are more likely associated with civil peace in contexts where horizontal constraints moderate more radical redistributive demands on elites, for instance through strong judicial protection of property rights.

So far we have addressed how horizontal constraints condition the impact of vertical constraints. However, if this argument is true, the " opposite" moderating effect is logically implied by the assumed interaction (see Berry, Golder and Milton 2012). Vertical constraints should also condition the impact of horizontal constraints. There is, indeed, theoretical intuition also behind this interpretation of the interactive relationship: strong vertical constraints could enhance the effect of horizontal constraints on civil war by bringing in the population as arbitrators in struggles between elites (Wantchekon 2004). One scenario is a conflict between incumbents and relatively powerful non-incumbent elites, which can draw strength from their position in a fairly autonomous parliament. If these groups clash over questions of succession and control over executive power, competitive elections could provide a mechanism for resolving such issues peacefully (see Przeworski 1991). Hence, our third

[10] Legislatures can also mitigate conflict by functioning as institutionalized co-optation devices: a legislative seat levies a considerable reward, and incumbents use such rewards to co-opt potential threats (Gandhi 2008).

hypothesis, which has two alternative interpretations, is:

Hypothesis 3. *Vertical [Horizontal] constraints reduce the risk of internal armed conflict more strongly in the presence of institutions that provide strong horizontal [vertical] constraints on the power of the executive*

This expectation of complementarities between the distinct types of democratic institutions provide a link to earlier studies on the "inverted-U" relationship between democracy and risk of armed conflict (Muller and Weede 1990; Boswell and Dixon 1990; Hegre et al. 2001; Gleditsch and Hegre 2014; Goldstone et al. 2010). Insofar as the presence of one constraining institution absent the other—which would give intermediate scores on uni-dimensional democracy scales—tends to increase tensions between the incumbent and alternative elite groups or larger groups of citizens, this could give rise to the aggregated inverted-U finding.

Data and Design

Measures and Data Sources

Our main outcome is the onset of an internal armed conflict. (Descriptive statistics for all variables are in Appendix Table A1.) We use the UCDP/PRIO Armed Conflict database (Gleditsch et al. 2002), updated by Allansson, Melander and Themnér (2017) and with data extending back to 1946. An armed conflict is operationalized as a "contested incompatibility which concerns government and/or territory where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related deaths" (Gleditsch et al. 2002). Our main dependent variable is a dummy where peace years are coded as 0, start-year of a conflict as 1, and all consequent active conflict years are excluded from the analysis. A country thus re-enters the analysis after a conflict ends. We use a 2-year intermittency threshold for defining a new conflict onset, following, e.g., Sambanis (2004, 831). If a conflict is inactive for at least two consecutive years, recurrence is registered as a new onset.[11]

To measure the various institutional features detailed in our theoretical argument, we rely on indicators and indices from V-Dem (v.7.1) (Coppedge et al. 2017). This dataset includes about 350 indicators pertaining to particular institutions and other features relevant to democracy. Time series extend from 1900 to 2016 for 173 countries. Many indicators are factual in nature, but a majority are more evaluative, including questions pertaining to various forms of manipulation of multi-party elections and *de facto* autonomy and capacity of the legislature. The evaluative questions are coded by multiple country experts (typically five per question). The comparability of country-expert scores are ensured through different measures, including the use of anchoring vignettes and several experts coding across different countries, with the subsequent use of a Bayesian item-response measurement model to generate point and uncertainty estimates (see Pemstein et al. 2018).

V-Dem contains several measures pertaining to both the horizontal and vertical constraints dimensions (see also Lührmann, Marquardt, and Mechkova 2020). We rely on three rules when deciding which ones to use. First, we use direct measures of the concept of interest, avoiding proxy variables. Second, we exclude measures that are inherently endogenous to civil conflict by capturing different types of violence and repression (election violence, political killings, etc.). Third, we exclude indicators that pertain strongly to more than one institutional dimension.

Vertical constraints: Following these rules, we construct a new vertical constraints index (VCI), which ranges from 0 to 1, to capture free and fair elections and inclusive citizenship: VCI = suffrage × elected officials × freedom assoc. × freedom expr. × clean elections.

Concerning the sub-indices multiplied in VCI, *Suffrage* (tagged v2x_suffr in V-Dem) measures share of adult population with suffrage. *Elected officials* (v2x_accex) is V-Dem's elected executive index, which measures whether the legislature and chief executive is (indirectly or directly) appointed through popular elections. Freedom of association (v2x_frassoc_thick) draws on six indicators, capturing the extent to which (all) parties can form and participate in elections, and to what extent civil society organizations can form and operate. The *Freedom of expression* (v2x_freexp_thick) index draws on ten indicators, capturing different aspects of media freedom, freedom of discussion and academic freedom. Finally, we employ a modified version of V-Dem's *Clean elections* index. We purge this index of indicators that directly capture violence (i.e., government intimidation and election violence) and could generate endogeneity in our regressions (see Vreeland 2008).[12]

We use a multiplicative aggregation formulae for VCI, given the logic of complementarities that underlie the theoretical notion of vertical accountability (on appropriate aggregation formulae, see Goertz 2006). Clean elections, for instance, only serve to enhance accountability to the broader masses when extensive suffrage rights exist. This also means that the single components carry no *independent* weight in the final score, beyond their roles in modifying scores on the other components—free speech, for example, is only important for vertical accountability because it enhances the competitiveness of elections and does not carry weight if elections are non-existent. All factors are required to ensure that the chain of accountability operates and thus that truly binding vertical constraints on executives exist; without, e.g., clean elections or free speech, accountability breaks down.[13]

Horizontal constraints: We draw on two V-Dem indices capturing, respectively, *Legislative constraints* (v2xlg_legcon) and *Judicial constraints* (v2x_jucon) on the executive to construct our horizontal constraints index (HCI), which also ranges from 0 to 1. The legislative constraints index is constructed by running a Bayesian factor analysis on four indicators capturing, respectively, the extent to which the legislature questions officials in practice, executive oversight (by other bodies such as an ombudsman or general prosecutor), the legislature investigating the executive in practice, and the ability of legislative opposition parties to exercise oversight and investigate the governing party or coalition. Importantly, these indicators measure *de facto* capabilities of the legislature, focusing on capacities to monitor and hold the executive accountable. The judicial constraints index, again pertinently addressing *de facto* capabilities and events, is also constructed from a Bayesian factor analysis and draws

[11] Results are not sensitive to this threshold; Appendix Table A6 reports models with 1-, 3-, and 5-year intermittency thresholds.

