The new era of turbulence: Peacemaking trends in post-carbon times

Pospisil, J.

DOI 10.1177/27538796241272366
ISSN 2753-8796

Publisher: SAGE Publications

The New Era of Turbulence. Peacemaking Trends in Post-Carbon Times
Jan Pospisil (author's final version)

Abstract
Based on an empirical comparison of peace processes in carbon-dependent economies over time, this article investigates the impact of decarbonization and the related declining availability of political finance on peacemaking. While the period of high oil prices in the mid-2000s saw a small number of peace deals that attempted comprehensive settlements, the decline of oil prices in the years from 2014 resulted in a new era of turbulence. The turbulence is characterized by a high number of peacemaking attempts that strongly lean towards conflict management rather than resolution. The reasons for this new turbulence are twofold: the available means for substantial "buy-ins" into a political marketplace by ruling elites in carbon-dependent conflictive political marketplaces have vanished while, at the same time, the strategic interest of international powers in geopolitical stability and their willingness and capability to invest in such stability have declined.

Introduction
The unprecedentedly steep rise in oil prices during the 2000s, followed by their sharp decline between 2014 and 2020, necessitates a reconsideration of the debates surrounding the relationship between oil rents, armed conflict, and peacemaking. Central to this reconsideration is the nature of the respective institutional political settlements, particularly if these settlements partially depend on rentier economics and operate within the framework of what Alex de Waal has termed "political marketplace" (De Waal, 2015). Against this background, the article investigates the relationship between substantial losses in carbon revenues and peace processes through a comparative analysis. This theory-building exploration examines the parallels between the availability of political finance via oil rents and the peacemaking process, as shown by the number and nature of peace agreements signed.

The argument deviates from the conventional focus on identity politics in explaining conflict and conflict transformation, which is a dominant approach in contemporary peace and conflict studies. Instead, it focuses on the seismic shifts in international carbon economics, reflected in oil price fluctuations and changing oil production patterns. This perspective offers a novel lens by emphasizing natural resources as a source of political finance within political marketplace settings transitioning from war to peace, and their impact on geopolitics and international intervention. A key example is the United States' transition from being one of the largest oil importers to becoming the world's largest oil producer in 2017, which influenced global peacemaking. This renewed focus builds on earlier discussions about international military interventions in oil-rich regions during the 1970s and 1980s and following the US-led military campaign against Iraq in 1991.

A comparative assessment of the global trajectories in peacemaking produced by these new conditions is necessary for identifying patterns that could point towards the long-term impact of the ongoing process of global decarbonization. Decarbonization, for the purpose of this article, is understood as a two-fold process related to the assumption of a strategic decline of crude oil prices. On the one hand, the so-called fracking revolution has reduced global dependency on oil trade. This "revolution" has not only contributed to strategically low oil prices due to new, enormous oil reserves, but has also resulted in a geostrategic reconfiguration. Especially in the Middle East, the United States have undergone a geopolitical de-investment as the predominant peace broker. On the other hand, the global effort to reduce carbon-based economics to tackle human-made climate change works towards a forthcoming predominance of renewable energies. If this change in the global energy mix proves to be both substantial and sustainable, hitherto narratives such as "peak oil" and an ever-increasing oil demand – resulting in ever-increasing crude oil prices – would become stories of the past.

Countries with a long history of armed conflict have already experienced this transformation. Sudan, for example, once a profoundly oil-dependent economy, saw its per capita oil production drop to the level of low-key producers like Austria after the secession of South Sudan. This shift transformed Sudan's economic foundation and, consequently, its political-economic institutionalization. Using the experiences of armed conflict and peace process trajectories in such countries as a starting point, the article examines the implications of carbonization and decarbonization on global patterns of war and peace. It argues that both periods of sharp rises and declines in oil prices have coincided with peacemaking efforts in (formerly) oil-dependent countries embroiled in civil war. These outcomes are not linear or direct; they result from broader structural shifts that emerge through the unique modes of political settlement institutionalization in carbon-related economies.

The article begins by exploring the conceptual relationship between conflict settings and carbon dependence. The first section introduces the concept of political *un*settlement and discusses its explanatory value in carbon-dependent economies. The subsequent section connects these concepts with the debate on the so-called "resource curse" and reviews the current literature on the interrelation between carbonization, armed conflict, and peacemaking. Following this conceptual framework is the empirical investigation. The analysis reveals that the rise in oil prices in the 2000s corresponds with a period of "stable peacemaking," characterized by agreements that aim to resolve armed conflict through comprehensive transitional processes. Conversely, the decline in oil prices in the 2010s coincides with an era of "turbulent peacemaking," marked by many, often short-lived, ceasefires and the absence of lasting and comprehensive peace agreements. The concluding section discusses reasons for these effects before the conclusions explore potential long-term consequences.

Armed Conflict Un/Settlement and Carbon Economies

Despite a consensus that there is a correlation between the likelihood of armed conflict and the resource dependency of economies (Rosser, 2006; Welsch, 2008; Shao and Yang, 2014; Sini et al., 2022), the issue of causality remains controversial (Ross, 2015; Badeeb et al., 2017). The interrelations between carbon-based economic systems and politics, war, and peace are multifaceted and complex. The diversity of the carbon-producing case universe complicates any comparison. Highly formalized institutional countries such as Canada, Norway, the United Kingdom, and the United States share the characteristic of resource dependency with conflict-affected states such as Libya, Iraq, South Sudan, and Yemen. The comparative landscape is further complicated by countries like Russia, Brazil, Saudi Arabia, and Nigeria, which add even greater variation in terms of geography, history, governance systems, and levels of formal political institutionalization.

A rough global cross-comparison involving the Freedom House Index (FHI)[1] and UNDP's Human Development Index (HDI)[2] in 2021 affirms commonly held assumptions that carbon economies produce a better level of overall development while sacrificing political rights and democracy. When comparing the top-30 oil producers with the 160 remaining countries with both FHI and HDI-data, the average FHI score for the top oil producers is 45.47 (out of one hundred) compared with 60.11 for the rest of the world. In short, non-oil economies tend to produce more democratic systems. The picture turns on its head when comparing HDI data. Here, the oil producers score 0.787 (out of one as the optimal score) vis-à-vis 0.707 for the other economies. Oil-dependent economies, on average, tend to produce better human development than non-oil economies.

These numbers, however, only tell part of the story. Top oil producers, particularly those with high FHI (Freedom House Index) scores, have managed to diversify their economies. For example, the United States began large-scale oil production after its economy was already large and diversified in terms of overall GDP. Conversely, the world's probably most carbon-dependent economy, South Sudan, does

[1] https://freedomhouse.org/.

[2] https://hdr.undp.org/data-center/human-development-index#/indicies/HDI.

not even rank among the top thirty oil producers. Similarly, although Yemen is embroiled in a violent conflict heavily influenced by major oil producers Saudi Arabia and Iran, it is not a leading oil producer.

