Structural Position in the Global Economy

and Major Episodes of Civil Violence, 1970 to 2018

by

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ABSTRACT

This study draws on world-systems theory to generate new explanations for the uneven patterns of civil violence found in the world today. A large and well-developed literature shows that low-income countries with stagnant economies and undemocratic political systems are the most susceptible to outbreaks of civil violence. This literature, however, fails to consider how countries are positioned relative to the structures of global capitalism. By contrast, world-systems theory has long emphasized that a country's position within the international division of labor shapes many of its domestic outcomes, including those related to development and democratization. Combining these two literatures suggests that "world-system position" generates direct and indirect effects on civil violence, with the indirect effects being mediated by development, democratization, and related factors. Drawing on a sample of 152 countries observed from 1970 to 2018 and using high-quality data that tracks major incidences of civil violence around the world, the study finds compelling evidence that non-core countries are considerably more prone to civil violence than core countries, and that this gap is expanding not contracting over time. These results are robust to alternative measures of world-system position and various model specifications.

Keywords: civil violence, world-systems theory, development, globalization

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INTRODUCTION

Major episodes of armed conflict between domestic adversaries can arise anywhere in the world, but considerable evidence suggests that it mainly occurs in countries with struggling economies and undemocratic political systems. Indeed, a large and well-developed literature spanning the social sciences reaches this very conclusion. It focuses on the internal structures of countries and how particular deficiencies can make affected countries prone to civil conflict (e.g., Collier and Hoeffler 1998, 2004; Flanigan and Fogelman 1970; Hegre et al. 2001; Hibbs 1973; Muller and Weede 1990). These findings are largely interpreted from a rational-choice perspective, with the argument being that these structural conditions create persistent grievances with the status quo, lower the "opportunity costs" associated with conflict, and leave would-be combatants with limited avenues for peaceful redress. Under such conditions, the risk of civil violence is surely high. Presently, more than 20 countries are experiencing major civil conflicts—including Afghanistan, Libya, Nigeria, the Philippines, Syria, Ukraine, and Venezuela (Marshall 2020)—and nearly all of them fit this general explanation for civil violence.

By contrast, world-systems theory offers an alternative and potentially fruitful perspective on the causes of civil violence. From its inception, world-systems theory has emphasized external structures linking individual countries to world-spanning economic processes. As originally conceptualized by Wallerstein (1974a, 1974b), the capitalist world economy is depicted as hierarchically ordered and bound together by a core-periphery tendency in its division of labor. It originated in Europe in prior centuries and gradually expanded outwards, incorporating new regions into its orbit. The newly incorporated regions, however, underwent a process of "peripheralization," meaning their economies were gradually transformed to specialize in the production of commodities and basic foodstuffs for export to world markets (Wallerstein 1989/2011: Chapter 3). This, in turn, allowed core areas to specialize in high value-added economic activities. Trade has long tied the core and the periphery together, creating clear interdependencies, but it purportedly

reproduces inequalities because it entails an exchange of high value-added products from the core for low value-added products from the periphery.

Indeed, a country's position in the world-system explains a range of important cross-national outcomes. These include observed differences in economic growth (Clark 2010; Mahutga and Smith 2011; Snyder and Kick 1979; Van Rossem 1996), democratization (Clark 2012; Wejnert 2005), income inequality (Lee et al., 2007; Mahutga, Kwon, and Grainger 2011), levels of economic output (Babones 2005; Karataşlı 2017), air pollution (Grant et al., 2018; Mejia 2020), and ecological damage (Jorgenson 2003; Rice 2007). Likewise, and more germane to my study, dependency/world-systems perspectives have been used to explain the occurrence of violent political rebellions (see Boswell and Dixon 1990; London and Robinson 1989; Moaddel 1994; Timberlake and Williams 1987; see also Kick 1980), but these are cross-sectional studies with limited sample sizes and outdated measures of civil violence (note 1). To move this literature forward, I build on this broad macro-sociological perspective to assess the degree to which a country's "world-system position" shapes its propensity toward civil violence.

My study's main theoretical contribution is achieved by merging insights from world-systems theory and dominant explanations for civil violence. As one of its hallmarks, world-systems theory emphasizes long sweeps of history in which social processes and structures develop, the so-called *longue durée*. In terms of my study, this perspective suggests a causal sequence in which a country's world-system position emerges from deep-rooted historical processes, and in turn, shapes many of its domestic structures. In particular, this view is supported by research showing that world-system position affects the likelihood of democratic governance (Clark 2012; Wejnert 2005), levels of economic output (Babones 2005; Karataşlı 2017), and rates of economic growth (Clark 2010; Mahutga and Smith 2011; Snyder and Kick 1979). However, these same factors are the key explanatory variables in the dominant explanation for civil violence (Collier and Hoeffler 1998, 2004; Flanigan and Fogelman 1970; Hegre et al. 2001; Hibbs 1973; Muller and Weede 1990). Hence, drawing these two literatures together suggests that world-system position generates direct and indirect effects on civil violence, with the indirect effects being

mediated by its influence over development and democratization occurring at the national level. In sum, this perspective suggests that, although the periphery is comprised of sovereign states, free to chart their own courses of development, their historical experience of peripheralization ostensibly leaves them with underperforming domestic structures. This, in turn, makes them especially prone to outbreaks of civil violence.

As its primary aim, this study seeks to develop and test my proposed world-systems explanation for the uneven patterns of civil violence found in the world today. The empirical evidence comes from the *Major Episodes of Political Violence (MEPV)* database developed by the Center for Systematic Peace (CSP) (Marshall 2019). The CSP/MEPV tracks and records "major episodes of political violence," which it defines as the "systematic and sustained use of lethal violence," perpetrated by organized domestic groups and resulting in at least 500 deaths over the duration of the potentially multi-year conflict. With this data, I chart occurrences of civil violence across an extensive sample of countries from 1970 to 2018. My sample includes all countries recognized by the United Nations in 2018, except those with populations less than one million people at that time. Additionally, I use five prominent measures of world-system position to create a new composite index of core, semiperiphery, and periphery, as well as a new continuous core/periphery measure. Hopefully, this composite measure will prove useful to research beyond the present study.

With this data, I use panel regression models to predict the occurrence of civil violence across my sample. However, this is not straightforward because the hypothesized causal sequence clearly implies the presence of selection bias (i.e., post-treatment bias) (see Dworschak forthcoming; Elwert and Winship 2014). This complication arises when a key explanatory variable affects not only the outcome of interest, but also other covariates in the model. Since these "post-treatment" covariates temporally follow the main explanatory variable in the causal sequence, they are endogenous and should not be treated as standard control variables. Taking this methodological complication into account, I follow recent advice on estimating parameters in the presence of selection bias (Dworschak forthcoming). To my

knowledge, this is the first world-systems study to consider the possibility of selection bias, even though the complication seems endemic to studies using world-system position as an explanatory variable. Importantly, my regression models provide convincing evidence that non-core countries are considerably more likely than core countries to experience outbreaks of civil violence, and that the gap between a relatively peaceful core and more conflict-prone non-core is expanding not contracting over time. These broad substantive conclusions are robust to alternative measures of world-system position and various model specifications.

LITERATURE REVIEW

Peripheralization and Underdevelopment

Dependency and world-systems theories emphasize that non-core countries have long occupied disadvantaged positions within the global economy (Frank 1966; Galtung 1971; Wallerstein 1974a, 1974b, 1974c, 1989/2011). A shared view is that the development process did not occur endogenously in these countries but was imposed by external forces, an idea ignored by modernization theory (e.g., Rostow 1960). For dependency theory, the imposition of development primarily happened through political domination, in particular through colonialism or imperialism (Frank 1969; Galtung 1971). For world-systems theory, it primarily happened through market forces, with a European-centric economy geographically expanding outwards and incorporating new regions into its orbit (Wallerstein 1989/2011: Chapter 3). Nonetheless, whether resulting from political domination or from market forces, the resulting economic structures have long impeded development in non-core societies, causing them to enter the modern era in disadvantaged positions relative to the core.

