US patronage, state capacity, and civil conflict
Digiuseppe, M.; Shea, P.E.

Citation

Version: Publisher's Version
License: Licensed under Article 25fa Copyright Act/Law (Amendment Taverne)
Downloaded from: https://hdl.handle.net/1887/3448128

Note: To cite this publication please use the final published version (if applicable).
US Patronage, State Capacity, and Civil Conflict

Matthew DiGiuseppe, Leiden University
Patrick E. Shea, University of Houston

Leaders need resources to maintain power. To secure these resources, states can develop their own extractive capacity or seek external support to help subsidize their costs. In this study, we argue that extractive capacity and external support are not always alternatives. We focus on how US support can foster local property rights, which subsequently builds extractive capacity. We then argue that states with more capacity are better able to either alleviate rebels’ grievances or deter rebels from mounting a military challenge. We use mediation analysis to test these expectations with a data set on capacity, US support, and civil conflict from 1970 to 2012. We find empirical support for the role of property rights and capacity as mediating factors between US support and civil conflict. Our results have implications for international explanations of civil conflict and the role of US patronage in capacity development.

Leaders need resources to satisfy key constituents and stave off internal and external challenges. To secure these resources, states can develop their own extractive capacity to generate revenue. 1 Alternatively, states may receive outside support to subsidize their costs. For example, the United States guaranteed billions of dollars in loans to Jordan in 2015 to bolster Jordan’s military effort toward ISIS and facilitate the management of Syrian refugees (Gevirtz 2015). The United States also provides alternative means of support to other states as well, such as foreign aid or security guarantees. This support is designed to promote and protect US security and economic interests abroad. In exchange, states receive important resources, which leaders can use to maintain support at home. Do these external fiscal resources and security agreements undermine leaders’ incentives to develop domestic extractive capacity?

In this study, we focus on how state capacity and external support are not alternatives to each other. Instead, we argue that external support—particularly from the United States—can build the extractive capacity tied to state building. The United States has incentives to create favorable investment conditions for American firms. To do so, the United States pushes some states to secure property rights. We focus on the process of how US support leads to property rights, which subsequently builds extractive capacity. US support lowers transaction costs for governments, while augmenting their administrative and informational capacity. As a result, states that receive support increase their extractive capacity. This capacity affords governments (1) more potential resources with which to directly deal with rebel challenges, (2) additional economic opportunities to dissuade potential rebels from joining a cause, and (3) information on “who the rebels [are] and how to find them” (Fearon and Laitin 2003, 79–80). In sum, states with more capacity are better able to either alleviate rebels’ grievances or deter rebels from mounting a military challenge.

Our argument is not intuitive. The existing literature on state development shows mixed results when examining external actors and state capacity (e.g., see Krasner and Risse 2014; Lee 2020). States that rely on external actors, particularly major powers, may lack incentives to develop internal capacity. States receiving support may instead allocate fiscal

Matthew DiGiuseppe is an assistant professor of political science at Leiden University, Leiden, Netherlands. Patrick E. Shea (pshea@uh.edu) is an associate professor of political science at the University of Houston, Houston, TX 77204.

Support for this research was provided by European Research Council grant 852334. Data and supporting materials necessary to reproduce the numerical results in the article are available in the JOP Dataverse (https://dataverse.harvard.edu/dataverse/jop). An online appendix with supplementary material is available at https://doi.org/10.1086/715598.

1. Our focus on extractive capacity stems from the predatory model of state building (Levi 1988; North 1981).
resources to important constituents to maintain political support rather than invest in state capacity (Kimball 2010). Alternatively, hierarchical relations may prompt supported states to engage in riskier behavior. For example, Aklín and Kern (2019) demonstrate that US support increases the risk of financial crises in supported states, while Chyzh and Labzina (2018) find that external support may prompt leaders to engage in risky repression strategies that may lead to leadership turnover.