For this reason, the subsequent empirical comparison uses the portion of oil revenues in a country's GDP as a key indicator for identifying carbon-related conflict. However, for the conceptual discussion, overall production capacity offers valuable insights, particularly because carbon-related armed conflicts often occur in countries that are minor producers on the global stage. When examining theories such as the resource curse (Ross, 2015; Badeeb et al., 2017), a carbon-dependent political settlement, or a political marketplace, it is primarily the countries that do not fit the resource curse model that provide the most revealing insights.

It is reasonable to argue for a resource curse and a causal impact of carbon-related political finances on armed conflict when considering examples like Iraq, Libya, South Sudan, or the wider Middle East, including Syria and Yemen. However, these examples are anecdotal. Other cases such as the United States, Canada, Norway, or China, all of which rely on highly diversified economies despite significant oil production, offer strong counter-narratives. Additionally, the Gulf countries Saudi Arabia, the United Arab Emirates (UAE), and Qatar present a different scenario. These countries use oil revenues as a tool for political control and geopolitical influence, offering a trade-off between minimal political rights and a high level of socio-economic development (El Badawi and Makdisi, 2007; Gause, 2011; Abulof, 2017).

Given these divergences, peace and conflict research has seen a decline in the popularity of resource-related explanations in recent years. Instead, multi-factor explanations such as bad governance (Ardiç, 2019), fragile pathways of socio-political institutionalization (Acemoglu and Robinson, 2012), and ethnopolitics (Erk, 2017) have gained traction. A linear explanation suggesting direct causality between oil dependency and patterns of armed conflict is misleading. The impact of oil, or any other strategic resource, on politics depends overwhelmingly on the institutional setting or political settlement (Khan, 2018) it encounters. Influential studies have substantiated the link between the impact of natural resources and certain economic patterns, the broad socio-economic settlement, and politics (North, Wallis, and Weingast, 2009; Acemoglu and Robinson, 2012; Fukuyama, 2012, 2015).

The conceptual notion of "political settlements" condenses these broader institutional explanations to the structures of formal and informal institutions created by "bargaining outcomes among contending elites" (Di John and Putzel, 2009: 4) over the mid to long term. The concept has been developed and increasingly used in the context of debates on development and statebuilding. More recently, scholarly literature has also deployed it in investigations on the role of inclusivity in peacebuilding (Parks and Cole, 2010; Pospisil and Rocha Menocal, 2017). The argument put forward is that such political settlement manifests itself as a series of political rights and entitlements. Some of them are formally inscribed into a given polity, others only exist in informal practices. Such a framework overcomes the analytically unhelpful distinction between legal and illegal or legitimate and corrupt political practices as they are frequently discussed in resource-dominated economies, often with moral underpinning.

Instead of delineating right from wrong, the notion of political settlements provides insight into the modes and modalities of public authority and legitimacy. By highlighting perpetual institutional bargaining, political settlements can explain how and why governance unfolds—or disintegrates in a process of ungovernance (Bell, 2020). Additionally, debates over the last decade have suggested an interrelation between the formation and functioning of a political settlement and armed conflict (Cheng, Goodhand, and Meehan, 2018). The prevailing assumption is that an "inclusive political settlement," which accommodates political stakeholders along a comprehensive political agenda, can help mitigate violence (Khan, 2018: 653).

The notion of inclusive political settlements resembles functional and democratic statehood as the locus of public authority. The three elements highlighted by Fukuyama as the cornerstones of a modern political order, a stable institutional setting, the rule of law (in contrast to the non-inclusive rule *by* law), and state accountability are, in this understanding, both result as well as precondition of an inclusive political settlement. When political settlements "unsettle," or if a political settlement has failed to institutionalize, political violence is likely. Structurally, there are three explanations for such processes that all bare relevance for processes of political unsettlement in carbon-based economies: (1) a lack of political or economic stability that results in substantial grievances and political unrest; (2) a fall-out within the elite pact at the heart of an exclusive political settlement, either motivated by radical political disagreement or by unfortunate incentives in a political marketplace; and (3) a political configuration that is unable to provide an institutional framework to either forge a political settlement or formalize political unsettlement.

Formalized political unsettlement refers to the institutionalization of often-violent political contestation. This can occur through contracts that bind belligerents into a joint transitional framework without achieving a viable settlement or through the institutionalization of violent yet politically flexible contestation for power. The political marketplace represents the latter configuration, where a highly competitive marketplace logics, and not incommensurable political principles, drive the perpetual fight for power.

In most violent conflicts, a combination of these three patterns is at play. Rarely does a single factor provide a sufficient explanation for the outbreak of armed conflict. Institutional settings such as political settlements function as complex systems. They have characteristics and behavioral patterns, and pathways of how they constrain actor behavior. More loose or fragile political settlements allow for a stronger autonomy of actors. This can enable a transition of a tense political situation into armed conflict by unfortunate events or bad political decision making. In such contexts, armed conflict can result from political miscalculations or misfortunes without any stakeholder actively pursuing warmaking. In other contexts, armed conflict itself can develop into a structural characteristic of political institutionalization.

Carbon economies show peculiar forms of political institutionalization. However, institutions among them differ. They broadly fall into three types: stable states with diversified economies, carbon-enabled political settlements, and configurations of carbon-related political unsettlement.

First, as mentioned above, some of the biggest oil producers are stable states with *diversified economies*: the United States, Canada, Norway, the United Kingdom, Colombia, Mexico. If we rank stability as more important than the quality of democracy, Brazil, Indonesia, China, and, given its active pursuance of warfare and armed interventions in neighboring countries, to a lesser extent, Russia can be added to the list. In most of these cases, the ability to diversify economies is a result of *when* oil has been discovered during a country's economic development and how other sectors of the economy perform. Even though oil revenue and the importance of oil as a resource are critical, countries like the United States or the United Kingdom are too powerful and diversified economies to become oil-dependent in their state revenues.

The second category is *carbon-enabled political settlements*, which often are authoritarian. Political settlements based on carbon economics disincentivize political representation and inclusivity. Ruling regimes can utilize carbon-induced wealth and growth as a tool for buying political acquiescence. As long as financial means are available, they can keep the desire for political participation at a minimum by providing a standard of living beyond any constraints of individual success in a capitalist market. In doing so, these regimes are, and partly were, able to postpone the politics of economic distribution. However, the problem with systems that disburse oil-fueled benefits to citizens in exchange for their willingness to postpone—perhaps indefinitely—wider economic and political representation becomes

immediately clear when oil revenue falls (from either low prices or decreased production). In a number of instances, carbon-based political settlements, not only nationally but regionally, become unstable and even untenable: Iraq, Syria, Libya, and, to an extent, Venezuela and Iran are cases in point. In other countries, oil revenues are substantial enough to maintain a, however authoritarian, political settlement: Saudi-Arabia, the United Arab Emirates, Kuwait, and Qatar are prominent examples; as are Kazakhstan, Azerbaijan, Angola, and Algeria, although to a lesser extent.