[12] Our modified index incorporates indicators on election management body (EMB) autonomy, EMB capacity, election voter registry, vote buying, other voting irregularities, and V-Dem's lower-level indicator assessing overall freeness and fairness of elections. We average these indicators and copy the values for election years to subsequent non-election years if V-Dem specifies the period as an electoral regime period (and score them 0 otherwise).

[13] As expected, results are weakened for modified versions of VCI where separate components are omitted from the index (see Appendix Table A7).

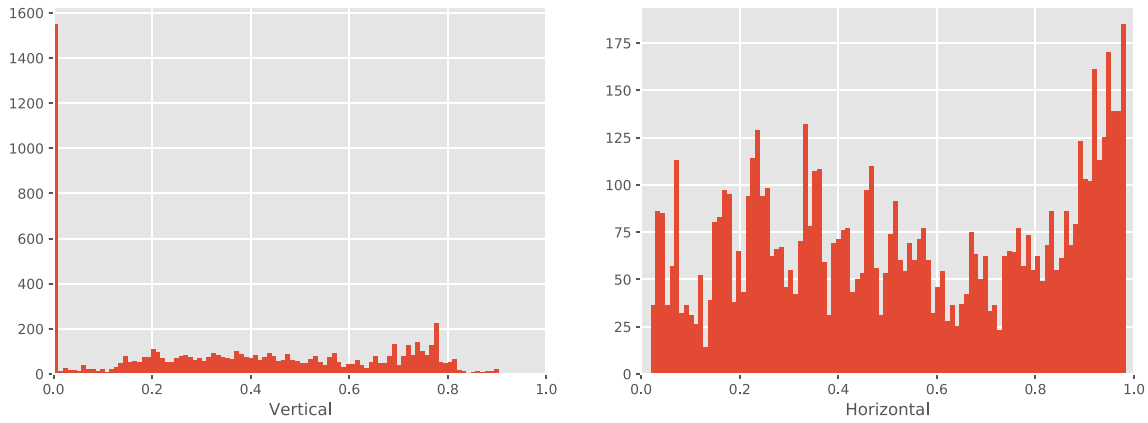


Figure 1 Distribution, histograms, for VCI (left) and HCI (right).

on indicators pertaining to whether the executive respects the constitution, compliance with the high court and other courts, and high- and lower court independence. HCI is constructed as the average of two indices:

$$\text{HCI} = \frac{\text{Legislative constraints} + \text{Judicial constraints}}{2}$$

We average the two components since they are considered partial substitutes in enforcing constraints on executive behavior (in contrast to for VCI, where components are considered complementary) (see Goertz 2006). The notion of partial substitutes means that absence of parliamentary checks on the leader can, to some extent, be offset by constraints from an independent judiciary, and vice versa. Yet, to achieve very high scores, reflecting a strongly constrained executive, countries require high scores on both components. While several other institutional bodies, such as royal councils, can be relevant for providing horizontal constraints on incumbents in some regimes, we here focus on the two horizontally constraining institutional bodies that are, generally, the most important ones for the post-1900 period.

We criticized aggregated democracy indices such as Polity for being too crude, making it hard to know which regime aspects drive existing results. Simultaneously, it is hard to imagine a valid operationalization of the features highlighted by our theory based on single indicators. By focusing on different constraining types of institutions and "intermediate-level" indices, we aim to strike a balance between relying on measures that are too disaggregated to render meaningful information when treated in isolation (e.g., elected executives, without considering suffrage) *and* choosing too aggregated indices that mask substantive variation relating to distinct democratic dimensions.

Figure 1 shows the distribution for VCI and HCI across the observations included in Models 1 and 2 (Table 1). Recall that VCI is multiplicative, meaning that a 0-score on one of five components gives a 0-score overall, following the theoretical logic that all links in the accountability chain are required to vertically constrain executives. Accordingly, VCI is heavily skewed towards 0. Yet, for positive values, it exhibits substantial variation that covers almost the entire range. HCI exhibits even higher variance, with cases spread quite evenly across the 0–1 range, but with some clustering for very high scores. Interestingly, neither distribution has the familiar bi-model distribution that, for example, Polity exhibits.

Design Choices

Our benchmark specification is logit regression with the UCDP civil conflict onset dummy as dependent variable and standard errors clustered by country to mitigate concerns of panel-specific autocorrelation. Data extend from 1946 to 2016, and include about 7,000 country-year observations from 167 countries. Our benchmark logit does not include country-specific intercepts, but we add random country-level intercepts in additional tests. Given the dichotomous and highly skewed nature of our dependent variable, and the slow pace of changes to political institutions, a fixed-effects model would give very large standard errors and inefficient estimates. A fixed-effects logit model would also have dropped all observations from countries that successfully maintain peace within the time period. Instead we follow Carter and Signorino (2010) and add cubic polynomials of time since last armed conflict (if any) to our benchmark to account for time dependence.