Despite these negative externalities, we expect US support to translate into higher state capacity. Why? American support is partly designed to protect the competitiveness of US firms abroad. The United States wants to protect American firms against foreign expropriation, maintain the competitiveness of American products abroad, and foster a stable investment climate. Property rights help achieve these goals. In order to enforce property rights, states need capacity. Therefore, the United States provides a demand for state capacity but also financial support and technical training to ensure that capacity exists. We then argue that this increased capacity lowers the risk of civil conflict.

We test our argument using mediation analysis. First, we examine developing states’ hierarchical relationship with the United States. Instead of only considering the relationship between US support and capacity, we consider how more US support affects extractive capacity indirectly through the mediating variable of property rights. We find that states with more US support have better protections for property rights and higher state capacity. Higher state capacity subsequently decreases the risk of civil war onset. Further, we demonstrate through instrumental variable analysis that these relationships are not driven by endogeneity. While this study is not designed to act as a balance sheet for the pros and cons of American patronage, it demonstrates that American support increases fiscal development, while consequently reducing the risk of conflict.

Our argument and results have several implications. First, the civil conflict literature often takes a state-centric approach (Fearon and Laitin 2003) or a transnational/international approach (Gleditsch 2007) to the correlates of conflict. While both approaches offer insights into civil conflict dynamics, they are often examined in isolation from one another. This study attempts to marry these approaches by examining how international dynamics (US patronage) work through domestic causes of conflict (property rights and state capacity). In addition, by examining states’ domestic politics, we highlight an understudied aspect of American hegemony. Much of the literature related to American hegemony and hierarchy focuses on the structure and rules of that hierarchy and the effects of hierarchy on international outcomes, such as war and trade. There are notable exceptions that focus on the domestic effects of hierarchy. One strand of that research focuses on the moral hazard consequences, the United States’ willingness to act as a lender of last resort (Aklín and Kern 2019). Another strand of literature focuses on American hierarchy and the onset of civil war (Cunningham 2016). While our argument does not contradict that research, we demonstrate that it only represents a partial picture of the consequences of American hegemony.

Our argument also speaks directly to the state capacity literature. This broad literature often focuses on the manner in which domestic institutions or external threats provide an incentive for leaders to invest in fiscal capacity (Gibler and Miller 2014; Thies 2004). We highlight that beyond external coercion and threats, external support also plays a role in fiscal capacity development.

Third, our findings have implications for the politics of investment and trade literatures. Similar to the civil war research, this research sometimes focuses on state-centric or transnational correlates but rarely considers these factors simultaneously. For example, political economy research demonstrates that institutions are an important predictor of financial flows. Alternatively, research focuses on the global determinants of financial flows, such as interdependence (Brooks, Cunha, and Mosley 2015; Van Rijckeghem and Weder 2001), global economic conditions (Mosley 2003), or international institutions (Peinhardt and Wellhausen 2016; Tobin and Rose-Ackerman 2011). Both state-centric and international approaches inform political economy literatures, but we argue that they should be considered in tandem. Existing examples of this dual approach include Biglaisier and DeRouen’s (2007) analysis of how foreign direct investments follows US troop deployments, Thies, Chyzh, and Nieman’s (2016) analysis of international coercion and learning mechanisms of capacity, and research on the international determinants of property rights (Betz and Pond 2019). Our research builds off of this dual approach to focus on how US support directly and indirectly affects property rights and capacity, which should affect investment conditions.

Finally, our findings relate to the distinct possibility that the United States has entered into an era of hegemonic decline. If US support helps bolster states’ capacity, the lack of that support may have the reverse effect. If this is the case, the decline of US hegemony will have consequences for capacity and conflict yet to be considered.