The third category is *carbon-related political unsettlement*, which occurs when elitist regimes discover and exploit oil reserves in an institutionally fragmented polity. In such circumstances, the new revenue source does not necessarily trigger armed conflict, since political conflict was already ongoing, often in a violent way. Yet, it severely impacts the conflict landscape and catalyzes political reconfigurations, for example, by incentivizing a formalization of political unsettlement that might even tame violence for conflict parties to reap–often substantial–political rents out of the new wealth. Few cases fall in this category, but those that do are contributors to the global landscape of armed conflict: Sudan, South Sudan, Nigeria, Mozambique, and partly also Yemen and Syria–the latter two, even though limited in their oil resources, located strategically within an oil-rich region and their conflicts substantially impacted by oil-rich regional powers.

This brief conceptual discussion shows that the interrelation between the configuration of a political settlement and the economy's carbon-dependency is not linear and direct. Qualitatively assessing the cases at hand, GDP-dependency on oil impacts representative and democratic governance, a correlation which might be caused by the ability to "buy" political legitimacy. Academic accounts confirm a negative correlation based on a quantitative global comparison (Aslaksen, 2010). Based on the heuristic qualitative framework presented here, this is undoubtedly the case for carbon-related authoritarian political settlements. Matters differ for the other two forms of political institutionalization. In more general terms, this claim falls in line with previous comparative research suggesting that carbonization of an economy does not result in an institutional transformation (Mehlum et al., 2006). For the purpose of this article, it is necessary to know whether this insight also holds true when looking at decarbonization in situations of ongoing armed conflict.

Revisiting the "Resource Curse"

The discussion of the particularities of carbon-based political settlements has already highlighted the problems associated with a general "resource curse" argument, defined as "the perverse effects of a country's natural resource wealth on its economic, social, or political well-being" (Ross, 2018: 200) in relation to violent conflict. Whether the peculiar impact of economies heavily reliant on resource rents on political settlement formation is indeed a curse depends primarily on the institutional setting in which these resource rents are available. Whether this impact develops into a curse, in turn, depends on the context.

Despite its disputable overall value, peace and conflict studies use the resource curse argument. While its general purchase has dropped in recent years, it is still of influence in academic and policy debates, especially when it comes to countries like DRC (diamonds, coltan), Sudan (gold), South Sudan, or the wider Middle East (the latter cases because of oil). However, comparative research has always had difficulties establishing overall patterns, along the discrepancies between oil-impacted economies as described above. Most accounts have been able to establish quantitative significance supporting the assumption whereby carbon economies face an increased risk of violent conflict. One of the most-cited comparative accounts, by Fearon and Laitin, state that even when considering interfering variables, "[t]he effect of oil remains strong" (Fearon and Laitin, 2003: 86). A more recent study by Lei and Michaels establishes an increased risk of violent conflict by 8% after the discovery of oil (Lei and Michaels, 2014).

What these studies do not consider are the pre-existing patterns of the political settlement at play. For instance, it is entirely possible to empirically argue a resource curse for the armed conflicts in Sudan and South Sudan based on a combination of variables. The ebbs and flows of the armed conflict over time correspond with the availability of carbon-related political finance. The start of the second Sudanese civil war in 1983 coincided with the beginning of large-scale oil exploration. Negotiations on the Comprehensive Peace Agreement, which followed the commencement of oil production in 1999, coincided with a substantial rise in global oil prices and a consequential expansion of the Sudanese GDP. Finally, the breakdown of the South Sudanese internal political unsettlement in 2013 and the fall of the Bashir regime in Sudan in 2019 occurred in parallel with a sudden and, in the case of Sudan, strategic decline in oil revenue.

Nevertheless, this story only presents half of the picture. Sudan, particularly its southern region, has been continuously at war since the beginning of colonization during the Turkiyya period, the Turkish rule over Egypt and Sudan in the early 19th century. While the carbonization and decarbonization of the Sudanese economy play a role in explaining the conflict trajectories in both Sudan and South Sudan, they are not the root cause of warfare. As Craze (2023) demonstrates, it is likely that the South Sudanese political marketplace will be able to sustainably transform into a post-carbon era, with the same patterns of violent political domination continuing based on the exploitation of alternative, albeit lower, sources of income.

Moreover, the resource curse argument requires contextualization in a geopolitical and geostrategic sense. Without a doubt, the long-lasting interference of the United States in the wider Middle East, especially from the 1960s to the 1990s, was motivated by the strategic need to control the region's vast oil resources. Similarly, the current disinterest or strategic disengagement from the region happens against the backdrop of a strategic decline in dependency. Beyond direct interventions, most recently in Iraq, the effects of declining interest are predominantly indirect. The long-standing interest of the United States and other global powers in regional stability that serves their self-interest has shaped a particular pathway of political institutionalization. The ruling systems in countries such as Saudi Arabia, the United Arab Emirates, Kuwait, and Iraq under Saddam Hussein are incomprehensible without considering the strategic interest the United States had in the region. Additionally, countries like Syria, Libya, Türkiye, and Yemen also benefited from the overall relatively stable, US-guaranteed regional order.

With the United States' shift from the largest oil importer to the largest oil producer in the world, the situation has changed drastically. The attempt to keep global oil prices low contributed to the United States' guarantee of stability to the Middle East. Its strategic withdrawal from this stabilization paradigm co-occurs with the United States becoming oil-autarch. While surely not the only reason, this strategic withdrawal contributed to the breakdown of the oil-induced regional stability in the Middle East, starting with the breakdown of elite political settlements in the region. Iraq, Syria, Libya, and Yemen drifted into violent turmoil. It is as if the resource curse arrived late, after the global strategic significance of the region has ended.

Against the background of comparative conflict patterns and case studies, two additional elements need to complement the resource curse argument. First, a resource curse often operates indirectly. It exerts its impact at the level of political systems, and in many instances, this influence is not confined to a national level but is mediated through fragmented patterns of regional integration and interference. It would be misleading to interpret carbonization and decarbonization as primarily national phenomena.

Second, based on the observations offered by the case studies in this special issue, it is safe to assume that decarbonization, at least, has an equally substantial effect compared with a carbonization of political finances. The turbulent situation in the contemporary Middle East would even suggest that

the effects of decarbonization are structurally more destabilizing than carbonization. It may not be oil but the loss of oil that causes conflict.