In his account of this phenomenon, Wallerstein (1989/2011: xv-xvi, Chapter 3) emphasizes how newly incorporated regions underwent a process of "peripheralization." This refers to the gradual transformation of non-core economies caused by their integration into world markets, leaving them to specialize in a narrow range of economic activities, such as the production of basic foodstuffs and the extraction of raw materials, where previously their economies were more

complex and self-sustaining. This economic transformation also affected the state-machinery of newly incorporated regions, leaving them with weak and ineffective states relative to the core. Importantly, although these processes originated in prior centuries, their legacy is thought to influence societal outcomes in the present era, leaving non-core regions with limited opportunities for development (see especially Wallerstein 1974c).

World-system position is a key concept in this theoretical framework. As conceptualized by Wallerstein (1974a, 1974b), the world economy has three zones (core, semiperiphery, and periphery). These zones arise from the international division of labor and its tendency for the most profitable activities to occur in the core and the least profitable activities in the periphery. Trade ties the zones together, creating worldwide interdependencies, but it also reproduces existing inequalities because it entails an exchange of high value-added products from the core for low value-added products from the periphery (see Kollmeyer 2009). There is also an intermediate zone, the semiperiphery, which is advantaged relative to the periphery but disadvantaged relative to the core.

Movement between these zones is possible, especially over long durations, but wholesale change is limited (Wallerstein 1974a, 1974b). In this way, stratification in the world-system remains relatively static over long durations, even though capitalist economies are inherently dynamic (Karataşlı 2017). On this point, Arrighi and colleagues (2003) demonstrate that the drive for industrialization in non-core countries was largely achieved, at least in terms of output and employment, but living standards did not converge as suggested by modernization theory (Rostow 1960). The reason for the continued inequality, they explain, is that basic industrial production has become a low value-added activity, with limited potential for large profits and high wages.

This is not to say that these historical constraints are insurmountable. Clearly, global trade networks have become more complex (Kim and Shin 2002), and some non-core countries are enjoying sustained growth, especially when the state plays a constructive role in the economy (Evans 1995). Additionally, it appears that the

terms of trade are improving for many non-core countries (Clark and Cason 2015). For these reasons, some scholars view contemporary globalization as offering a credible path towards development (Cohen 2003; Wade 2000). Importantly, these trends suggest the possibility of convergence, which for my study would manifest as non-core countries slowly becoming more peaceful over time, such that they eventually resemble core countries in this manner. Indeed, this is occurring in terms of democratization (see Clark 2012; Wejnert 2005), but it is unclear whether similar trends are happening for civil violence. Nevertheless, it is my contention that a country's historical position in the global economy, even as it manifests in the late-20th century, still affects many of its societal outcomes, including its propensity toward civil violence.

World-systems theory identifies three aspects of the core-periphery distinction that should influence global patterns of civil violence in predictable ways (Wallerstein 1974b: Chapter 7, 2006: Chapter 3). (1) Due to structural inequalities in the international division of labor and concomitant inequalities in core-periphery trade, economic development is considerably higher in the core than the periphery. As pointed out by mainstream scholars, countries with low levels of development are particularly prone to outbreaks of civil violence (e.g., Collier and Hoeffler 2004). (2) Given these material differences, state structures tend to be strong in the core but weak in the periphery. By strong state-structures, Wallerstein means not only the strength of states relative to other states, but also their internal capacities. In this latter regard, strong states are characterized by large and effective civil bureaucracies, led by competent and well-trained state managers, which give them the ability to solve problems, to coordinate action across society, and to broker and enforce compromises among competing local actors. In the periphery, state-structures are generally weak, with state managers often being ineffective and corrupt and civil bureaucracies often lacking the capacity to implement policies. (3) Core states typically enjoy legitimate authority, as they supposedly act in the name of their citizens, who are relatively well "integrated" into a widely embraced national culture. By contrast, peripheral states can find their authority challenged by other powerful groups within societies (e.g., warlords, elite families, local chieftains, religious leaders, etc.), and peripheral states may receive less cooperation and

deference from citizens who are weakly integrated into a national culture. Combined, these differences in the effectiveness and legitimacy of the state, and the degree of integration of the citizenry, should help explain core-periphery differences in the propensity for civil violence.

My argument follows prior sociological research, which suggests that dependency and peripheralization heighten incidences of violent political rebellion in non-core countries (Boswell and ixon 1990; London and Robinson 1989; Kick 1980; Moaddel 1994; Timberlake and Williams 1987). Broadly speaking, this line of research identifies inequality in core-periphery relations as causing various socio-economic and political problems in non-core countries, leaving them more susceptible to civil violence. This purportedly happens through several mechanisms, such as heightening income inequality, slowing economic growth, entrenching domestic elites, and encouraging state-sanctioned repression. Societies with these characteristics become prone to rebellions of various sorts, especially if domestic elites eschew compromise and redistribution.

Development, Democracy, and Related Factors

The social science literature contains several well-established explanations for the occurrence of civil violence. One framework, which encompasses complimentary studies on development and democracy, puts forward the combined view that poor countries with stagnant economies and unresponsive political systems are the most susceptible to civil conflict. Several studies find that GDP per capita and economic growth negatively correlate with incidences of civil violence (Collier and Hoeffler 2004; Hibbs 1973; Muller and Weede 1990). These economic conditions purportedly create strong grievances with the status quo and lower the "opportunity costs" associated with conflict. Theoretically, this implies that economic deprivation heightens the incentives but lowers the constraints for violence, creating societies where aggrieved groups may rationally choose armed conflict as a route toward redress.

Political institutions are also important. Democracy should lessen the risk of civil violence, because it provides an institutional means by which citizens can redress grievances and rival groups can forge compromises, and because it lessens the state's capacity for repression (Hegre 2014). By contrast, when citizens and social groups are denied political rights, they may eschew peaceful actions in favor of armed rebellion. In this way, non-democratic regimes should experience more civil violence than democratic regimes. However, there is an important caveat. Autocratic regimes often possess the ability and willingness to curb dissent, enabling them to enforce peace through repression. Indeed, a range of studies suggest that the relationship between democracy and civil peace is curvilinear, with the preponderance of violence occurring in regimes that are neither fully autocratic nor fully democratic (Fein 1995; Hegre et al. 2001; Muller 1985; Muller and Weede 1990).

Several scholars argue that petrostates are prone to civil violence for several reasons (Colgan 2015; Fearon and Laitin 2003; Ross 2012). One issue is that these countries often become rentier societies, controlled by corrupt and enriched elites. Another issue is that oil and gas industry is a centralized asset, which can be commandeered by armed rebel groups, giving them the means to fund insurgencies. Additionally, the oil and gas sector often crowds out other parts of the economy, causing the overall economy to underperform. In this way, the levels of development in petrostates are usually lower than their GDP per capita would otherwise suggests. However, some petrostates have become stable autocracies, with long histories of civil peace (Colgan 2015). Thus, a broad pattern emerges in which petrostates are prone to civil violence, but this effect is muted by some stable autocracies.

Finally, the relationship between ethnic diversity and civil conflict is debated (cf. Collier and Hoeffler 2004; Fearon and Laitin 2003; Muller 1985). When processes of exclusion or exploitation run along ethnic lines, ethnic divisions can prompt civil conflict, in part by facilitating the intra-ethnic mobilization of combatants and their supporters (Collier and Hoeffler 2004). However, the overall effect may be limited. Evidence suggests that ethnic fractionalization prolongs civil violence but does not

instigate it (see Fearon and Laitin 2003; Fearon 2005).