---

2. For example, see Ballard-Rosa, Mosley, and Wellhausen (2021), Li, Owen, and Mitchell (2018), McGillivray and Smith (2008), Nieman and Thies (2019), and Pond (2018).
INTERNATIONAL DIMENSIONS OF STATE CAPACITY
AND CIVIL CONFLICT

Conflict is not a “fully domestic phenomenon,” as outside forces and actors can affect the conflict risks (Gleditsch 2007, 294). For example, outside intervention can affect conflict onset (Cunningham 2016), negotiated settlements (Walter 2002), and conflict duration (Gleditsch and Beardsley 2004). Other research examines international diffusion dynamics related to regional contagion (Gleditsch 2007) or refugees (Salehyan and Gleditsch 2006).

Domestic factors, however, still matter in civil conflict. Previous research has focused on either rebels’ motivations or state characteristics that help or hinder states’ ability to deter or manage challenges from rebels (Bodea, Elbadawi, and Houle 2017). One such characteristic that is of particular interest to civil conflict scholars is state capacity (Fjelde and De Soysa 2009; Hutchison and Johnson 2011; Mares 2005; Sobek 2010; Thies 2010).

State capacity is an important, intricate factor in conflict, as it is both a potential cause and consequence of fighting in general (Tilly 1992). Capacity has several dimensions specifically related to civil conflict (Hendrix 2010). Civil conflict research has focused on military capacity (Lacina 2006), political quality (Walter 2015), and extractive capacity (Thies 2010). Extractive capacity, the focus of our study, is a core concept of the fiscal sociology and predatory state literatures (Levi 1988; North 1981; Thies 2004; Tilly 1992) and can also be thought of as fiscal capacity or revenue-generating capacity. Scholars argue that extractive capacity affords state governments more resources with which to directly deal with rebel challenges or to provide additional economic opportunities to dissuade potential rebels from joining a cause (Fearon and Laitin 2003; Walter 2015). There is no consensus about this relationship, however, as other scholars have demonstrated that capacity has a null effect on conflict (Thies 2010) or that capacity may attract rebel activity (Koren and Sarbahi 2017).

This study seeks to examine the relationship between capacity and civil conflict by incorporating international dynamics. Rather than examine capacity and international factors in isolation from one another, we seek to demonstrate how international dynamics affect civil conflict through the mechanism of state capacity. Specifically, we ask whether support from the United States affects state capacity in developing states, which subsequently affects the likelihood of civil conflict. Some previous research suggests that US support may undermine states’ capacity. For example, Aklin and Kern (2019) demonstrate that US hegemony induces moral hazard in states’ financial behavior. States that rely on the United States or international financial institutions as lenders of last resort are more likely to adopt riskier fiscal and monetary policies and are thus more likely to experience a financial crisis (Aklin and Kern 2019; Lipsky 2018). If states can rely on major powers like the United States for financial resources and bailouts during crises, then these states have little incentive to develop their own fiscal capacity.

Beside financial incentives, US support may undermine states’ incentives to build capacity to deal with security threats. Cunningham (2016) argues that the United States is a credible interner on behalf of governments against rebels. With this security guarantee, protégé states do not necessarily need to invest in state capacity to ensure political stability but can divert fiscal resources to important constituents to increase political survival. Related to this line of thinking, Gibler and Miller (2014) and Thies (2004) argue that external threats prompt states to invest in state capacity. Again, if the United States can provide security guarantees to states with external threats or rivals, then these states have less incentive to invest in state capacity. While US support may lead supported states to divest from security or to be more financially risky, there are other capacity-building benefits.

US PATRONAGE, PROPERTY RIGHTS,
AND STATE CAPACITY

We begin our argument by explaining how US support increases states’ property rights and capacity. The United States uses its security and economic advantages to influence other states to carry out policies that promote American interests. Some states are more supported and influenced by the United States than others, creating a hierarchical structure to the world system (Lake 2011). American interests may be related to security or economics, and the relations between the United States and potential clients can range from pure dominance (i.e., colonialization) to one of unenforceable agreements (Lake 2011; Nieman 2016). In sum, the level of US patronage varies across states and varies over time within states as the United States’ interests or international conditions change.