This argument is, however, not straightforward. Political uncertainties are going to increase in a global process of gradual decarbonization, which is, due to substantial international efforts by states and the private sector to reduce or even eliminate the carbon-dependency in energy production and transport to tackle adverse ecological effects, likely to occur in forthcoming decades. One of the critical issues is the question of what resources, and what types of resources, gain strategic importance when the relevance of oil is declining. Apart from rare earths and valuable minerals, water might turn into an even more strategic commodity in a decarbonized world (Lechón et al., 2018). The Horn of Africa already demonstrates this strategic role, for instance when looking at the dispute about the Grand Ethiopian Renaissance Dam and its impact on the Nile waters. We can observe similar effects locally, where a reducing number of water points and related livestock migration routes in the wider region regularly trigger armed conflicts.

Empirical Design of the Comparative Exploration

For its empirical investigation, the article relies on data from the PA-X peace agreements database, produced by the Political Settlements Research Programme at the University of Edinburgh (Bell and Badanjak, 2019).[3] The database contains publicly available, written peace agreements since 1990. The corpus of peace agreements signed at the national and international level is, by and large, complete. The collection of so-called "local peace agreements" produced at the subnational level is progressing but not comprehensive. Nevertheless, for the macro-comparison in this article I included both agreement types, since the documented local peace agreements in PA-X do not distort the overall comparison. In total, I have included 1,868 peace agreements, representing version 2 of the database. A typology of peace agreements (ceasefires, pre-negotiation agreements, partial agreements, comprehensive peace agreements, implementation, and renewal agreements) and their recorded length and degree of comprehensiveness, serve as the variables for the explorative comparison.

For categorizing the peace agreement data, I applied two units of analysis. First, I used the peace agreements themselves and their type, distinguished by PA-X along categories pointing towards conflict management (ceasefires, pre-negotiation agreements) or comprehensive peacemaking (partial, and full comprehensive peace agreements). For distinguishing conflict episodes, PA-X offers a category of peace process dyads, which it defines as distinct episodes of armed conflict-related peacemaking. PA-X has coded 160 such episodes since 1990. It is noteworthy that a country can have peace process dyads going on subsequently or in parallel.

To empirically examine the article's overall argument, I used the PA-X data to calculate descriptive comparisons between peace processes in countries with oil-dependent economies and those without, and over time in relation to the development of the global average price for crude oil.[4] In the first step of empirical analysis, I identified carbon-related conflict dyads. This identification was based on a comparison of absolute and relative (to population size) oil production, oil export, and the significance of oil revenue in the respective countries' GDP. By comparing these factors and qualitatively relating them to the conflicts at hand, a one percent portion of oil revenue in a national GDP emerged as the most important condition. In most cases, World Bank data would confirm this assessment. Therefore, I decided on applying a one percent threshold as the hard selection criterion for distinguishing oil-influenced peace process dyads from those not characterized by an oil economy.

Applying this criterion, out of the 160 peace process dyads since 1990, I could categorize fifty-four as related to carbon-dependent economies. Several countries with significant oil production have

[3] https://pax.peaceagreements.org/.

[4] As listed in https://www.macrotrends.net/1369/crude-oil-price-history-chart.

experienced more than one peace process dyad, such as Libya with three, Iraq with two, and South Sudan and Sudan with a total of nine. Other countries with a high number of negotiated peace agreements identified in this category due to the role of oil revenue in their GDP include Russia (three dyads), Colombia (six dyads), Indonesia (including Timor-Leste and Aceh, three dyads), Syria (three dyads), and Yemen (three dyads). The inclusion of Yemen and Syria, both barely meeting the 1% GDP threshold (with 2.6% and 2.5%, respectively), is relevant due to the substantial involvement of regional powers and major oil producers such as Saudi Arabia—the second-largest global oil producer after the United States—Russia, and Iran in these armed conflicts.

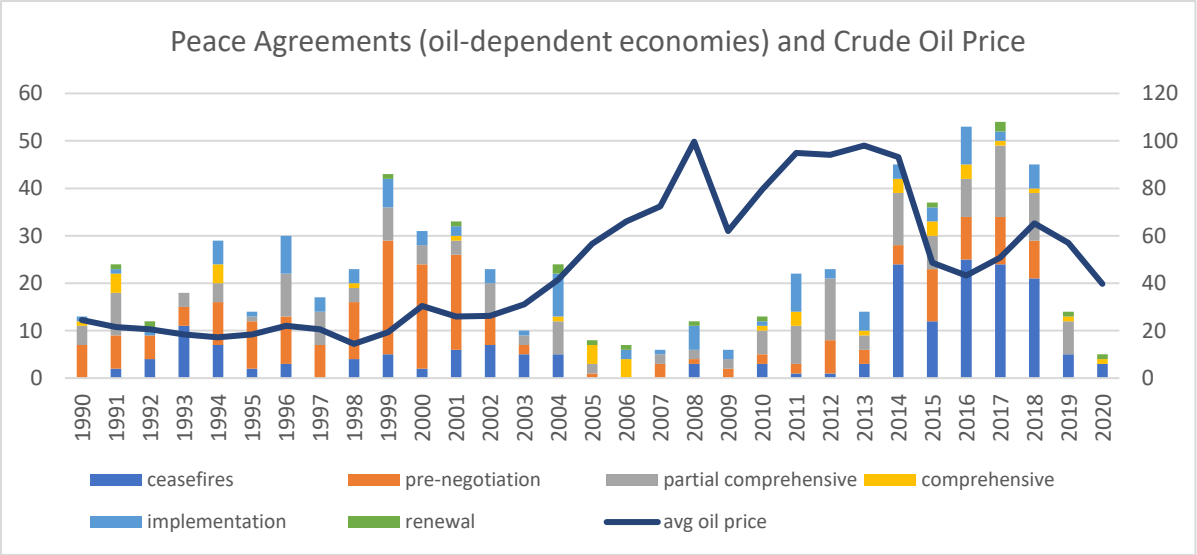
In a second step, I then compared the peace agreement data from these dyads to the average yearly price of crude oil and then disaggregated the data into comprehensive peacemaking and conflict management categories. I conducted similar comparisons for the 106 peace process dyads in countries without carbon-related political finance to have a comparative angle.