Temporal Dependence and Dynamic Effects

Another explanatory framework highlights the path-dependent and self-reinforcing nature of armed civil conflicts (note 2). It is clear that some countries experience multiple episodes of civil violence while others remain peaceful over the same period. In both cases, these patterns reflect self-reinforcing trajectories in which prior outbreaks of violence (or periods of peace) create the conditions for further violence (or continued peace). For post-conflict societies in particular, violence often reoccurs because factors contributing to the previous conflict are unresolved (e.g., old grievances still linger). In turn, these conditions lower the chances for sustained peace, thereby trapping some countries in cycles of conflict.

This phenomenon constitutes a path or temporal dependency. For many social phenomena, including civil violence, the passage of time since the last event is a strong predictor of the event under consideration (Beck, Katz, and Tucker 1998; Kavanagh 2013; Oneal and Russett 1999). In the context of civil violence, temporal dependence highlights the potential for conflict in the past to heighten the potential for conflict in the present, with the effect typically waning as the years of peace increase. Indeed, several empirical studies confirm this phenomenon (Collier and Hoeffler 2004; Walter 2004), but sociological studies of violent political rebellion have not considered this possibility (see, e.g., Boswell and Dixon 1990; London and Robinson 1989; Moaddel 1994; Muller 1985; Timberlake and Williams 1987).

Similarly, short-term dynamics are important. Civil conflicts are complex and dynamic (Millar 2020) and often unleash social forces that propel them into the future. A common problem is that civil violence generates new grievances, creates counter mobilizations, builds up weapons caches, and forges militaristic cultures, all of which can sustain civil violence once it begins (Crenshaw & Robison, 2010: 242). Hence, once conflict begins, affected countries face high odds that the conflict will continue into the following year. Prior sociological research on violent political rebellion controls for this factor with a lagged dependent variable (see Boswell and

Dixon 1990; London and Robinson 1989; Muller 1985; Timberlake and Williams 1987; see also White 1993). Likewise, I follow this approach in my models.

Links Between World-System Position and Civil Violence

Figure 1 offers a concise model of world-system position's effect on civil violence. World-system theory clearly suggests a causal sequence in which a country's world-system position emerges from a long historical process, and in turn, shapes many of its domestic structures, including those related to development and democratization. This view is supported by research showing that world-system position affects forms of governance (Clark 2012; Wejnert 2005), levels of economic output (Babones 2005; Karataşlı 2017), and rates of economic growth (Clark 2010; Mahutga and Smith 2011; Snyder and Kick 1979). However, a parallel literature portrays these same domestic factors as the main determinants of civil violence (Collier and Hoeffler 1998, 2004; Flanigan and Fogelman 1970; Hegre et al. 2001; Hibbs 1973; Muller and Weede 1990). By drawing these two literatures together, we can conceptualize world-system position as generating direct and indirect effects on civil violence, with the indirect effects being mediated by development and democratization. However, as discussed below, the statistical modelling strategy must account for this causal sequence.

DATA AND METHODS

Sample

This study uses an extensive sample of the world's countries to examine the relationship between world-system position and the occurrence of armed civil conflict. The sample includes all countries recognized by the United Nations in 2018, except for those with populations less than one million people at that time. Countries are observed annually from 1970 to 2018, with new countries, such as those arising from the break-up of the Soviet Union, entering the sample when they become independent. The resulting 152 countries, along with their attendant world-system position, are shown in the appendix (see Table A1) (note 3). However, for the regression models, the number of countries is reduced to 146 due to missing data for some independent variables (note 4).

Selection Bias

Social science research based on observational data is prone to various sorts of selection bias (Ebbinghaus 2005; King et al. 1994: Chapter 4). In macro-comparative research, this problem is endemic in several ways. One major problem is that the countries being studied have already been pre-sorted into key explanatory categories by unobserved historical processes. For my study, this means that the allocation of countries into different world-system positions is an endogenous rather than random process. More troublingly, macro-comparative research often encounters instances in which the key explanatory variable, i.e. the "treatment" variable in the language of causal analysis, influences not only the outcome of interest, but also other explanatory variables (see Dworschak forthcoming; Elwert and Winship 2014). Importantly, since these "post-treatment" covariates temporally follow the main explanatory variable in the causal sequence, they are endogenous and should not be treated as standard control variables.

Indeed, this scenario seems germane to my study because the causal links between world-system position and civil violence is partially mediated by development and democratization. Ideally, these covariates could be included in a full regression model, giving me estimates of the direct and indirect effects of world-system position on civil violence and allowing me to attribute these effects to those associated with world-systems theory and those associated with the alternative perspectives. However, using post-treatment covariates as control variables biases the estimates of the total effects (i.e., causes "post-treatment bias"). Nonetheless, this issue is largely ignored by peace and conflict scholars (Dworschak forthcoming) and similarly sidestepped by the literature on world-system position and its effect on domestic outcomes.

How can this problem be overcome? When presented with this causal scenario, untangling the direct and indirect effects becomes complex if not impossible. Instrumental variable regression is one possibility. Here the direct and indirect causal paths are treated as separate but simultaneous equations. But finding suitable instrumental variables is difficult. Faced with this scenario, Dworschak (forthcoming) recommends a far simpler approach, namely abandoning attempts to

untangle direct and indirect effects in favor of estimating only the total effects. For my study, this entails regressing civil violence on world-system position, while including the standard control variables but excluding the post-treatment covariates. As discussed below, to implement this estimation strategy, one must distinguish between the standard control variables and the post-treatment covariates.

Measuring Civil Violence

The study's outcome of interest is civil violence. Its measure comes from the *Major Episodes of Political Violence (MEPV)* database developed by the Center for Systematic Peace (CSP) (Marshall 2019). The CSP/MEPV tracks and records "major episodes of political violence," which it defines as the "systematic and sustained use of lethal violence," perpetrated by organized domestic groups and resulting in at least 500 deaths (including combatants and non-combatants). There is no minimum number of annual fatalities, as long as the whole multi-year conflict reaches the 500-deaths threshold. In particular, I use the *CIVTOT* variable, which measures the entire range of intra-societal conflicts but excludes conflicts between states. It is coded along an 11-point scale, ranging from 0 (no major incidence of civic violence) to 10 (systematic and indiscriminate destruction of society). I recode this variable into a dummy variable, with 1 being country-years experiencing civil violence (at any level of intensity) and 0 being country-years with no civil violence. For a robustness test, I rerun my models using the 11-point scale. The substantive results are unchanged.

Measuring World-System Position

The study's treatment variable is world-system position. The world-systems literature depicts the capitalist world economy as hierarchically ordered and comprised of discrete zones, but the precise grouping of countries and the number of distinct zones varies among researchers (cf. Babones 2005; Bollen and Appold 1993; Chase-Dunn, et al. 2000; Kentor 2000; Mahutga and Smith 2011; Smith and White 1992; Snyder and Kick 1979; Van Rossem 1996). Wallerstein's conceptualization of world-system position is well-known, but he never developed an empirical measure of it. Instead, Snyder and Kick (1979) constructed an early and

influential categorization of countries by world-system position. Using data from the mid-1960s, they measured world-system position using data on trading networks, military interventions, diplomatic ties, and treaty memberships. This was later updated by Bollen and Appold (1993), resulting in what some call the "orthodox" measure of world-system position (see also Van Rossem 1996). Commonly, these measures equate world-system position with a country's position in the international division of labor (captured via trading patterns) and the external power of its state (captured via military and diplomatic strength).

Other measures emphasize the international division of labor (Clark and Beckfield 2009; Clark 2013; Mahutga and Smith 2011; Smith and White 1992). In particular, Mahutga and Smith (2011) use network analysis to identify the position of countries within the international division on labor. Extending work by Smith and White (1992), their trade data assesses not just the quantity of trade but its content, thereby allowing them to estimate the technological sophistication of goods traded on global markets. This measure covers the years 1965, 1980, and 2000, and categorizes 94 countries into six zones, ranging from the core to the weakest periphery. Similarly, Clark and Beckfield (2009) conduct a network analysis of trade data, but unlike Mahutga and Smith (2011), their trade data cannot disaggregate the types of traded goods. This gives them a larger sample size, as most countries have general trade data, but they miss a key characteristic of world-system position (i.e., the value-added content of the goods traded). Later, this measure was updated to include more countries and more time periods (Clark 2013).