To delve deeper into the possible nuances of the interactive relationship posited by Hypothesis 3, we also estimate a Generalized Additive Model (GAM), following Wood (2006). GAMs place no *a priori* restrictions how horizontal and vertical constraints, and their interaction, relate to likelihood of civil conflict onset. Importantly, our benchmark interaction specifications risk smoothing over *local* effects, i.e., interesting spikes or declines in conflict risk related to particular complementarities between institutions occurring only at certain intervals of the two dimensions. GAMs strike a balance between fitting a model ignoring all local effects by estimating the global mean effect, and a (less efficient) model with dummy variables for all different values of the independent variables. The latter specification could uncover any and all local effects, but also over-fit to the data (see Beck and Jackman 1998; Hastie, Tibshirani and Friedman 2009).

We estimate more extensive models—including models controlling for linear and squared XPolity terms—in robustness tests. Yet, our benchmark logit includes a fairly sparse set of controls to mitigate post-treatment bias—i.e., bias resulting from controlling for relevant indirect effects from institutions on conflict. Specifically, we control for economic development, measured as log gross domestic product (GDP) per capita, and log population. The data are curated from V-Dem, but originally stem from Maddison (2010). Theoretically, accounting for economic development is especially important, as income correlates strongly with democratic institutions, and various versions of the

Table 1. Vertical and horizontal constraints and onset civil conflict; logit regressions

	UCDP conflict data, 1946–2016				*UCDP+COW, 1900–2016*	
	Logit with clustered errors		*Random Effects Logit*		*Logit with clustered errors*	
	1	*2*	*3*	*4*	*5*	*6*
VCI	−1.139**		−1.213**		−1.175**	
	(0.489)		(0.502)		(0.498)	
HCI		−0.930***		−0.969***		−1.201***
		(0.315)		(0.342)		(0.281)
ln Population	0.165***	0.161***	0.184***	0.182***	0.178***	0.165***
	(0.047)	(0.047)	(0.059)	(0.059)	(0.045)	(0.045)
ln GDP p.c.	−0.110	−0.121	−0.144	−0.160*	−0.109	−0.118
	(0.081)	(0.081)	(0.092)	(0.094)	(0.082)	(0.082)
Ethnic fractionalization	0.731**	0.872***	0.790**	0.910***	0.887***	1.026***
	(0.288)	(0.300)	(0.317)	(0.319)	(0.266)	(0.275)
Mountainous terrain	0.090	0.098*	0.096	0.104*	0.055	0.073
	(0.055)	(0.057)	(0.062)	(0.062)	(0.053)	(0.055)
Neighbouring conflict	0.628***	0.673***	0.653***	0.699***	0.749***	0.713***
	(0.173)	(0.171)	(0.172)	(0.171)	(0.162)	(0.161)
Post-1945					0.727***	0.536**
					(0.241)	(0.220)
Yr. since conflict	−0.033*	−0.032*	−263.652***	−252.893***	−0.041**	−0.036**
	(0.019)	(0.018)	(62.756)	(56.938)	(0.018)	(0.018)
Yr. since conflict sq.	0.001	0.001	5.112*	5.294**	0.001	0.001
	(0.001)	(0.001)	(2.657)	(2.618)	(0.001)	(0.001)
Yr. since conflict cb.	−0.000	−0.000	−0.034	−0.038	−0.000	−0.000
	(0.000)	(0.000)	(0.026)	(0.026)	(0.000)	(0.000)
Intercept	−4.401***	−4.162***	−4.483***	−4.199***	−4.670***	−4.223***
	(0.844)	(0.841)	(0.897)	(0.874)	(0.833)	(0.826)
AIC	1667.574	1671.192	1668.757	1672.336	1884.944	1881.452
ll	−823.787	−825.596	−823.378	−825.168	−932.472	−930.726
N	7065	7065	7065	7065	8647	8647

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. All covariates lagged one year.

"capitalist civil peace" figure as key rival explanations for the "democratic civil peace" in explaining civil conflict (e.g., Mousseau 2012). Moreover, income also correlates with other potentially relevant determinants of civil conflict, such as urbanization or education levels. We further include measures of ethnic fractionalisation and rough terrain, both from Fearon and Laitin (2003), and a dummy marking if neighboring, contiguous countries had active armed conflict at $t-1$, adapted from UCDP. These variables have previously been identified as robust predictors of armed conflict (Hegre and Sambanis 2006), and consistently display the expected sign also in our specifications.

Analysis

In Models 1 and 2, Table 1, we add the two institutional indices, separately, to our benchmark logit specification. Model 1 shows the result for VCI, which is negative and statistically significant at 5%. We thus find preliminary support for Hypothesis 1: institutions providing vertical constraints on the incumbent mitigate risk of civil conflict onset. The result is also substantively important; when going from the 10th to the 90th percentile on VCI, and keeping all controls at their means, the predicted probability of conflict onset in a year drops from 2.9 to 0.9 percentage points.

In Model 2, we evaluate Hypothesis 2. HCI correlates negatively with conflict onset risk, and is statistically significant at 1%. Comparing country-year observations at the 10th and 90th percentile of HCI, with all other variables at their means, the annual predicted probability of conflict onset drops from 3.0 to 1.3 percentage points. This result is consistent with our argument that institutions that allow other elites to monitor and take coordinated action against the incumbent, and thereby solve commitment problems in inter-elite bargaining, play a central role in mitigating civil war.

Before we discuss the sensitivity of these main results, we consider tests on alternative dependent variables. While we theoretically focused on civil war onset, the various constraining institutions might—by similar logics of accountability and constraints on incumbents—hinder small conflicts from escalating into larger and bloodier ones. Indeed, when only considering major armed conflict onset (>1, 000 battle deaths in a year; Appendix Table A4) or Ordinary Least Squares (OLS)) specifications with number of battle deaths as dependent variable (Appendix Table A3), we find quite similar results. Both vertical and horizontal constraints mitigate risk of major civil war and civil war casualties.