Peacemaking in Oil-Dependent Countries

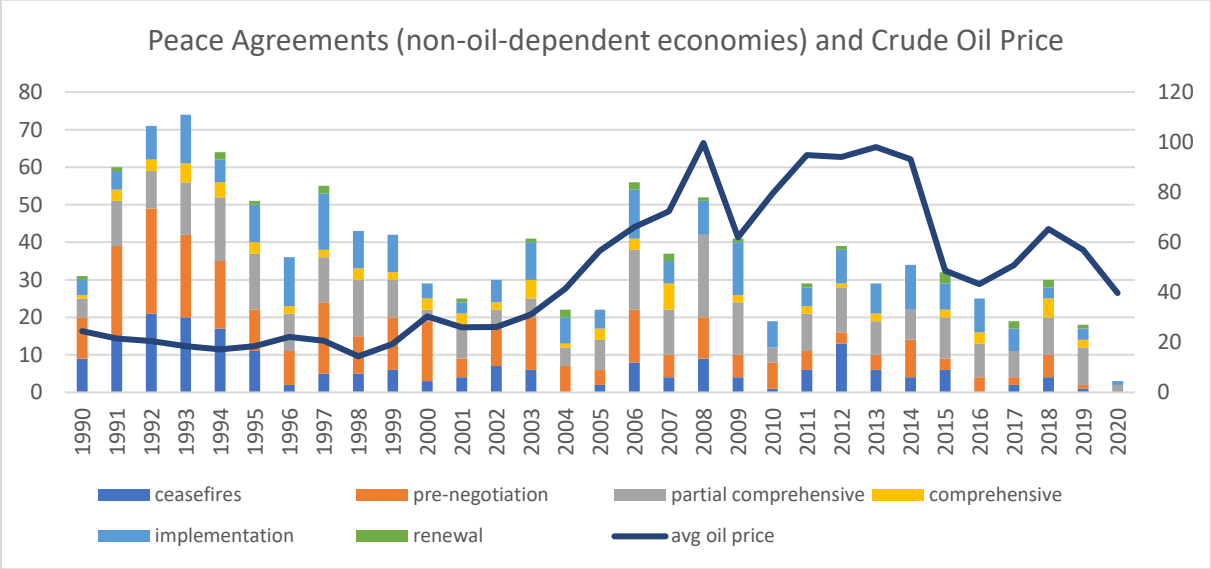
What does empirical data reveal about the effects of carbonization and decarbonization on peace processes since 1990? The following explorative empirical comparison suggests a straightforward mechanism: an upswing and high oil prices, accompanied by a substantial increase in state revenue, GDP, and hard currency from exports, seem to calm conflicts and incentivize comprehensive peacemaking. In contrast, falling prices, or the expectation of them, appear to result in the breakdown of political settlements or formalized situations of political unsettlement, consequently triggering violent conflicts.

The comparison between the numbers of peace agreements signed during periods of sharp rises and falls in oil prices shows similar patterns, although without statistical significance. The overall number of peace agreements in non-oil-dependent economies remains largely stable (see graph 2). The comparatively high number of agreements signed in the early 1990s is due to the post-Yugoslavia wars, which produced many written peace agreements, many of which were short and limited ceasefires (as indicated by the blue portion of the bar, highlighting ceasefires as the main difference from the early 1990s to later years). The two years, 2005 and 2010, which saw a small number of peace agreements, represent statistical outliers in global peace agreement production for historical reasons. Substantial peace processes were ongoing in both years, potentially impacting the overall number of agreements produced.

In a comparison over time (graph 1), the years during the upsurge in oil prices show a lower number of peace agreements in oil-dependent countries compared with the long-term average, while the years with the downturn in prices show a high number. In contrast, peace agreement data from non-oil-dependent economies has a stable trajectory (graph 2, with the year 2005 as the previously highlighted anomaly). Contrary to the initial impression, the graph does not suggest a decrease in peacemaking during rising prices and an increase during falling prices. Instead, the numbers point toward diverse types of peacemaking that might relate to different ways of ending violent conflict through negotiated settlements.



Graph 1: Peace agreements in countries with oil revenue over 1% of their GDP
(number of peace agreements per year / line: average crude oil price/barrel in USD)

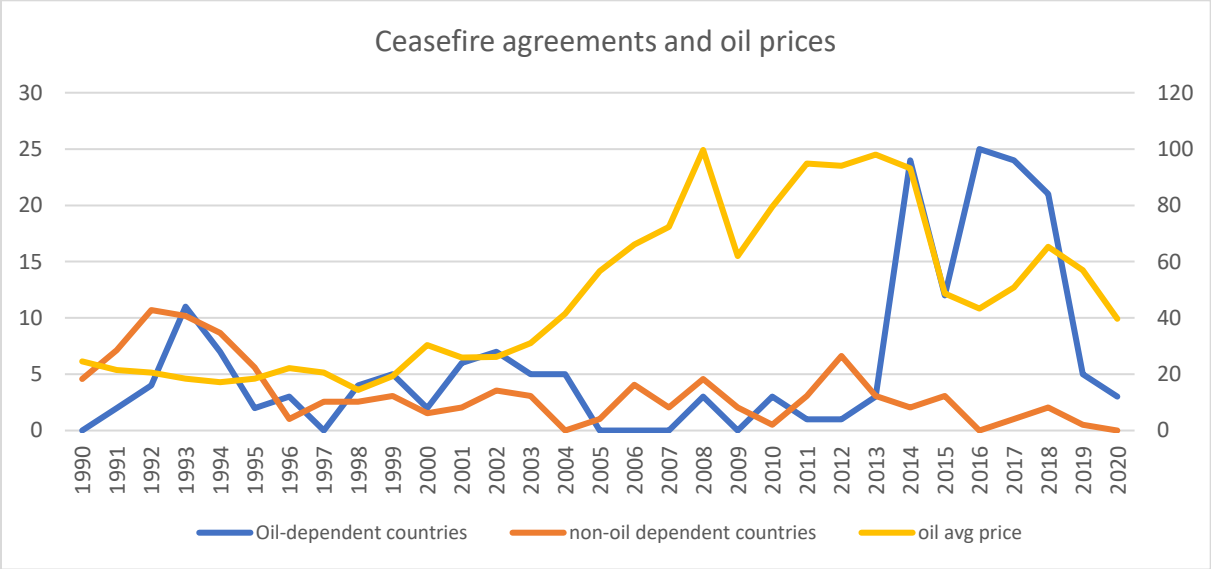


Graph 2: Peace agreements in countries without significant oil revenue
(number of peace agreements per year / line: average crude oil price/barrel in USD)

The divergence in the number of ceasefires (dark blue bar) and the comparatively high number of comprehensive and sub-comprehensive peace agreements (yellow bar) primarily cause the differences in the patterns. The number of ceasefires decreased during periods of high oil prices, while they increased during periods of low oil prices. Conversely, comprehensive peace agreements appear to increase during periods of high oil prices and decrease during periods of low oil prices.

When explicitly considering these two elements, the years 2005 and 2006 stand out for their focus on comprehensive peacemaking. During the upswing and subsequent high crude oil prices, these years show either none or few ceasefires signed in carbon conflicts. In 2005 and 2006, major agreements or quasi-agreements were signed, including the Comprehensive Peace Agreement between Sudan and the South Sudanese SPLM, the Darfur Peace Agreement for Sudan, the Eastern Sudan Peace Agreement, a comprehensive Memorandum of Understanding for the Cabinda Province in Angola, and the Iraqi constitution, which, by its characteristics, resembles a comprehensive peace agreement and is thus included in the PA-X database.