[Insert Table 1 about here]

Given the lack of consensus on how to measure world-system position, I create a composite index derived from five extant measures shown in Table 1. Crucially, these are prominent measures, which combined, fully capture the dimensions thought to underpin world-system position. Some well-known measures, however, are not included. For instance, Babones (2005) and Kentor (2000) are excluded because both use national income in their estimates of world-system position. This conflicts with my regression models, which already use GDP per capita to measure

development levels. Hence, the five measures included in my composite index represent the breadth of extant measures, but they also meet the practical needs of my study.

My composite index is constructed through the following steps. First, for each country, I assign numeric scores representing its world-system position as adjudged by each measure shown in Table 1. The coding is 1 = core, 2 = semiperiphery, and 3 = periphery. For measures with more than three zones, I assign mid-point scores (e.g., 1.5 for the "core-contenders" identified by Mahutga and Smith (2011)). Similarly, for measures with multiple time periods, I take the average scores. Once complete, this coding process leaves many countries with five assigned scores, but no country with fewer than two assigned scores. Second, I treat the assigned scores as interval-ratio data and calculate the average value for each country. Since the arithmetic mean is unaffected by missing observations, the uneven coverage of my data does not skew these calculations. Finally, the mean scores are rounded to the nearest whole number and world-system position are assigned as mentioned above (i.e., 1 = core, 2 = semiperiphery, and 3 = periphery). As shown in the appendix (see Table A1), this results in a time-invariant measure of core, semiperiphery, and periphery for each of the 152 countries in my sample. I also develop a continuous measure of world-system position by leaving the mean scores as decimals rather than rounding to the nearest whole number. This measure ranges from 1 to 3, with higher scores representing a more peripheral position in the global economy.

Measuring Post-Treatment Covariates

Several variables are treated as post-treatment covariates because they temporally follow world-system position in the causal sequence. *GDP per capita (log)* controls for economic development and general living standards. The expectation is that wealthy countries are less prone to civil violence, because fewer grievances arise among affluent populations and because conflict imposes higher opportunity costs on wealthier societies (Collier and Hoeffler 2004; Hibbs 1973). The measure is adjusted for inflation and purchasing power parity and logged to account for non-linear effects. *Economic growth* should also reduce the likelihood of civil conflict, but now by imposing higher opportunity costs via better employment opportunities

(Collier and Hoeffler 2004; Hibbs 1973; Muller and Weede 1990). The data for both variables come from the Penn World Table (Feenstra, Inklaar and Timmer 2019).

Other variables capture salient political characteristics. The Polity IV Project gauges the "authority characteristics" of the world's countries, giving each an annual score ranging from -10 for complete autocratic rule to 10 for complete democratic rule (Marshall, Gurr, and Jaggers 2019). I recode this data into four mutually exclusive dummy variables: *autocracy* (-10 to -6), *partial autocracy* (-5 to -1), *partial democracy* (0 to 5), and *democracy* (6 to 10). This allows for non-linear effects in which democracy may not be the only political form associated with low levels of civil violence (see Fein 1995; Hegre et al. 2001; Muller 1985; Muller and Weede 1990; Regan and Henderson 2002). *Petrostates* is a dummy variable identifying countries with an over-reliance on the oil and gas industry (data from Cheatham and Labrador 2021). These countries are thought to be prone to civil violence for various reasons. *Socialist or post-socialist* countries is a dummy variable (data from CIA 2021), with the expectation that these states are less prone to civil violence because class conflict is reduced and their economies may have greater independence from the capitalist world-system. *Ethnic fractionalization* is considered but dropped due to missing data (note 5).

Measuring Control Variables

For my study, standard control variables are those covariates that influence civil violence but are not shaped by world-system position. *Population size (log)* is important in this regard. Clearly, historically contingent processes shaped the formation of national borders, creating countries with considerably different population sizes (Ebbinghaus 2005). This affects my study because larger countries face higher odds of experiencing civil violence simply due to their size. For instance, if the European Union (EU) was a single country, it would be coded as experiencing civil violence during the decades-long "troubles" in Northern Ireland, even though all other parts of the EU were peaceful. Data on population size come from the Penn World Table (Feenstra, Inklaar and Timmer 2019). Similarly, the Cold War is another historically contingent event. During this period, the Soviet Union and the United States provided military support to ideologically aligned combatants in then-

called Third World. In this way, the Cold War increased the likelihood of civil violence in non-core countries. The *Cold War* is a dummy variable coded "1" for years less than 1991.

Two variables control for short-term dynamics and long-term temporal dependence. Regarding the latter, *years of peace* controls for the number of years since the last major civil conflict. It is calculated from the MEPV data starting from 1960. Conceptually, it captures the historic propensity of societies to experience civil conflict, and for post-conflict societies in particular, the gradual reduction in old grievances and eradication of weapons caches and martial skills (Collier and Hoeffler 2004). Its relationship with civil conflict should be negative, indicating that the chances of conflict are highest immediately following a prior conflict and then wane over time. Similarly, short-term dynamics are captured by a lagged dependent variable (*civil violence (t-1))*. This gauges the presence or absence of civil conflict in the prior year, and therefore controls for the propensity of civil conflicts to propel themselves into subsequent years.

Statistical Estimation

My estimation strategy follows standard modeling techniques used to study civil conflict when the dependent variable is dichotomous and the data exhibit a panel structure (see Collier and Hoeffler 2004; Fearon 2005; Fearon and Laitin 2003. Mihalache-O'Keef 2018; Walter 2004). Following this literature, I employ logistic regression analysis coupled with robust standard errors clustered on country. This latter step mitigates against heteroskedasticity and serial correlation in the error terms. I also include *years of peace* (expressed as a cubic polynomial) to account for temporal dependence in the data, which can cause problems for logistic regression (Carter and Signorino, 2010; see also Beck, Katz, Tucker 1998). This control variable, however, is also theoretically important as explained above.

Additionally, my models guard against spurious regression generated by non-stationarity (Box-Steffensmeier 2014:125-149). Especially when the temporal dimension in panel data is lengthy, annual observations can trend over time rather than vary randomly. This creates the potential for "spurious regression," a situation

in which statistically significant findings reflect shared time trends among variables rather than underlying causal relationships. To safeguard against this possibility, I include a time-trend variable (i.e., t = 1, 2, 3... n) as a regressor.

Furthermore, I capture short-term dynamic effects by including a lagged dependent variable (LDV) as a right-hand-side regressor (Box-Steffensmeier et al. 2014: Chapter 3). This helps to control for serial correlation, but more importantly accounts for the strong propensity for last year's violence to influence the present year's violence. However, given that this variable partially overlaps with *years of peace*, and given that some researchers worry that LDVs absorb too much variance (possibly under-estimating the effects arising from other regressors), I experiment with this variable. However, its inclusion improves model fix without altering the substantive conclusions nor the estimates of the other covariates.

Finally, I assess the possibility of multicollinearity but only find acceptable levels (note 6).

RESULTS

Descriptive Analysis

The analysis begins by presenting descriptive statistics of the frequency of armed civil conflict in the core, semiperiphery, and periphery. It also documents, by world-system position, levels of development, democracy, and related factors. The expectation is that world-system position not only structures the patterns of civil violence, but also these national-level covariates. In this way, world-system position should generate indirect effects on the propensity for civil violence, which are mediated by these domestic factors.

Table 2 shows the frequency of civil violence by world-system position. Over the sample period, core countries experienced civil conflicts in 4.1 percent of years observed, while the semiperiphery and periphery experienced civil conflicts in 22.5 and 23.4 percent of these years, respectively. This means that civil violence occurs approximately 5-times more often in non-core countries than core countries. This initial evidence suggests that world-system position does indeed structure the

likelihood of civil violence occurring around the world, but that the main difference appears to be between core and non-core countries.