Returning to our main dependent variable, Models 3 and 4 (Table 1), add random country-level intercepts. Results do not change, which alleviate some concern that the correlation between institutions and conflict is due to time-invariant, country-specific factors. Next, our results hold across a longer time frame, extending from 1900 to 2016 (Models 5 and 6, Table 1). Since UCDP data only extend back to 1946, we use the Correlates of War (COW) civil war data (Small and Singer 1982) for the pre-1946 period and include a pre-1946 dummy to account for coding-specific differences on the dependent variable. In particular, the COW data employs a much higher battle deaths threshold and

Table 2. Robustness tests: vertical and horizontal constraints and onset of conflict; logit models, 1945–2016

	1	*2*	*3*	*4*	*5*	*6*	*7*
VCI	−1.118*		−0.871		−1.660***		−0.299
	(0.577)		(0.532)		(0.539)		(0.637)
HCI		−0.963**		−0.945***		−1.112***	−0.811**
		(0.391)		(0.333)		(0.336)	(0.412)
ln Population	0.158***	0.158**	0.196***	0.198***	0.165***	0.160***	0.161***
	(0.061)	(0.062)	(0.050)	(0.050)	(0.047)	(0.048)	(0.047)
ln GDP p.c.	−0.229**	−0.205*	−0.156*	−0.148	−0.094	−0.103	−0.119
	(0.112)	(0.120)	(0.093)	(0.092)	(0.081)	(0.082)	(0.083)
Ethnic fractionalization	0.430	0.644*	0.742**	0.905**	0.735**	0.886***	0.868***
	(0.310)	(0.340)	(0.375)	(0.394)	(0.289)	(0.303)	(0.303)
Mountainous terrain	0.069	0.077	0.098	0.102	0.092*	0.098*	0.090
	(0.062)	(0.063)	(0.061)	(0.064)	(0.055)	(0.057)	(0.057)
Neighbouring conflict	0.587***	0.640***	0.530***	0.557***	0.597***	0.686***	0.642***
	(0.199)	(0.196)	(0.182)	(0.182)	(0.173)	(0.172)	(0.174)
Economic growth	0.827	0.831					
	(0.801)	(0.940)					
ln Oil Rent GDP p.c.	0.036	0.018					
	(0.041)	(0.045)					
Time since independence	0.059	0.075					
	(0.088)	(0.086)					
Yr. since conflict	−0.029	−0.027	−0.034*	−0.035*	−0.029	−0.029	−0.034*
	(0.020)	(0.020)	(0.019)	(0.019)	(0.019)	(0.018)	(0.019)
Yr. since conflict sq.	0.000	0.000	0.001	0.001	0.000	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Yr. since conflict cb.	−0.000	−0.000	−0.000	−0.000	−0.000	−0.000	−0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
VCI pos. change					1.161***		
					(0.372)		
VCI neg. change					−0.854		
					(0.714)		
HCI pos. change						0.824**	
						(0.363)	
HCI neg. change						0.389	
						(0.410)	
Sub-Saharan Africa			0.279	0.305			
			(0.279)	(0.291)			
Asia			0.213	0.227			
			(0.292)	(0.288)			
Middle east/North Africa			0.726***	0.784***			
			(0.246)	(0.244)			
Decade dummies			Yes	Yes			
Intercept	−3.441***	−3.600***	−4.466***	−4.436***	−4.537***	−4.337***	−4.125***
	(1.141)	(1.189)	(1.068)	(1.066)	(0.848)	(0.844)	(0.855)
AIC	1380.620	1372.479	1680.923	1676.721	1668.677	1669.414	1662.117
ll	−677.310	−673.240	−820.462	−818.360	−822.339	−822.707	−820.059
Num. obs.	5833	5833	5833	5833	5833	5833	5833

***$p < 0.01$, **$p < 0.05$, *$p < 0.1$. All covariates lagged one year.

only include a conflict once it reaches 1,000 battle-related deaths. Still, the negative correlations between our two institutional measures and armed conflict remain sizable and statistically significant.

In the Appendix, we show that the robustness of the vertical constraints result is conditional on including the sub-indices on Clean election, Freedom of association and Freedom of expression in the measure; removing any one of these sub-indices in the multiplicative chain renders the result insignificant at conventional levels (Table A7). Yet, we prefer the wider understanding of vertical constraints—clean elections, free speech and the right to form opposition parties are all key preconditions. Removing any one of these links in the "accountability chain" mitigates citizens' abilities to freely mount broad and effective opposition in the upcoming elections against the incumbent, thereby rendering vertical constraints on the executive less effective.

The results in Table 1 are based on our parsimonious benchmark with few controls. In Table 2, we probe sensitivity to including additional possible confounders. Models 1 and 2 include time-varying controls for oil-wealth and GDP p.c. growth. These variables could influence the sustainability of particular non-democratic institutions *and* risk of armed conflict. HCI is robust, whereas VCI is weakly significant in this specification. In Models 3 and 4, we add decade and region dummies to account for, respectively, temporal trends and region-specific patterns in democratization and conflict. VCI remains negative and sizeable, but fails to achieve conventional levels of significance. The slight change in statistical significance may indicate a loss of efficiency due to

the inclusion of region-fixed effects, but may also stem from us accounting for relevant region-specific confounders, e.g., particular geographic or political-historical factors, that may influence both the institutional dimensions *and* propensity of civil war. HCI remains robust.[14] In Models 5 and 6, we add variables tapping processes of regime consolidation, to parse out the impact of regime instability. First, we control for time since independence, as both political institutional characteristics and conflict risk may be related to state-building processes. We further add variables capturing time since past significant institutional change. These variables are constructed as decay functions of years since past change on VCI and HCI exceeding 0.1 (both indices extend from 0 to 1), either in a more democratic or more autocratic direction. Both VCI and HCI are sizeable and significant at 1% in these specifications.