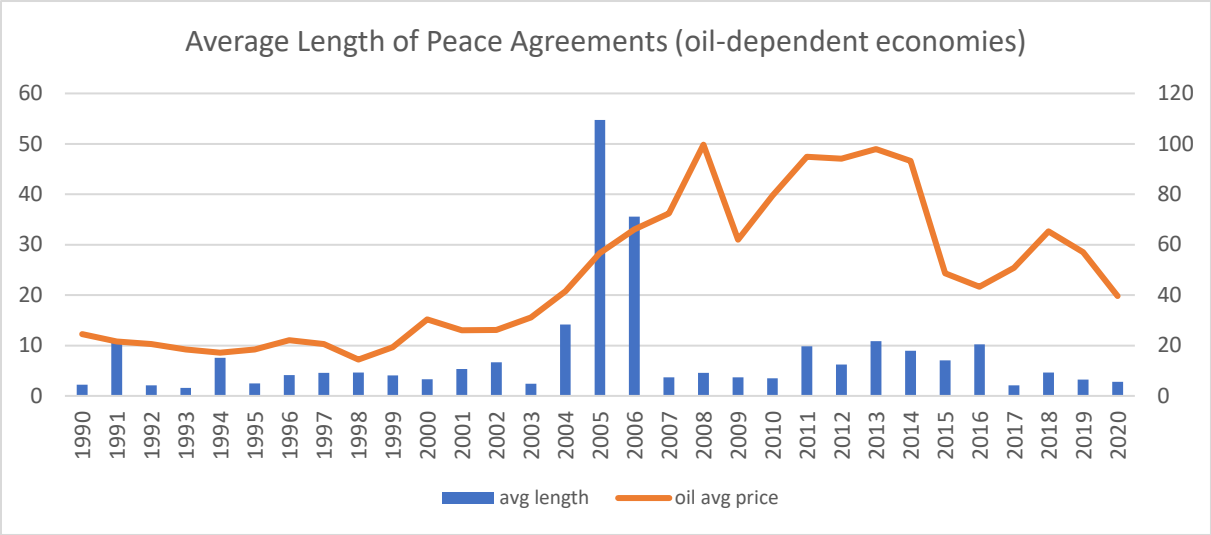
A global comparison supports the assumption that a strategic decline in oil prices results in an increase in attempts at conflict management in carbon-dependent countries. Graph 3 presents the number of ceasefire agreements for both carbon-dependent and non-carbon-dependent economies.



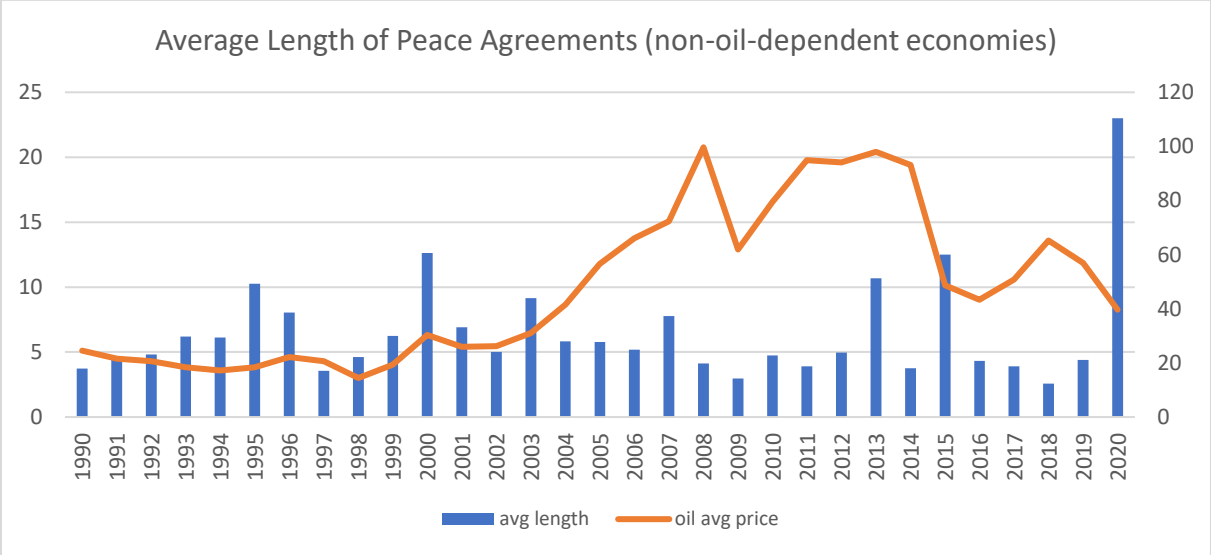
Graph 3: Ceasefire agreements in countries with oil revenue over 1% of their GDP and in countries without significant oil revenue (number of ceasefire agreements per year / average crude oil price/barrel in USD)

While not statistically significant in terms of its direct correlation with crude oil prices, the difference between carbon-dependent and non-carbon-dependent countries in the years after 2013 is nevertheless striking. The high number of ceasefires, which occur in parallel with the plummeting of crude oil prices from safely above $100 per barrel to below $30, predominantly stems from four conflict areas: Syria, Libya, Yemen, and South Sudan. All of these are oil-dependent economies or, at least, show a strong influence by heavily oil-dependent regional powers. The comparison with peace agreements signed in non-oil-dependent economies reveals that those four conflicts have a substantial number of ceasefires.

The following part discusses the multi-faceted explanations for these phenomena. Although the number of cases (conflict dyads) and peace agreements is too small for a significant statistical comparison, it is likely that carbonization and decarbonization influence violent conflict patterns. To further substantiate this finding, graphs 4 and 5 examine the same data from another perspective by focusing on the average text length of the signed peace agreements. While one cannot necessarily equate the length of the peace documents with their relevance and subsequent political impact, it serves as a dependable proxy for comprehensiveness–longer agreements tend to be more comprehensive.



Graph 4: Average length (pages) of peace agreements in countries with significant oil revenue



Graph 5: Average length (pages) of peace agreements in countries without significant oil revenue

The comparison of average agreement length and global crude oil prices confirms the assessments made based on the overall number and types of peace agreements. The trend looks solid and is statistically significant for the years until 2006[5], especially when compared with the average length of peace agreements in non-oil dependent economies, as shown in graph 5. The trajectory in non-carbon conflicts is not only steadier. The average agreement length is also higher. This points to fewer conflict management agreements, such as ceasefires, compared to comprehensive peacemaking agreements signed in these contexts. The years 2005 and 2006, again, represent the big outliers. As a result of the high number of comprehensive agreements signed combined with only a few ceasefires and an overall small number of peace agreements, these two years represent the peak of comprehensive peacemaking in carbon conflicts.