[Insert Table 2 and 3 about here]

Table 3 shows the sample averages for the covariates of civil violence. These factors vary significantly by world-system position, with core countries having many societal characteristics associated with civil peace. On average, core countries have much higher national incomes than non-core countries, about two-times higher than the semiperiphery and about four-time higher than the periphery. Core countries are also significantly more likely to be governed democratically, with the core being democracies for 99.1 percent of the years observed, as compared to 59.9 percent for the semiperiphery and 28.1 percent for the periphery. (Spain in the 1970s is the core's only non-democracy.) Similarly, the petrostate phenomenon is non-existent in the core, but effects 16.4 percent and 12.9 percent of the semiperiphery and periphery, respectively. Core countries also have longer durations of peace, with their sample average being 30.1 years of continuous peace, but only 18.3 years and 15.7 years for the semiperiphery and periphery, respectively. However, non-core countries exhibit two factors associated with peaceful societies— higher rates of economic growth and more socialist or post-socialist societies.

In sum, Tables 2 and 3 confirm two important points. On one hand, civil conflict occurs much less frequently in the core than the semiperiphery and the periphery. On the other hand, non-core countries have many societal characteristics that make them prone to civil violence (i.e., lower levels of development, less democratic governance, etc.). Ideally, I could assess the possibility that high levels of civil violence in non-core countries reflect these societal characteristics rather than their world-system position. This would entail using these covariates as control variables in regression models. However, this would result in post-treatment bias because world-system position precedes these factors in the causal sequence.

Panel Regression Analysis

Table 4 reports the results from logistic regression models. Model 1 is a bivariate

model in which world-system position is the sole predictor of civil violence. Given the lack of control variables, these results can be interpreted as raw/unadjusted odds ratios depicting the actual chance of civil violence by world-system position. As expected, these odds ratios are large. Compared to the core, civil conflict is 6.8 times more likely to occur in the periphery and 7.0 times more likely to occur in the semiperiphery. These are substantial differences, but the estimates do not account for standard control variables including population size.

[Insert Table 4 about here]

The next model introduces two standard control variables. Due to historically contingent processes, countries around the world vary massively in terms of their population sizes, with some semiperiphery countries being considerably larger than the world average. These stark differences must be considered, because as discussed above, large countries face higher chances for civil violence simply due to their large populations. Similarly, the Cold War prompted a series of proxy wars between the Soviet Union and the United States, some of which spurred civil conflicts in non-core countries. The end of the Cold War, hence, should herald a more peace era in non-core countries. To assess both possibilities, and hence to give us a clearer look at the effect of world-system position on civil violence, these two standard control variables are included.

With this in mind, Model 2 introduces measures of population size and Cold-War years. As expected, the odds ratios for *population size (log)* is positive and statistically significant (OR = 3.24***), suggesting that larger countries are indeed more prone to civil violence than comparable small countries. Similarly, the odds ratios for *Cold War* is positive and statistically significant (OR = 2.09**), again suggesting that the Cold War heightened civil violence in noticeable ways. More importantly, however, the adjusted odds ratios for the world-systems positions now indicate that, after controlling for population size and the Cold War, the likelihood of civil violence occurring in the periphery is significantly higher. Compared to the core, civil conflict is now 18.7 times more likely in the periphery but only 6.6 times more likely in the semiperiphery. These disparate outcomes reflect the small

population size of many peripheral countries, which makes them less prone to experience outbreaks of civil violence within their borders. Once this is accounted for, their susceptibility to violence increases.

Next, Model 3 introduces controls for short-term dynamics and long-term temporal dependence. The inclusion of the LDV, *civil violence (t-1)*, captures the presence or absence of civil conflict in the prior year. This is an important control because civil conflicts can last for years (Crenshaw & Robison, 2010: 242). If a multi-year conflict is occurring but goes unmeasured, regression models may overstate the effects of the other regressors. As expected, the odds ratio for *civil violence (t-1)* is very large and highly significant (OR = 139.2***). Similarly, the inclusion of *years of peace* accounts for the path-dependent nature of peace and conflict, whereby peaceful countries typically remain at peace but post-conflict countries typically remain prone to violence. Indeed, results from this model are consistent with this notion, as the odds ratio for *years of peace* is small and significant (OR = 0.8*). Combined, the controls for short-term dynamics and long-term temporal dependence reduce the gap between the odds of civil violence in the core and the odds of civil violence in the non-core. Indeed, net of the fully battery of control variables, the semiperiphery and periphery are 3.5 to 5.4 times more likely to experience outbreaks of civil violence than the core. Importantly, these results can be interpreted as the total effects of world-system position on civil violence, because the models include the standard control but not the post-treatment variables (see Dworschak, forthcoming).

Adhering to the distinction between treatment and post-treatment variables, Model 4 depicts civil violence as a function of the post-treatment covariates and the standard control variables. This means that the world-systems position indicators are dropped. This model represents the dominant explanation for civil violence (e.g., Collier and Hoeffler 1998, 2004; Fearon and Laitin 2003; Muller and Weede 1990). The results broadly adhere to expectations. The short-term dynamics and long-term path dependence are evident, and population size and the Cold War years show their expected associations with civil violence. Similarly, general living standards and economic growth lower the chances of civil violence. Democracy exhibits its

expected non-linear effect, with hybrid regimes being especially prone to civil violence. Additionally, socialist and post-socialist states experience less civil violence, ostensibly because they reduced class conflict and built economies with some independence from the capitalist world-system. By contrast, petrostates face higher chances for civil violence, likely due to widespread corruption and entrenched inequality. In sum, Model 4 successfully reproduces the literature's dominant explanations for civil violence.

Lastly, Model 5 puts aside the distinction between treatment and post-treatment variables and estimates a full model containing all covariates. This is technically incorrect, as the resulting endogeneity should bias the estimates. Nonetheless, to be consistent with prior research, this model treats the post-treatment covariates as standard control variables. Somewhat unexpectedly, the results change in only minor ways, despite the implied bias in the estimates. World-system position indicators and most of the other covariates retain their expected signs and statistical significance. This implies that the post-treatment bias is limited in its effect on the estimates.

Replications

Table 5 replicates the results using alternative measures of world-system position. These models include the control variables from Models 3, but the resulting parameter estimates are not shown. The first set of replications uses measures by Mahutga and Smith (2011). These measures have notable strengths. Foremost, since it gauges the value-added content of trade flows, this measure captures the technological sophistication of traded goods. Additionally, this measure spans three time-periods, 1965, 1980, and 2000, enabling it to capture upward and downward mobility. Yet, due to data constraints, it includes fewer countries.

[Insert Table 5 about here]

The replications based on Mahutga and Smith (2011) measures are consistent with my earlier findings. Model 6 uses their time-variant, trichotomous measure of core, semiperiphery, and periphery, with the results showing that the semiperiphery and periphery face higher risks of civil violence than the core, net of the standard control

variables. These estimates are similar to my estimates, although now the periphery faces somewhat higher odds of civil violence. Model 7 uses Mahutga and Smith's (2011) time-variant, six-zone measure. Here, the results continue to support the general conclusions of my study. Interestingly, the "strong periphery" now faces the highest risks of civil violence, implying a slight non-linear effect.

The remaining replications use time-invariant measures of world-system position. Model 8 is based on Mejia's (2020) trichotomous measure, which has a larger sample than the previous model. Again, the results are very similar to those from my earlier analysis. Models 9 and 10 use my continuous rather than discrete measure of world-system position. This measure reflects "peripheralization," as higher scores indicate a more peripheral position in the global economy. Both results are consistent with the prior models.