Finally, we include VCI and HCI simultaneously (Model 7). The two forms of constraints tend, empirically, to go together: the indices correlate at 0.8. Without accounting for the institutional context, the VCI coefficient in Table 1, Model 1, for example, might pick up an effect of legislative and judicial constraints on civil conflict. In Model 7, only HCI turns out statistically significant at 5%. While the latter result—alongside some of the other robustness tests from Table 2–seem to indicate that vertically constraining institutions are not clearly relevant for mitigating conflict risk after all, our theoretical argument suggests that even the inclusive Model 7 might not be properly specified. More specifically, Hypothesis 3 suggests that the vertical- and horizontal constraints placed on leaders *interact* in mitigating conflict risk. We thus turn to specifications that allow us to capture non-linear and interactive effects.

Non-Monotonic and Interactive Relationships

Before presenting these more nuanced specifications, we note that most results presented so far, relying on V-Dem measures, deviate from many existing studies that fail to identify a significant, monotonically decreasing relationship between democracy and risk of internal armed conflict, in particular after controlling for economic development (Hegre et al. 2001; Fearon and Laitin 2003; Collier and Hoeffler 2004; Vreeland 2008). Previous studies have, however, predominantly relied on the Polity scale—or a revised version (XPolity) from Vreeland (2008) that removes the inherently endogenous components pertaining to violence—to assess the democracy–conflict relationship. The choice of measure may matter. In contrast with our measure of vertical constraints, for example, Polity does not account for suffrage and it is unclear whether the aggregation method used for constructing the composite Polity scale is appropriate for capturing democracy (Goertz 2006). Yet, as our review indicated, several studies find an inversely u-shaped relationship between Polity/XPolity and risk of civil war. In order to engage more directly with the established literature, Table 3 reports models were we gauge the influence of our variables when controlling for XPolity data and XPolity squared, plus additional models addressing the above-mentioned questions of non-linear and interactive effects of vertical and horizontal constraints.

In Model 1, we attempt to corroborate the findings reported by Jones and Lupu (2018); in this particular specification, using the XPolity-version from Vreeland (2008), we fail to find an inverted u-shaped relationship with civil conflict onset. Models 2 and 3 (Table 3) examine how VCI and HCI perform when also controlling for XPolity and XPolity^2. Given the high colinearity between the institutional indices, as well as post-treatment bias—considering the effect of various constraints when holding XPolity constant should take out key portions of the relevant effects—Still, Model 3 shows a very strong result: HCI is robust to controlling for the XPolity terms. Even when accounting for other, and partly overlapping, institutional features, we thus find a clear relationship between horizontal constraints and civil war risk. Results are equally clear for VCI.[15] Once relying on fine-grained and theoretically motivated indices, institutions of horizontal constraints, in particular, are related to civil peace, even when accounting for other democratic institutional features.

In Models 4 and 5, we probe the possibility of more complex, non-linear relationships by adding squared terms of VCI and HCI, respectively, to the benchmark.[16] To ease interpretation, Figure 2 plots the non-linear relationships. The estimated relationships between vertical (left panel) and horizontal constraints (right panel) and conflict risk are, indeed, non-monotonic, reflecting earlier findings from the democratic civil peace literature (e.g., Hegre et al. 2001). The estimated marginal effect on conflict risk from increasing vertical constraints, with other covariates at their means, increases when moving up to 0.2 on VCI (value of Ivory Coast 2006-10, Thailand 1998-01, or Kenya 2010-13). In contrast, further increases in vertical constraints are associated with a decreased probability of conflict onset. Also for horizontal constraints, there is a clear non-linear relationship. When moving from a situation with an unconstrained incumbent to one where the incumbent faces some institutionalized constraints from a legislature and/or judiciary, predicted conflict risk increases. From around 0.4 on HCI (Honduras 2007-12, Liberia 1997-2004, or Lebanon 2007-12), however, stronger such constraints are associated with a markedly decreased risk of conflict.

Yet, even these estimated non-monotonic relationships may be biased. Institutional developments along different dimensions correlate, and Hypothesis 3 stipulated that the conflict-mitigating effect of vertical constraints increases with stronger horizontal constraints, and vice versa.

To explore this expectation, we estimate a model with interaction terms between VCI and HCI. Model 6 (Table 3) reports the coefficients that underlie the plotted substantive effects in Figure 3. Figure 3(a) graphs the *change in predicted probability* of conflict associated with a *change* from the 25th to the 75th percentile value on VCI across all values of HCI, with all other variables held at their means. Figure 3(c) shows this conditional relationship in another way, graphing the predicted probabilities of conflict for countries at, respectively, the 25th and 75th percentile values on VCI across different values of HCI. Increases in vertical constraints are actually associated with *higher* risk of conflict where horizontal constraints are absent or weak. The conflict-inducing impact of strengthening electoral rights decreases at higher levels of horizontal constraints. In polities with high HCI (>0.4), increasing VCI is not associated with an increased risk of conflict. But, we find no evidence of a

[14] Below we discuss the results of models with squared terms of VCI and an interaction with HCI, these results are not sensitive to including region-fixed effects.

[15] In Appendix Figure A2, we present results for a rudimentary, in-sample, evaluation of predictive performance where we compare the model with the XPolity variables with the benchmark models with VCI and HCI. The VCI and HCI models have better predictive performance than the XPolity model, but differences are small.

[16] Appendix Table A8, and accompanying figures, show similar results when controlling for XPolity and XPolity squared. Results are fairly, though not completely, similar.