[5] A regression analysis reveals a strong and statistically significant relationship between the average oil price and the average agreement length for carbon-dependent economies between 1990 and 2006. The model accounts for approximately 73.13% of the variance in the dependent variable ($R^2 = 0.731$), indicating a robust fit. The regression coefficient for the average oil price is 0.850 ($p < 0.001$), suggesting that for each unit increase in the average oil price, the dependent variable increases by 0.850 units. This coefficient is statistically significant, as evidenced by the very low p-value ($p = 1.22E-05$), well below the conventional threshold of 0.05.

Conflict management efforts in carbon-based economies during this new era of turbulence, so far, primarily focus on four key cases: Syria, Libya, Yemen, and South Sudan. Additional cases, such as Nigeria and Sudan, also contribute to this picture. The high number of short-term ceasefire agreements supports qualitative political analysis, which suggests that these conflicts are protracted and resistant to resolution within the current regional disorder. Consequently, they produce a high number of agreements aimed at managing rather than resolving the conflict. The strategic decline in oil prices has ushered in a new era of political turbulence, often manifesting in violent outcomes.

Old Institutional Patterns and New Realities

Which factors explain the co-occurrences between trends in peacemaking and crude oil prices? Can we believe that interrelations between these two factors exist? The answer is yes; however, as previously mentioned, mediated, indirect processes are likely to cause the stronger effect rather than a direct, immediate impact. The lack of statistical significance when assessing direct impact also supports this. Three interlinked assumptions provide a viable, though not complete, explanation.

First, the presented graphs suggest an impact that works without a time lag. Especially during the rise in oil prices and the related expansion of oil revenues in countries characterized by violent conflict, these new revenues appear to have been used for an almost immediate political move towards stabilization and peacemaking. A closer look at the data, however, suggests that this tendency mainly came to the fore in Sub-Saharan Africa, especially in Sudan and South Sudan and in Angola, where the ruling government's appetite and ability for peacemaking grew exponentially with rising state revenue.

We can explain regime ability to foster peace settlements by the availability of financial means to generate political rents, thus enabling the buy-in of contending elites in the political marketplace. To an extent, the political marketplace became more horizontally inclusive and, at the same time, more kleptocratic. Such a process can also explain the comparably quiet situation in other conflict settings. Notwithstanding Iraq, the Middle East lived through a stable period, and recent African hotspots such as Nigeria and Mali, primarily mediated by the still calm situation in Libya, profited politically from the oil boom.

In turn, the fall of prices and the halt of oil production due to other circumstances, as seen in South Sudan, resulted almost immediately in violent uprisings. These effects are neither direct nor the only factors at play. Increasingly unstable situations in Northern Nigeria, Mali, Burkina Faso, and Niger are also related to spillovers from the fall of the Gaddafi regime in Libya and the subsequent wave of militant Islamism in North-Western Africa. Moreover, the fall of Gaddafi occurred within the broader context of the Arab Spring, which is related to, though not solely caused by, shifting economic conditions.

The Arab Spring is indeed a second explanatory factor responsible for the rise in peacemaking turbulence in the first half of the 2010s. While there is little doubt that the Arab Spring impacted violent conflicts in Syria, Yemen, Libya, and to some extent in Mali, Burkina Faso, and the regime change in Sudan, the interrelation between the Arab Spring and the development of global crude oil prices requires further explanation. Economic motivations were instrumental in the Arab Spring (Ansani and Daniele, 2012; Talani, 2014). A middle class, whose growing economic expectations and related political ambitions were unfulfilled, was driving these events (Wolfsfeld et al., 2013; Talani, 2014). In addition to institutional factors like the highly exclusive and kleptocratic political systems in most countries experiencing Arab Spring revolts, the literature discusses other contributing factors, such as the burdensome and corrupt anti-market policies that frustrated small and mid-level producers and traders, as well as the substantial youth bulge.

The graphs presented above suggest a certain influence of oil prices on the events, supporting accounts proposing the oil price was indeed a strong contributing factor for the Arab Spring (Ansani and Daniele,

2012; Malik and Awadallah, 2013; Beck and Hüser, 2015). These effects are partly long-term and relate to the previously discussed peculiar modes of political institutionalization in carbon economies. One key factor concerns the public economic expectations generated by the rapid rise in oil prices in the 2000s. While the middle class wanted to utilize the increasing revenues to improve their living standards, the rising oil prices simultaneously enabled ruling elites to postpone political participation and equitable economic distribution. When the rise ended, and large sectors of the middle class saw their oil-revenue-induced expectations not only unmet but also faced the threat of sliding into poverty, the rebellion began.

Finally, the subsequent period of turbulence in the wider Middle East would not have been possible without the previously discussed withdrawal of the United States from its role as a guarantor of regional stability. Changes in global oil production contributed to this shift. The US's transformation from the biggest oil importer to the biggest oil producer globally is a major factor behind its loss of interest and disengagement from the region. Regional powers such as Russia, Saudi Arabia, the United Arab Emirates, Qatar, Türkiye, and Iran subsequently filled the resulting power vacuum. Except for Türkiye, these countries are major oil producers, which enabled them to act militarily as regional powers in the first place.

These three factors—national and regional transformations interacting with the geostrategic shift caused by the new foreign policy priorities of the United States—occur in relation to the development of global oil prices and the importance of carbon in national and regional economies. They lead to two main insights regarding the impact of decarbonization on violent conflicts and peacemaking. First, the effects are often indirect, long-term, and interwoven with other factors and processes. Second, despite this complexity, we can assume that decarbonization, which is likely to be strategic in nature on a global scale, contributes to political turbulence rather than pacification and stability.

Conclusions and Perspectives

Patterns of armed conflict, peacemaking, and trajectories of carbonization and decarbonization are interrelated. The empirical comparison based on peace agreement data reveals similar patterns that suggest impact. Rising oil prices tend to favor buy-in attempts, resulting in the signature of fewer peace agreements. When peacemaking efforts occur during these periods, they often focus on comprehensive settlements. Conversely, plummeting oil prices lead to increased turbulence, prolonged and protracted violent conflicts, and continuous but largely unsuccessful peacemaking efforts.

However, as demonstrated, the correlation between decarbonization and conflict does not follow a straightforward, direct, and significantly measurable impact. Factors such as regional dependencies, the interests of regional and global powers, and national and local expectations influence the process of decarbonization. As shown, the Arab Spring not the least resulted from unfulfilled expectations for continued socio-economic development and fair distribution of public revenues. The halt in rising oil prices and their subsequent decline rendered this option financially unviable for several states in the broader Middle East. Even countries with substantial oil revenues, like Saudi Arabia, struggled to manage the socio-political dynamics triggered by the Arab Spring.

In addition to regional political settlements and socio-political power dynamics, the declining influence of the concept of liberal peace is the third factor that coincided with economic decarbonization. The diminishing feasibility of comprehensive peacemaking, supported by the efforts of a vaguely defined international community, resulted in growing skepticism about whether peacemaking based on a comprehensive state-building model, designed after leading OECD states, is conceptually viable or ethically desirable.