We assume that US support to other states is predicated on some exchange. This exchange does not have to be reciprocal, balanced, or voluntary, but in general the United States provides support in exchange for policy concessions and market access for American firms. This assumed relationship is akin to Morrow’s (1991) model of asymmetric alliances, where the stronger state provides security and the weaker state provides some policy concession. Asymmetric alliances generally increase economic engagement (Fordham 3. Alternatively, internal threats may not always prompt leaders to build state capacity. Thies (2004) finds that while internal ethnic rivalries increase capacity, internal political rivalries do not.
2010). For example, states that received support from the CIA increased their import purchases from American firms (Berger et al. 2013). In addition, the United States signed trade and investment agreements with occupied Iraq and Afghanistan shortly after each of their invasions.4 The United States has also signed defensive alliances which specify that the ally will undergo market reforms to boost investments (Leeds et al. 2002).

Support from the United States may take the form of security guarantees but also financial aid, technical training, and other forms of assistance. The state receiving support benefits from additional financial resources and security assurances to help maintain power (DiGiuseppe and Shea 2015, 2016). The United States benefits with a larger portfolio of security partners and more access to foreign markets for American firms. Focusing on this latter point, the United States wants assurances that (1) American products can compete fairly in foreign markets, (2) American investments are protected from expropriation, and (3) American firms have increased economic opportunities in supported states. How does the United States receive these assurances for American investments and competitive markets? The United States pushes for property rights. Consequently, states receiving more support will have higher capacity because these states are more likely to protect property rights.

How does US support lead to property right development in states? Secure property rights foster investment and stability for American investment. As a result, property rights are a central tenet of US national interests (Kapstein 2017, 123). The United States pushes states to formalize property ownership, investing in overseas land reform and management programs (Kapstein 2017). For example, the United States’s Millennium Challenge Corporation (MCC) has implemented “Access to Land” projects in several countries, such as Benin, Mozambique, Burkina Faso, and Tajikistan. These projects push for formal land registration through facilitating formal titles, creating new land administration offices, training officials, managing ownership disputes, and mapping land ownership (MCC 2020).

Land ownership policies have several goals. Formalized property rights provide a mechanism for land disputes to be settled peacefully. If this resolution option is not available, then instability may ensue and those with grievances may be more likely to rebel (Klaus and Mitchell 2015). Alternatively, challengers to the state may provide their own resolution mechanism. For example, the Taliban helped Afghan people with land disputes when the central government could not do so (Ahmed 2015). In response, the United States has led a number of land titling programs in Afghanistan to directly “facilitate land dispute resolution” and “promote peace and stability” (USAID 2020). Stability helps protect American investments and fosters a more robust investment environment.

How does this help American firms beyond facilitating long-term stability? First, more protections on domestic property help protect American property from expropriation. To further decrease expropriation risk, the United States can enact punitive action against countries that expropriate US property. For example, the Hickenlooper and Helms amendments suspend foreign aid to expropriating countries (Wellhausen 2014, 49). Second, if people in developing countries have formal property ownership, it is easier to lease or transfer ownership of that land to American firms for Greenfield investment. In addition, formal land ownership increases people’s ability to access credit, with land acting as collateral (MCC 2020). With more credit, American firms’ potential customers have more money for consumption. There are also general economic benefits of property rights, with the potential of raising the incomes of American firms’ customers.

Besides pushing for property rights in general, the United States pushes states to protect intellectual property rights so that American imports can compete in foreign markets. The United States government pays close attention to states that violate intellectual property rights and those that carry out best practices to protect intellectual property rights. For example, the US Trade Representative publishes an annual report focused on “developments in intellectual property rights protection, enforcement, and related market access.” This particular report includes summaries of countries on the “Watch List” or “Priority Watch List,” which are those states not providing adequate protection to American products.