Table 3. Logit models, adding interaction terms, onset of conflict; 1945–2016

	1	*2*	*3*	*4*	*5*	*6*
Vertical Constraints		−1.500*		3.661**		3.622**
		(0.801)		(1.475)		(1.705)
Vertical Constraints sq.				−10.121***		
				(3.476)		
Horizontal Constraints			−1.489***		2.446*	−0.435
			(0.548)		(1.372)	(0.491)
Horizontal Constraints sq.					−3.746***	
					(1.454)	
Vertical Constraints * Horizontal Constraints						−5.513**
						(2.292)
ln Population (lagged)	0.177***	0.188***	0.182***	0.176***	0.186***	0.173***
	(0.047)	(0.046)	(0.047)	(0.045)	(0.050)	(0.048)
ln GDP Per Capita (lagged)	−0.131*	−0.089	−0.094	−0.077	−0.084	−0.095
	(0.075)	(0.081)	(0.081)	(0.075)	(0.077)	(0.078)
Ethnic fractionalization	0.901***	0.921***	1.116***	0.626**	0.800***	0.843***
	(0.330)	(0.327)	(0.324)	(0.312)	(0.307)	(0.306)
Mountainous terrain	0.117**	0.091	0.102*	0.090*	0.087	0.088*
	(0.059)	(0.061)	(0.061)	(0.054)	(0.054)	(0.052)
Neighbouring conflict	0.604***	0.549***	0.607***	0.600***	0.622***	0.596***
	(0.187)	(0.192)	(0.191)	(0.184)	(0.184)	(0.185)
Yr. since conflict	−0.022	−0.022	−0.021	−0.029	−0.032*	−0.035*
	(0.020)	(0.021)	(0.020)	(0.018)	(0.018)	(0.018)
Yr. since conflict sq.	0.000	0.000	0.000	0.000	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Yr. since conflict cb.	−0.000	−0.000	−0.000	−0.000	−0.000	−0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Polity	−0.050**	−0.016	−0.010			
	(0.025)	(0.028)	(0.029)			
Polity sq.	0.004	0.008	0.012**			
	(0.005)	(0.006)	(0.006)			
(Intercept)	−4.817***	−5.118***	−4.846***	−4.870***	−5.162***	−4.575***
	(0.735)	(0.742)	(0.747)	(0.747)	(0.793)	(0.780)
AIC	1443.733	1409.889	1404.358	1659.733	1665.040	1657.397
BIC	1518.909	1491.469	1486.008	1735.229	1740.593	1739.701
Log Likelihood	−710.867	−692.944	−690.179	−818.866	−821.520	−816.698
Deviance	1421.733	1385.889	1380.358	1637.733	1643.040	1633.397
Num. obs.	6865	6623	6662	7068	7104	7035

***$p < 0.01$; **$p < 0.05$; *$p < 0.1$

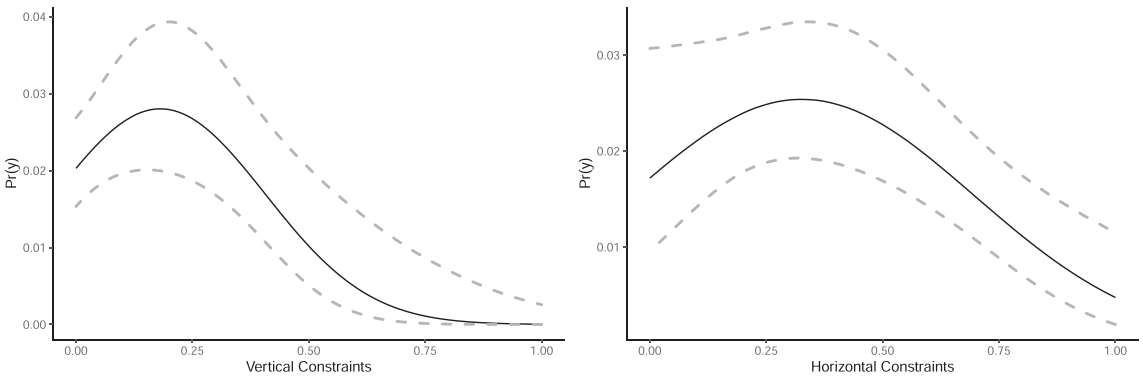
conflict-reducing effect either, except at the very highest levels of HCI.

In Figure 3(b) and (d), we show the corresponding two visualizations for how the effect of HCI is conditional on level of VCI. Stronger horizontal constraints reduce risk of civil conflict even where vertical constraints are relatively weak (though not as VCI approaches 0). Further, the conflict-reducing effect strengthens as vertical constraints improve. For polities with very high vertical constraints and horizontal constraints at the 75th percentile, conflict risk is close to zero. In sum, Figure 3 shows results that are consistent with existing arguments suggesting that mixed regimes are particularly conflict-prone, but also shed new light onto the specific institutional underpinnings behind this relationship.

Yet, even the discussed interaction model may mask more complex, non-linear interactive relationships between VCI and HCI. In the appendix, we present and discuss a version of the logit interaction specification including squared terms for VCI and HCI plus the multiplicative interaction term between HCI and VCI. But, a parametrized logit specification runs into multicolinearity and other issues. Instead, we therefore focus on a GAM model, which is well-suited to capture such more complex relationships. The GAM places no *a priori* restrictions on the relationship between VCI, HCI, and conflict, and allows us to capture even more nuanced patterns in the interactive relationship, including non-linearity in the component terms.[17] The non-parametric interactive relationship emerging from our GAM model is shown in Figure 4. The *y*-axis shows scores on VCI, while the *x*-axis shows HCI scores. The heat colors, ranging from light via yellow to red, indicate the risk of conflict onset for a particular combination of vertical and horizontal constraints; the more red the color, the *lower* the likelihood of conflict.