Risk of Civil Violence Over Time

The empirical analysis ends by considering whether the relatively higher rates of civil violence found in the non-core are attenuating over time. Recall that some scholars see contemporary globalization as improving the fortunes of non-core countries (Cohen 2003; Wade 2000), and other scholars find that the gap in democratic governance between the core and non-core is shrinking over time (Clark 2012; Wejnert 2005). Following these latter studies, I consider the possibility of convergence by creating interaction terms between the world-system position indicators and the year of observation and then adding these interaction terms to regression model. These models include the standard control variables from Model 3, but the estimates are not reported.

As shown in Table 6, the interaction model indicates that the gap between a largely peaceful core and a more conflict-prone non-core is expanding rather than contracting over time. In Model 11, the year variable is statistically insignificant, suggesting that the trend in civil violence for the whole sample is neither increasing nor decreasing. By contrast, in Model 12, the interaction terms reveal diverging trends. Since the core is the reference category, the year variable represents the trend between civil violence in the core and civil violence in non-core. Here, the

estimated odds ratio shows that the core is becoming more peaceful relative to the non-core (OR=0.94*). However, the interaction terms for the semiperiphery and periphery show that these regions are becoming more conflict prone relative to the core (both OR=1.06*). Hence, the model depicts diverging outcomes by world-system position.

[Insert Table 6 about here]

This finding makes sense in light of my data. Over the duration of this study, core countries not only experienced few episodes of civil violence, but all of them occurred in the first half of my sample period. The deadliest was "the Troubles" in Northern Ireland, which lasted for nearly 30 years and ended in the early 1990s. By contrast, the end of the Cold War was supposed to herald a more peaceful era for non-core countries, but civil violence in these regions has decreased only modestly. Combined, these two trends suggest diverging outcomes.

CONCLUSION

Dominant explanations for the uneven patterns of civil violence found in the world today emphasize domestic factors related to development and democratization. The broad consensus is that civil conflict occurs most frequently in poor countries with stagnant economies and undemocratic political systems. Interpreted largely from a rational-choice perspective, these conditions are thought to heighten the incentives but lower the constraints for violence, creating societies in which armed conflict becomes a relatively appealing opportunity for economic gain and political redress (Collier and Hoeffler 1998, 2004; Flanigan and Fogelman 1970; Hegre et al. 2001; Hibbs 1973; Muller and Weede 1990). Additionally, once violence begins, it can easily become entrenched due to its path-dependent and dynamic nature (Collier and Hoeffler 2004; Walter 2004). However, these explanations almost exclusively focus on domestic/internal factors and rarely consider how conflict-prone countries are positioned relative to the structures of global capitalism. Consequently, dominant explanations for civil violence overlook external/global factors.

For this reason, world-systems theory offers an alternative and potentially fruitful perspective on the causes of civil violence. From its inception, this theory has emphasized external structures linking individual countries to world-spanning economic structures. Here, particular importance is placed on the international division of labor and the concomitant tendency for core countries to specialize in highly profitable activities and peripheral countries to specialize in less profitable activities. This system of functional-spatial specialization emerged historically and became deep-rooted over time, leaving the periphery disadvantaged relative to the core in terms of capturing high-profit/high-wage economic activity. In this way, world-systems theory views the international division of labor as a key determinant of many intra-societal outcomes. Indeed, empirical research shows that world-system position affects rates of economic growth (Clark 2010; Mahutga and Smith 2011), levels of democratization (Clark 2012; Wejnert 2005), levels of income inequality (Lee et al., 2007; Mahutga, Kwon, and Grainger 2011), and levels of economic output (Babones 2005; Karataşlı 2017). Similarly, I contend that a country's world-system position structures its propensity for civil violence.

However, as discussed in this study, the links between world-system position and domestic outcomes such as civil violence may be more complex than previously recognized. In light of the dominant explanations for civil violence, but also considering world-system theory's claim that the international division of labor shapes important domestic outcomes, it seems probable that world-system position generates indirect effects on civil violence. This should happen because disadvantaged positions in the international division of labor slow economic development, hinder democratization, and allow self-reinforcing cycles of violence to take hold. Indeed, as the descriptive statistics shown in Tables 3 indicate, these covariates of civil violence differ notably by world-system position. However, since these are the same covariates identified by the dominant explanations for civil violence, a synthesis of these two literatures suggests that world-system position generates direct and indirect effects on civil violence, with the indirect effects being mediated by development, democratization, and related factors.

One of the contributions of this study is to highlight the complexity in this causal sequence, along with its theoretical and empirical implications. The theoretical implication, long ignored by the dominant literature on civil violence, is that the structure of the global economy exerts significant influence over the economic and political development of countries worldwide. This implies that those domestic structures highlighted as key determinants of civil violence are themselves products of historical processes with global reach. Failure to recognize this possibility limits the theoretical scope of these studies as well as their likely conclusions. The methodological implication, long ignored by world-systems research, is that world-system position emerges first in the causal sequence, shaping not only domestic factors under consideration but also their covariates. This creates the potential for endogeneity bias and prevents the effected covariates from being used as standard control variables (Dworschak forthcoming; Elwert and Winship 2014). Consequently, world-system researchers must think through the historically embedded sequence by which world-system position is linked to domestic outcomes of concern and determine which of the relevant covariates are preceded by world-system position in this causal sequence. This, in turn, affects the modelling strategy as described above.

Despite the complications arising from endogeneity bias, my study finds convincing evidence that world-system position is an important determinant of civil violence. As discussed by Dworschak (forthcoming), the presence of endogeneity bias arising from post-treatment effects makes it difficult to untangle the direct and indirect effects under consideration. However, it does not preclude an estimation of the total effects. For my study, the latter is obtained by regressing civil violence on world-system position, while including the standard control variables but excluding the post-treatment covariates. Results from these models find that non-core countries are considerably more likely to experience outbreaks of civil violence than core countries. These results, along with the corroborating descriptive statistics shown in Table 2, represent the key empirical findings of this study. However, in other models, I replicate the dominant explanations by regressing civil violence on the post-treatment covariates, while excluding the world-system position indicators. Lastly, I also ignore the distinction between treatment and post-treatment variables

and run a full model including all covariates. This model specification is consistent with nearly all prior studies of world-system position's effect on domestic outcomes but should suffer from endogeneity bias. Surprisingly, the results change in only minor ways, with the overall substantive conclusions remaining unchanged. This suggests that the resulting bias is immaterial, and that prior world-systems research may not be compromised by the presence of post-treatment effects. Clearly, more research is needed to understand the importance of endogeneity bias to world-system research.

My results have implications for both modernization and world-systems theory. Modernization theory depicts non-core countries as lagging behind their more advanced counterparts, but over time, they should catch up, creating a world in which most countries eventually have high incomes and stable societies (see, e.g., Rostow 1960). Related to my study, this implies that the structural characteristics making non-core countries prone to civil violence—low levels of economic output, sluggish economic growth, undemocratic political systems—should improve over time and hence heighten their prospects for civil peace. Ideally, I could shed light on this matter by including these domestic factors as control variables in my regression models. However, this creates biased estimates because world-system position precedes these covariates in the causal sequence. Nonetheless, using total effects models as advocated by Dworschak (forthcoming), I test for the possibility of convergence by including temporal interaction effects. Notably, I find that differences in the propensity for civil violence by world-system position are expanding rather than contracting over time. For world-systems theory, this suggests a long-term scarring effect whereby the historic experience of peripheralization continues to undermine the prospects for civil peace in non-core countries.

In many ways, world-systems theory was a reaction to modernization theory and its inattention to external forces shaping national societies, especially those in the so-called developing world. Modernization theory explicitly postulated that the world's poor countries would follow the same historical path to development as experienced by the West, arguing that the world's poorest countries were in the "traditional"

stage of development (analogous to Europe's feudal age) and slightly more prosperous countries were in the "preconditions for take-off" or "take-off" stages (analogous to Europe's 1800s) (Rostow 1960:139-144). External factors that could impede this process were never considered (cf. Wallerstein 1974c).