Some countries violate intellectual property rights to promote their own domestic goods. Other countries, however, do not purposely violate intellectual property rights. Instead, these countries lack the necessary capacity to identify intellectual property rights violations or lack the capacity to prosecute such violations if detected. For these latter groups of states, the United States plays two roles in developing property rights. First, the United States creates a demand for the development of property rights where one might not have existed in the first place. As Besley and Persson (2009) demonstrate,


demand for public goods, like property rights, is a predictor of the legal and fiscal capacity necessary to deliver those goods.

Second, the United States facilitates the development of property rights. The United States works closely with some states to increase “capacity building” (US Trade Representative 2019, 88). For example, the US Patent and Trademark Office, Department of State, Department of Commerce’s International Trade Administration, US Immigration and Customs Enforcement, and several other agencies offer training on intellectual property issues in other countries for a range of officials: judges, police officers, prosecutors, and policy makers (US Trade Representative 2019, 88). We expect that technical assistance decreases transaction costs for governments, which should facilitate state capacity (Levi 1988). Consistent with this, some research finds a positive relationship of technical assistance on quality of governance (Ear 2007), though there is no consensus (e.g., see Bräutigam and Knack 2004).

North (1981, 21) argued that an analysis of state building could not be “divorced from property rights.” Weingast (1995, 1) notes that a “government strong enough to protect property rights is also strong enough to confiscate the wealth of its citizens.” Given this, how does US support of property rights translate into increased state capacity? We argue that US support helps states increase their capacity to extract resources from the population. First, in an indirect way, property rights provide citizens more access to capital and are thought to increase economic growth. As a result, states with property have more potential resources to extract. However, states still need the capacity for this extraction.

With more formal property ownership laws, governments are in a better position to tax property. US support helps states build the administrative capacity to create and maintain land registries. This provides the state knowledge of who owns what and where. In addition, part of US efforts to protect property rights abroad includes the coordination of government agencies. With the goal of increasing efficiencies and decreasing delays in regulation, the United States provides logistical and training support for bureaucracies. This should lower the transaction costs of the state, increasing its capacity (Levi 1988). US support also focuses on bolstering the administrative capacity of law enforcement. The United States helps law enforcement agencies in other states with “disrupting and dismantling organized crime networks” and “improving officials’ capacity to detain, seize, and destroy illegal items at the border and elsewhere” (US Trade Representative 2019, 90). For example, the Philippines created an Intellectual Property Academy to develop education programs that adopt a “multidisciplinary approach” to intellectual property issues (US Trade Representative 2019). Brazil and Jamaica have intellectual property police units, while Malaysia has a Special Internet Forensics Unit. Even states without specialized intellectual property rights law enforcement agencies receive support to increase the capacity of the state to enforce the law.

In addition, US support increases states’ informational capacity about people’s ownership and whereabouts. Part of US support includes mapping land ownership and surveying the value of that land. This provides information to the state on where people live and allows the state to track financial payments related to property.

Administrative and information capacity—also referred to as coordination capacity—builds a state’s overall capacity by lowering the transaction costs associated with extraction (Berrick and Christiansen 2018; Hendrix 2010; Lindwall and Teorell 2016). With more information on who owns what property and the value of that property, states’ transaction costs related to potentially taxing that property are reduced. As a result, the state has more capacity to extract taxes on property. In addition, in order to protect domestic property rights, governments need revenue to increase the state’s monopoly of force and thus indirectly increase a state’s coercive capacity. Even if that revenue is ultimately subsidized by the United States, part of enforcing property rights includes collecting state revenue—such as royalty fees—that eventually are transferred to American firms. This does not necessarily mean that states’ tax revenue increases, as American firms want to operate in low tax environments. However, we expect that states’ potential extractive capacity increases with US support.

From this discussion, we derive the following hypotheses: (1) US support has a positive effect on property rights, (2) property rights increase state capacity, and (3) US support has a positive effect on state capacity.