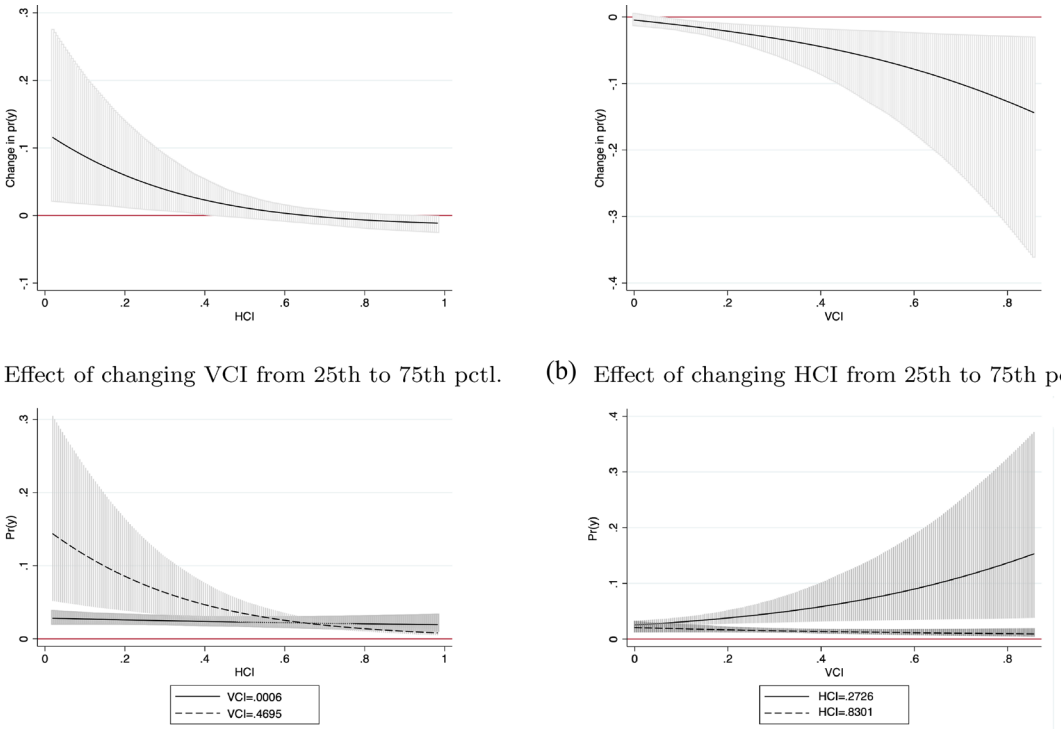
The locations of the observations (black dots) in the figure underscores the strong correlation between VCI and HCI in the post-1946 time period. No observed country has a complete lack of horizontal constraints while simultaneously providing extensive electoral rights to its citizens. However, a few political systems grant fairly extensive electoral rights ($VCI > 0.3$) but fail to strongly constrain the executive ($HCI < 0.4$). Examples include Ecuador and the Dominican Republic in 2015. Indeed, such a combination of

[17]Except for the added flexibility in functional form, our GAM resembles the specification reported in Model 1, Appendix Table A2.



Adjusted Predictions with 95% CIs based on Table 3, Models 4 and 5.

Figure 2 Non-monotonic relationships for VCI (left) and HCI (right) and probability of civil war onset (on both y-axes). *Notes:* Adjusted predictions with 95% confidence intervals based on Table 3 (Models 4 and 5).



(a) Effect of changing VCI from 25th to 75th pctl. (b) Effect of changing HCI from 25th to 75th pctl.

(c) Pred. prob. conflict onset at 25th and 75th pctl. of VCI (d) Pred. prob. conflict onset at 25th and 75th pctl. of HCI

Figure 3 Simulated outcomes of internal armed conflict risk: Change in predicted probability of civil war onset when going from 25th to 75th percentile values in VCI (a) and HCI (b), and predicted probability of civil war onset at 25th and 75th percentile values of VCI (c), across different levels of HCI, and for HCI (d), across different levels of VCI. Notes: VCI, HCI and VCI*HCI vary, and all other variables held at their means. The predicted probabilities are based on Model 6 (Table 3). Graphs constructed using the **intgph** package (Zelner 2009; King, Tomz, and Wittenberg 2000).

popular elections with weakly constrained incumbents is, in our model, associated with high conflict risk.[18]

The highest estimated risk of armed conflict onset (white shade in the interior of the figure) occurs in political systems that score very low on VCI (between 0.1 and 0.2) but moderately low to intermediate on HCI (between 0.3 and 0.5). If we once again consider 2015, examples of such political systems include Angola, Myanmar, and Iran.

If we instead consider the polities that score very low on both VCI and HCI, these include several systems that could be described as relatively consolidated and institutionalised autocracies (Svolik 2012). They include today's North Korea, Eritrea, China, and Belarus. Such polities without strong horizontal constraints and without electoral rights represent an institutional combination associated with a discernibly lower risk of conflict than the more mixed systems discussed above, although these polities are far from being the ones with the lowest conflict risk according to the GAM model.

The lowest estimated risk of conflict belongs to the observations placed towards the right-hand side of the figure. These are systems with strong horizontal constraints,

[18]For illustration, the scatter-plot component of Figure 4 is reproduced as Appendix Figure A1, restricted to the year 2015.