Similarly, the dominant paradigm for civil conflict fails to consider the possibility that external factors are important macro-determinants of peace and conflict within societies (Collier and Hoeffler 1998, 2004; Fearon and Laitin 2003; Fearon 2005; see also Muller 1985 and Muller and Weede 1990). In particular, this literature does not consider that low GDP per capita and unresponsive political regimes are themselves products of historical processes related to the geographic spread of capitalism. In sociology, Muller's (1985) early work on the causes of violent political rebellion was similarly criticized for failing to account for concomitant effects arising from dependency/peripheralization (London and Robinson 1989). Likewise, my study puts forward a similar corrective, arguing that longstanding but relatively durable structures related to the historical development of global capitalism influenced national societies in ways that make some more prone to conflict than others. In this way, my study helps to clarify the possibilities and limitations for stable and peaceful societies around the world.

NOTES

1. The dependent variable in these studies comes from the *World Handbook of Political and Social Indicators*, which draws on accounts from the *New York Times* to record "political rebellions" around the world. For various reasons, this data collection procedure raises questions about the validity and reliability of the data. See Timberlake and Williams (1987: 5-6) for details.

2. My thinking about path-dependent historical trajectories is influenced by Mahoney (2000).

3. This set of countries more closely approximates the population of the world's major countries than a random sample. Under such conditions, inferential statistics

are less applicable, and consequently some readers may wish to interpret the regression results as descriptions of the actual population parameters. Nonetheless, tests of statistical significance are reported in accordance with disciplinary norms.

4. Due to missing data from the Penn World Tables, six countries drop from the sample: Afghanistan, Cuba, Eritrea, Libya, Papua New Guinea, and Somalia.

5. Due to missing data, I drop *ethnic fractionalization* from Models 4 and 5. In both cases, it was statistically insignificant. Data are from Drazanova (2019).

6. Correlation coefficients, shown in Table A2 of the appendix, range from -0.66 to 0.53. Variance inflation factors (VIFs) run on Models 4 and 5 range from 1.03 to 7.11. Both results suggest acceptable levels of multicollinearity. However, the inclusion of *years of peace*, along with its squared and cube terms, significantly increases the VIFs for these three variables. This is expected because they are mathematically related terms, but it should not be problematic for the model overall (see Carter and Signorino 2010).

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Figure 1. Causal Links between World-System Position and Civil Violence

Development and Democratization

World-System Position
(Treatment)

Civil Violence
(Outcome)
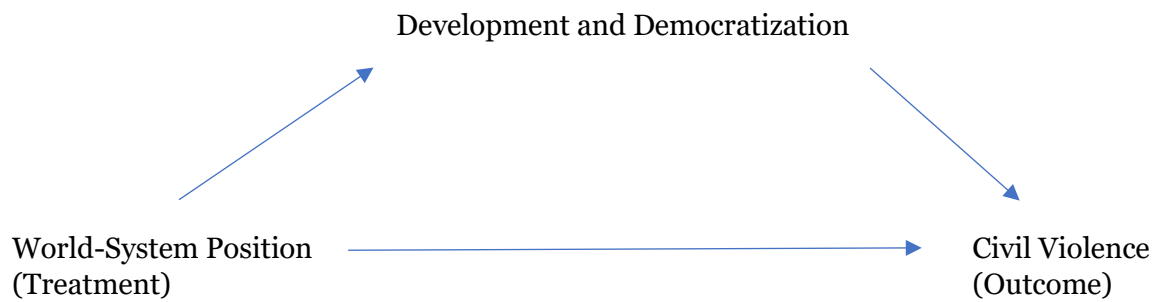
Note: World-system position conceptualized as influencing civil violence via direct and indirect effects, with the indirect effect mediated by its influence on national-level factors related to development and democratization, which are themselves important determinants of civil violence.

Table 1. Measures used in Composite Indicator of World-System Position

Authors	Empirical indicators	Year of data	Number of countries	Zones identified (scores assigned for composite measure)
Snyder and Kick (1979); Bollen and Appold (1993)	Trade networks, military inventions, diplomatic ties, treaty memberships	1965	118	Core (1) Semiperiphery (2) Periphery (3)
Van Rossem (1996)	Trade networks, major weapons exports, presence of foreign troops, diplomatic ties	1980	163	Core (1) Semiperiphery (2) Periphery 1 (2.5) Periphery 2 (3)
Chase-Dunn et al. (2005)	Theoretical approximation	Not specified	147	Core (1) Semiperiphery (2) Periphery (3)
Mahutga and Smith (2011); Smith and White (1992)	International division of labor measured by value-added content of trade flows	1965, 1980, 2000	94	Core (1) Core-contenders (1.5) Upper semiperiphery (2) Strong periphery (2.5) Weak periphery (3) Weakest periphery (3)
Clark and Beckfield (2009); Clark (2013)	Integration in trade networks	1980s 1990s	161	Core (1) Semiperiphery (2) Periphery (3)

Table 2. Prevalence of Civil Violence by World-System Position, 1970 to 2018

	Core	Semi-periphery	Periphery	Total
Percent years with ongoing civil violence	4.1	22.5	23.4	20.1
Mean level of civil violence	0.07	0.78	0.83	0.72
Number of countries	19	31	102	152
Number of country-year observations	1,007	1,385	4,944	7,336

Table 3. Economic Development, Democratization, and Other Societal Characteristics by World-System Position, 1970 to 2018

	Core	Semi-periphery	Periphery	Total
GDP per capita (US$, adj. for inflation and PPP)	33,099 (12,427)	16,136 (12,199)	8,214 (19,120)	13,334 (19101)
GDP growth (annual %)	2.5 (2.42)	3.9 (5.57)	4.0 (7.48)	3.8 (6.38)
Population (millions)	42.32 (62.18)	110.81 (278.16)	16.89 (26.22)	39.79 (135.23)
Democracy (% obs.)	99.14	59.86	28.14	44.24
Semi-Democracy (% obs.)	0.21	8.37	12.38	9.71
Semi-Autocracy (% obs.)	0.11	8.73	19.02	14.38
Autocracy (% obs.)	0.53	23.39	40.44	31.65
Socialist or post-Socialist (% obs.)	0.00	33.31	8.87	12.51
Petrostate (% obs.)	0.00	16.39	12.93	11.87
Ethnic fractionalization index	25.57 (19.86)	35.61 (22.72)	52.75 (26.93)	45.39 (27.31)

Note: Mean scores with standard deviations in parentheses for continuous variables.

Table 4: Logistic Regression Estimates of the Occurrence of Civil Violence

	Occurrence of civil violence (1 =yes, 0= no)				
	Model 1	Model 2	Model 3	Model 4	Model 5
World System Position					
Core (ref. cat.)	-------	-------	-------		
Semiperiphery	7.01**	6.68*	3.52**		3.48*
Periphery	6.85**	18.77***	5.45***		3.68**
Post-Treatment Variables					
GDP per capita (log)				0.74*	0.85
Economic growth				0.75***	0.75***
Political regime type					
Autocracy				1.121	0.98
Partial autocracy				2.079**	1.88*
Partial democracy				1.76*	1.51
Democracy (ref. cat.)				-------	-------
Socialist or post-socialist				0.429**	0.36***
Petrostate				1.587*	1.22
Ethnic fractionalization				1.012	0.98
Standard Control Variables					
Cold war		2.09**	1.98***	1.52*	1.71*
Population size (log)		3.24***	1.85***	1.82***	1.88***
Dynamic Effects					
Prior years peace [a]			0.87*	0.90	0.89*
Civil violence (t-1)			139.28***	153.05***	154.85***
Constant	0.04***	0.01***	0.01***	0.05***	0.02***
Observations	6,600	6,600	6,600	6,490	6,490
Number of countries	146	146	146	146	146

Note: Logistic regression with robust standard errors. Results reported as odds ratios. Continuous variables are converted to z-scores to facilitate comparison. Time trend included but not reported.
a. Squared and cubed terms included but not reported.