If the United States has strong security interests, we might expect the United States to relax efforts to push for property rights. However, we note that even when the United States has a clear security interest with a state, they have been willing to prioritize property rights issues. For example, the United States partially revoked Ukraine’s trade privileges in October 2017, in the midst of conflict with Russia, in punishment for the violation of intellectual property rights. Those trade privileges were later restored when the Ukraine government passed legislation to ensure greater property rights protections (Axlerod 2019).

As the above hypotheses suggest, there is a mediating relationship between US support, property rights, and state capacity. The United States pushes for more property rights protections, which in turn increases state capacity. In this relationship, US support indirectly increases state capacity through the mediating variable property rights. Support from the United States may also have a direct effect on state capacity.
For example, leaders may choose to use resources from the United States to build coercive capacity (Darden 2019). Alternatively, US arms transfers or coordination between intelligence agencies may build capacity. For example, part of the MCC’s development program mentioned above included provisions to develop and protect Benin’s ports. This program component was intended to provide Benin farmers and American businesses operating in Benin better access to shipping routes. A point of emphasis of this port program included security provisions, allowing Benin to use MCC money to purchase patrol boats with machine guns (MCC 2012). So while this aspect of MCC’s project does not necessarily strengthen property rights, it does provide Benin more capacity with which to address challenges to the state.

If US support increases state capacity through higher property rights, how do these processes affect the state relative to its population? Specifically, increased capacity should not be limited to property issues but rather can extend its consequences to civil conflict. The relationship between state capacity and civil conflict is well studied, with increased capacity generally expected to decrease the proclivity of conflict (Fearon and Laitin 2003). Koren and Sarbahi (2017), however, find the opposite relationship, while Thies (2010) finds no such relationship. We revisit this relationship, focusing on how increased capacity related to property rights affects civil conflict proclivity.

If US support increases extractive capacity through increased property rights, states will have more potential resources to deter rebels. Alternatively, leaders can use their increased resources to co-opt potential rebels (Darden 2019). Increased property rights may also increase stability and economic opportunities directly, mitigating potential grievances of citizens. In addition, intrabureaucracy coordination should not only increase efficiencies related to property rights enforcement and management but also other government services. These efficiencies may help the government satiate potential rebels’ grievances before conflict erupts. Similarly, the expansion of property rights designed to protect American firms’ interests is more likely to protect the interests of some domestic firms as well if they work with American firms (Betz and Pond 2019). This will provide more opportunities for growth and less chance of government abuse. As a result, US patronage decreases the amount of potential grievances.

How the United States supports states may also contribute to lower conflict as well. For example, US support is designed to help developing states monitor when property rights are violated and enforce these rights. Consequently, the United States helps law enforcement agencies to disrupt organized crime networks that are purposely violating property rights related to American firms. Developing states can then use this same monitoring and enforcement capacity to disrupt rebel groups. In other words, states with US support have greater capacity to deter or combat challenges.

Land titling programs should also lower conflict. If the government has more knowledge related to who lives where, then the government has increased knowledge of where potential rebels live. Relatedly, with land-holding development, the government has more capacity to learn about financial transactions related to property. This may give governments more knowledge about potential rebels’ financial activities. Consistent with this, Albertus (2020) finds that land reform in Peru helped mitigate conflict through the mechanism of increased state informational capacity that enhanced counter-insurgency efforts. In addition, in order to carry out land area mapping, GPS equipment and vehicles are needed, which can subsequently be used by the government for other purposes.

From this, we expect the following mediating relationship: US support decreases the likelihood of conflict onset because of increased state capacity and higher property rights.