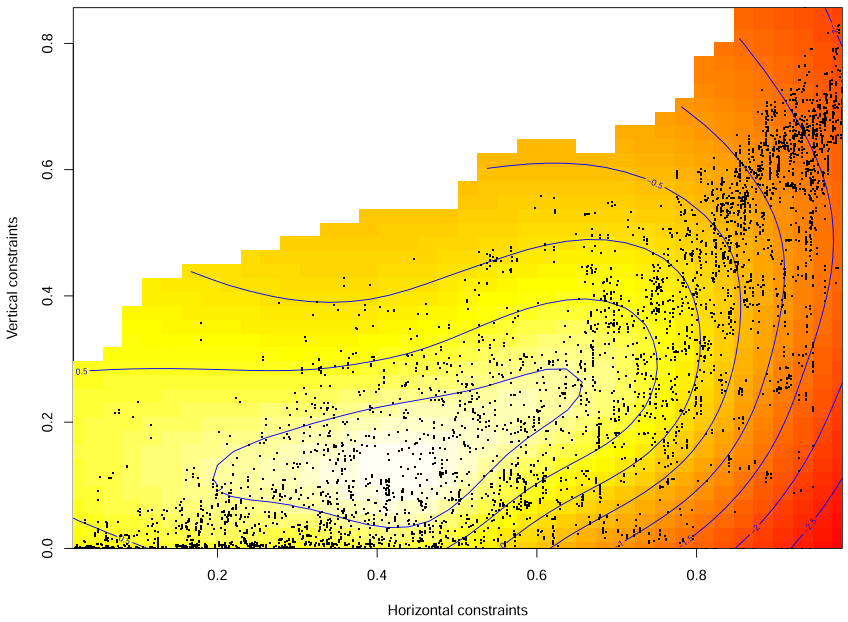


Figure 4 Estimated risk of internal armed conflict as a function of HCI (*x*-axis) and VCI (*y*-axis). Black dots represent the values observed for our observations. Light colors represent high estimated risk, red colors represent low risk. Except for added flexibility in functional form, the GAM resembles the specification reported in Model 1, Appendix Table A2.

and different levels of vertical constraints. Accordingly, the flexible GAM specification suggests that improving electoral rights does not make a big difference to conflict risk in the presence of very strong horizontal constraints. Countries such as current Albania, Bulgaria, and Tunisia have considerable deficiencies in the electoral rights that they grant their citizens, but our model suggests that even substantially improving these rights would not make a big dent in their predicted risks of observing civil war. While the GAM specification suggests that achieving very strong horizontal constraints, in isolation, is key for mitigating conflict risk, we underscore that this prediction—for certain intervals on vertical constraints—is based on relatively few observations.

The most dense cluster of observed political systems is placed in the the upper-right corner of Figure 4. These are the "liberal democracies," which display both extensive electoral rights and strong parliaments and judiciaries able to constrain the chief executive. Although the upper-right corner of Figure 4 does not have the lowest estimated risk of armed conflict onset across the entire spectrum of regimes, this is the low-conflict zone where there currently exists a sizable number of countries. One hundred years ago, it was possible to find countries that approached the lower-right corner of the figure—the United States, the UK, the Netherlands, and Sweden all had extensive horizontal constraints before World War I but a substantial portion of their citizenries lacked electoral rights. Today, Kuwait is the only country that combines a high HCI with low VCI. Among political systems that are typical today, liberal democracies (of the upper-right corner) have the lowest conflict risk.

In sum, the GAM results in Figure 4 corroborate the broader notion—presented in our theoretical argument and supported also by the logit regressions—that there are complementarities betweeen the conduct of free and fair elections and strong parliaments and judiciaries that constrain the chief executive. The GAM results, however, add more nuance as they uncover local patterns specific to particular configurations of constraints. For instance, the theorized complementarity between VCI and HCI in mitigating conflict seems stronger once countries have achieved a certain minimum level of horizontal constraints *but* this complementarity again becomes much less important once a very high level of horizontal constraints is achieved.

Conclusions

Numerous theoretical arguments and existing empirical studies have suggested that "democratic institutions" matter for the likelihood of a country experiencing civil war. Yet, there is far from any consensus among conflict researchers on which particular institutions matter the most for mitigating civil war risk. Whereas different theoretical arguments highlight different aspects of democracy, previous empirical studies have mostly relied on narrow measures of electoral democracy or on composite democracy indices, combining very different institutional features.

Our argument and analysis supports the notion highlighted by Przeworski (1991) that democracy may function as a device for conflict resolution by enhancing the relative benefits of channeling claims through existing institutional channels, and thus making conflict a relatively costly option for political change. However, our argument suggests that this function is dependent on the regime's more specific institutional make-up. Our aim was to assess which particular aspects of democracy matter for reducing the risk of civil war, and how they interact. To this end, we expanded on existing arguments highlighting the importance of institutional devices for ensuring that leaders can make credible commitments to the masses, non-incumbent elites, and other groups. We also made explicit how quite different institutions might mitigate threats from these different groups.

In sum, when considering institutions pertaining to vertical and horizontal constraints on leaders separately, we do find evidence of a negative correlation with conflict for both institutional dimensions, although this relationship is more robust for horizontal constraints (see also Gates et al. 2016). Hence, there are indications that both electoral

institutions, which mitigate credible commitment issues towards the masses (e.g., Acemoglu and Robinson 2006), but especially parliamentary and judicial constraints on leader behavior, which may be crucial to mitigate credible commitment issues to non-incumbent elites (e.g., Svolik 2012) and other (e.g., ethnic minority) groups, contribute to ensuring domestic peace.

Still, the most intriguing finding from our analysis relates to the interaction between these different types of institutional constraints. Vertical- and horizontal constraints (mostly) complement each other in mitigating conflict risk, although some results suggest that this interaction effect depends on the more specific levels of vertical and horizontal constraints under consideration. The more nuanced results suggest, for instance, that when horizontal institutional constraints from a capable parliament or independent judiciary are lacking, improvements to electoral institutions do not mitigate the risk of civil war. But, with moderately strong horizontal constraints, improving vertical constraints from moderate to high levels strongly reduces conflict risk.

Finally, one clear result, which holds across different model specifications, is that liberal democracies, where strong vertical constraints on leaders from an empowered electorate co-exist with strong horizontal constraints, have a very low risk of experiencing civil war onset. Horizontal and vertical constraints thus have important synergy effects. Only when horizontal constraints limit the potential for executives to undermine the electoral (and other) rights of different population groups, do these groups perceive of their rights as guaranteed and the possibility to gain power through nonviolent means in the future as probable. When non-incumbent elite groups and the wider population are thus allowed to take a longer time horizon and trust that they can have continued influence under the current rules, they are far less likely to use violent means to overthrow the present incumbent and alter the regime.

Supplementary Information

Replication materials and the Online Appendix can be found at the *International Studies Quarterly* data archive.

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