Together, these factors resemble a resource curse in reverse. While the implications of decarbonization vary depending on the context, an overall comparison suggests that a new era of turbulence is emerging. Decarbonization and its economic effects are unlikely to lead to "more" peace. Traditionally, leaders have used carbon rents to "buy" peace and mitigate violence by funding a "big tent" approach that incentivizes intra-elite deals. Readily available political finance has enabled competing actors to come together by offering a price level sufficient to secure their political loyalty.

In most parts of the world, these mechanisms have declined and are unlikely to reappear in the short to medium term. Decarbonization leads to the diversification of strategic resources. Contextual factors will determine whether these strategic resources can generate the financial means to dominate political marketplace dynamics and establish stably formalized political unsettlement. While it is reasonable to assume that alternative resources will replace carbon economics, they are unlikely to be as globally dominant as carbon has been during its peak decades. This non-simultaneity will diminish global patterns and shift the focus toward regional dynamics. Globally, decarbonization will undoubtedly prolong turbulence and make durable regional orders more difficult to achieve. Overall, however, this is not necessarily bad news: reduced global dependencies might complicate the establishment of regional orders, but once established, these orders may be more resilient to global shocks and trajectories.

References

Abulof U (2017). 'Can't buy me legitimacy': the elusive stability of Mideast rentier regimes. *Journal of International Relations and Development*, *20*, 55–79.

Acemoglu D and Robinson JA (2012) *Why Nations Fail: The Origins of Power, Prosperity and Poverty*. London: Profile.

Ansani A and Daniele, V (2012) About a revolution: The economic motivations of the Arab Spring. *International Journal of Development and Conflict*, *2*(03), 1250013.

Ardiç N (2019) A look back at the 2011 Arab revolts the last wave of democratization, A function of capitalism, or a Challenge to neoliberalism? A multi-factor analysis. *İnsan ve Toplum*, *9*(3), 15–40.

Badeeb RA, Lean HH and Clark J (2017) The evolution of the natural resource curse thesis: A critical literature survey. *Resources Policy*, *51*, 123–134.

Beck M and Hüser S (2015) Jordan and the 'Arab spring': no challenge, no change? *Middle East Critique*, *24*(1), 83–97.

Bell C (2020) 'It's law Jim, but not as we know it': The public law techniques of ungovernance. *Transnational Legal Theory*, *11*(3), 300–328.

Bell C and Badanjak S (2019) Introducing PA-X: A new peace agreement database and dataset. *Journal of Peace Research*, *56*(3), 452–466.

Cheng C, Goodhand J and Meehan P (2010) *Synthesis paper: Securing and sustaining elite bargains that reduce violent conflict*. London: UK Government Stabilisation Unit.

Craze J (2023) *Making Markets: South Sudan's War Economy in the 21st Century*. Occasional paper. Medford, MA: Tufts University, World Peace Foundation.

De Waal A (2015) *The real politics of the Horn of Africa: Money, war and the business of power*. Cambridge: Polity Press.

Di John J and Putzel J (2009) *Political Settlements*. GSDRC Issues Paper. Birmingham: Governance and Social Development Resource Centre.

El Badawi I and Makdisi S (2007). Explaining the democracy deficit in the Arab world. *The Quarterly Review of Economics and Finance*, *46*(5), 813–831.

Erk J (2017) 'Nations, Nationalities, and Peoples': The Ethnopolitics of Ethnofederalism in Ethiopia. *Ethnopolitics*, *16*(3), 219–231.

Fearon JD and Laitin DD (2003) Ethnicity, insurgency, and civil war. *American Political Science Review*, *97*(1), 75–90.

Fukuyama F (2012) *The Origins of Political Order: From Prehuman Times to the French Revolution*. London: Profile Books.

Fukuyama F (2015) *Political Order and Political Decay: From the Industrial Revolution to the Globalisation of Democracy*. London: Profile Books.

Gause FG (2011) Why Middle East studies missed the Arab Spring: The myth of authoritarian stability. *Foreign affairs*, 81–90.

Khan MH (2018) Political settlements and the analysis of institutions. *African affairs*, *117*(469), 636–655.

Lechón Y, De La Rúa C and Cabal H (2018) Impacts of decarbonisation on the water-energy-land (WEL) nexus: a case study of the Spanish electricity sector. *Energies*, *11*(5), 1203.

Lei YH and Michaels G (2014) Do giant oilfield discoveries fuel internal armed conflicts? *Journal of Development Economics*, *110*, 139–157.

Malik A and Awadallah B (2013) The economics of the Arab Spring. *World Development*, *45*, 296–313.

Mehlum H, Moene K and Torvik R (2006) Institutions and the resource curse. *The Economic Journal*, *116*(508), 1–20.

North DC, Wallis JJ and Weingast BR (2009). *Violence and social orders: A conceptual framework for interpreting recorded human history*. Cambridge University Press.

Parks T and Cole W (2010) Political Settlements. *Implications for international development policy and practice.* Occasional Paper No. 2, *The Asia Foundation*.

Pospisil J and Rocha Menocal A (2017). Why political settlements matter: Navigating inclusion in processes of institutional transformation. *Journal of International Development*, *29*(5), 551–558.

Ross ML (2015) What have we learned about the resource curse? *Annual Review of Political Science*, *18*, 239–259.

Ross ML (2018) The politics of the resource curse. A Review. In: Lancaster C and Van de Walle N (eds) *The Oxford Handbook of the Politics of Development*. Oxford: Oxford University Press, pp. 200–223.

Rosser A (2006) The political economy of the resource curse: A literature survey. IDS Working Paper. Available at: https://opendocs.ids.ac.uk/opendocs/bitstream/handle/20.500.12413/4061/Wp268.pdf (accessed 19 October 2023)

Shao S and Yang L (2014) Natural resource dependence, human capital accumulation, and economic growth: A combined explanation for the resource curse and the resource blessing. *Energy Policy*, *74*, 632–642.

Silje A (2010) Oil and democracy: More than a cross-country correlation? *Journal of Peace Research*, 47:4, 421–431.

Sini S, Abdul-Rahim AS, Chin L, Said R and Sulaiman C (2022) Natural resources' impact on capital flow and conflict relationship in Africa: A novel insight from GMM and quantile regression. *Resources Policy*, *78*, 102791.

Talani L (2014). *The Arab Spring in the Global Political Economy*. London: Springer.

Welsch H (2008) Resource abundance and internal armed conflict: Types of natural resources and the incidence of 'new wars'. *Ecological Economics*, *67*(3), 503–513.

Wolfsfeld G, Segev E and Sheafer T (2013) Social media and the Arab Spring: Politics comes first. *The International Journal of Press/Politics*, *18*(2), 115–137.