*** $p<0.001$, ** $p<0.01$, * $p<0.5$

Table 5: Replications with Alternative Measures of World-System Position

	Occurrence of civil violence (1 =yes, 0= no)				
	Model 6	Model 7	Model 8	Model 9	Model 10
Time-variant measures					
Mahutga and Smith (three zones)					
Core (ref. cat.)	------				
Semiperiphery	3.08*				
Periphery	7.34***				
Mahutga and Smith (six zones)					
Core (ref. cat.)		------			
Core contenders		2.38 †			
Upper-tier semiperiphery		3.96**			
Strong periphery		5.60***			
Weak periphery		3.12*			
Weakest periphery		5.44***			
Time-invariant measures					
Mejia					
Core (ref. cat.)			------		
Semiperiphery			3.36**		
Periphery			5.01***		
Measures from present study					
Continuous core-periphery				1.92**	
Continuous core-periphery (log)					4.43***
Observations	3,818	3,818	5,599	6,600	6,600
Number of countries	81	81	136	146	146
Standard controls included but not reported?	Yes	Yes	Yes	Yes	Yes

Note: Logistic regression with robust standard errors. Results reported as odds ratios. Standard control variables from Model 3 are included but not reported.

*** p<0.001, ** p<0.01, * p<0.5, † = p< .10

Table 6: World-System Position by Year Interaction Effects

	Occurrence of civil violence (1 =yes, 0= no)	
	Model 11	Model 12
Year of observation	1.01	0.94*
World System Position		
Core (ref. cat.)	------	------
Semiperiphery	3.52**	0.85
Periphery	5.45***	1.27
Interaction Terms		
Core x year (ref. cat.)		------
Semiperiphery x year		1.06*
Periphery x year		1.06*
Observations	6,600	6,600
Number of countries	146	146
Standard control variables included but not reported?	Yes	Yes

Note: Logistic regression with random effects. Results reported as odds ratios. Standard control variables included but not reported. Model 11 is the same as Model 3

Appendix

Table A1. Countries in the Analysis by World-System Position

Core (n=19)			
Australia (1.3)	Finland (1.4)	Japan (1)	Sweden (1)
Austria (1.3)	France (1)	Netherlands (1)	Switzerland (1.3)
Belgium (1)	Germany (1)	New Zealand (1.5)	United Kingdom (1)
Canada (1)	Ireland (1.5)	Norway (1.4)	United States (1)
Denmark (1.3)	Italy (1)	Spain (1.2)	

Semiperiphery (n=31)			
Argentina (1.8)	Greece (1.7)	Malaysia (1.9)	Slovakia (2)
Brazil (1.7)	Hungary (2.1)	Mexico (2)	Slovenia (2)
Bulgaria (2.1)	India (2)	Poland (2.2)	South Africa (2)
Chile (2.3)	Indonesia (2.1)	Portugal (1.6)	South Korea (1.6)
China (1.8)	Iran (2)	Romania (2)	Taiwan (2)
Croatia (2)	Israel (1.9)	Russia (1.8)	Turkey (2)
Czech Republic (2)	Latvia (2)	Saudi Arabia (2.3)	Ukraine (2.4)
Estonia (2.3)	Lithuania (2)	Singapore (1.8)	

Periphery (n=102)			
Afghanistan (3)	Ecuador (2.8)	Libya (2.6)	Senegal (2.9)
Albania (3)	Egypt (2.5)	Macedonia (2.5)	Serbia (2.7)
Algeria (2.6)	El Salvador (2.8)	Madagascar (3)	Sierra Leone (3)
Angola (2.9)	Equatorial Guinea (3)	Malawi (3)	Somalia (2.9)
Armenia (3)	Eritrea (3)	Mali (3)	Sri Lanka (2.5)
Azerbaijan (3)	Ethiopia (2.9)	Mauritania (3)	Sudan (2.9)
Bahrain (2.7)	Gabon (2.8)	Mauritius (3)	Swaziland (3)
Bangladesh (2.8)	Gambia (3)	Moldova (3)	Syria (2.8)
Belarus (2.7)	Georgia (3)	Mongolia (3)	Tajikistan (3)
Benin (3)	Ghana (2.8)	Morocco (2.6)	Tanzania (2.8)
Bolivia (2.9)	Guatemala (2.8)	Mozambique (2.9)	Thailand (2.5)
Bosnia (2.5)	Guinea (2.9)	Myanmar/Burma (2.7)	Togo (3)
Botswana (2.8)	Haiti (2.9)	Namibia (3)	Trinidad (2.9)
Burkina Faso (3)	Honduras (2.9)	Nepal (3)	Tunisia (2.6)
Burundi (3)	Iraq (2.7)	Nicaragua (2.9)	Turkmenistan (3)
Cambodia (3)	Ivory Coast (2.8)	Niger (3)	Uganda (3)
Cameroon (2.9)	Jamaica (2.8)	Nigeria (2.7)	United Arab E. (2.5)
Central African R. (3)	Jordan (2.6)	Oman (2.9)	Uruguay (2.5)
Chad (3)	Kazakhstan (2.8)	Pakistan (2.5)	Uzbekistan (3)
Colombia (2.7)	Kenya (2.7)	Panama (2.7)	Venezuela (2.5)
Congo Braz. (2.9)	Kuwait (2.5)	Papua N. Guinea (3)	Vietnam (2.8)
Congo Kinshasa (2.9)	Kyrgyzstan (3)	Paraguay (2.9)	Yemen (3)
Costa Rica (2.7)	Laos (3)	Peru (2.8)	Zambia (2.9)
Cuba (2.5)	Lebanon (2.8)	Philippines (2.5)	Zimbabwe (2.6)
Cyprus (2.5)	Lesotho (3)	Qatar (2.6)	
Dominican Rep. (2.9)	Liberia (3)	Rwanda (3)	

Note: Numbers in parentheses are unrounded means scores, which constitute the continuous measure of world-system position.

Table A2. Correlation Matrix

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Civil violence	1.00															
2	Core	-0.18	1.00														
3	Semiperiphery	0.05	-0.22	1.00													
4	Periphery	0.10	-0.58	-0.66	1.00												
5	GDP capita (log)	-0.31	0.53	0.24	-0.60	1.00											
6	Economic growth	-0.03	-0.09	0.01	0.06	-0.04	1.00										
7	Population (log)	0.33	0.15	0.27	-0.34	-0.07	0.03	1.00									
8	Autocracy	0.04	-0.26	-0.08	0.27	-0.21	0.04	-0.12	1.00								
9	Partial autocracy	0.14	-0.18	-0.07	0.19	-0.26	0.00	-0.01	-0.24	1.00							
10	Partial democracy	0.10	-0.14	0.00	0.10	-0.15	0.06	0.09	-0.19	-0.13	1.00						
11	Democracy	-0.22	0.21	0.08	-0.23	0.30	0.09	0.04	-0.13	-0.35	-0.09	1.00					
12	Socialist	-0.09	-0.15	0.28	-0.12	0.11	0.00	-0.04	-0.04	-0.08	0.04	0.06	1.00				
13	Petrostate	0.05	-0.15	0.00	0.12	0.15	0.00	-0.02	0.27	-0.02	0.05	-0.06	-0.07	1.00			
14	Cold war	0.09	0.05	-0.06	0.01	-0.17	-0.03	-0.10	0.36	-0.06	-0.06	-0.09	-0.22	0.01	1.00		
15	Ethnic frac. index	0.14	-0.33	-0.19	0.41	-0.43	0.01	-0.03	0.19	0.12	0.08	-0.13	-0.17	0.16	0.00	1.00	
16	Prior years peace	-0.57	0.32	-0.04	-0.21	0.46	-0.05	-0.20	-0.19	-0.10	-0.12	0.22	-0.06	-0.05	-0.31	-0.14	1.00