**EMPIRICAL ANALYSIS**

To test our hypotheses, we examine country-year observations of countries not in the Organisation for Economic Cooperation and Development (non-OECD states) with available data from the years 1970–2012. First, we examine whether US support affects states’ capacity and, if so, through what mechanism. We expect that US support not only increases capacity directly but can indirectly increase capacity through increased property rights. To carry out these objectives, we focus on the mediating role of property rights. Merely including property rights into a regression with US support may bias the estimated effects because it is a posttreatment variable. To illustrate this point, figure 1 maps out the potential causal relationship between US support, state capacity, and civil conflict onset.

US support may have two effects on capacity. First, US support may have a direct effect on state capacity, captured by the parameter $\theta_1$. Second, US support may have an indirect effect, operating through the mediating variable property rights.
protentions. These different effects should not be estimated from a single equation. Instead, we rely on the product-of-coefficients method (also known as the Baron and Kenny procedure; see VanderWeele [2016] for more on this estimator). First, we regress fiscal capacity on US support, the potential mediating variables, and control variables.

\[ E[Y|t, m, c] = \theta_0 + \theta_1 t + \theta_2 m + \theta_3 c + \mu, \]  

where \( Y \) is the outcome of interest (capacity), \( t \) is the explanatory variable of interest (US Support), \( m \) is the mediating variable (i.e., property rights), and \( c \) is a set of control variables. Then we regress the mediator on \( t \) and \( c \):

\[ E[m|t, c] = \beta_0 + \beta_1 t + \beta_2 c + v. \]

The direct effect is captured by \( \theta_1 \), whereas the indirect effect is taken as the product of \( \theta_1 \) and \( \beta_2 \). Following VanderWeele (2016), we let \( Y_i \) denote a state’s potential outcome when US support is set to some value, \( f \) (i.e., mean-level support). The term \( M_i \) is the value of the mediator at that same level of \( f \). Then \( Y_{in} \) indicates that US support is set to \( f \) and the mediator is fixed at the value \( m \). We then compare the outcome when US support is set to \( f \) and when it is set to some alternative value, \( f' \) (i.e., mean plus one standard deviation), as defined by this difference \( Y_{in} - Y_{in}' \). We then replicate the mediation to examine civil conflict. In that part of the analysis, our outcomes of interest in civil conflict onset and the mediating variables are state capacity and property rights.

In order to estimate valid direct and indirect effects of US support, we make some assumptions about the relationship between the treatment (US support), mediators (fiscal capacity and property rights), and outcome variables (fiscal capacity and civil war onset). First, the mediators are assumed to be the intermediate steps between the treatment and outcome variables, where the treatment causes the mediator to change, and the mediator causes the outcome to change. Second, we assume that the mediator does not cause the treatment, thus confounding the relationship between the treatment and outcome (VanderWeele 2016). We acknowledge that this is a strong assumption, which prompts us to use instrumental variable analysis as a validation of our main results (discussed in more detail below). Third, we assume that we have identified and controlled for potential confounders that affect both the treatment, outcome, and potentially the mediators. Again, this is a strong assumption. Besides the aforementioned instrumental variable analysis, we discuss additional modeling strategies below that address confounders.

Besides estimating the correct causal path that connects US support, state capacity, and civil conflict, we also want to focus on the correct comparison. We focus on “within” comparisons or within-unit variance estimates for two reasons. First, our data have unit heterogeneity. If the United States supports states based on time-invariant characteristics—such as geographical location—that also affects state capacity and conflict propensity, then pooled analysis or “between” variance estimates may produce biased results.

Second, civil conflict propensity has more within variance than between variance (see the appendix). However, despite this preponderance of within variance, 56 of the 147 countries in the sample have zero variation in civil conflict onset. If using a typical fixed effects estimator, the nonvariance in these 56 units presents a problem as these observations would be deleted from the sample. This nonrandom deletion may produce biased estimates. To avoid this problem, we focus on the within effect by differencing country-year observations by the unit average in each of our statistical models.

\[ Y_{it} - \bar{Y}_i = \beta_{within}(X_{it-1} - \bar{X}_i) + (\mu_{it} - \bar{\mu}_i). \]

In sum, this “within” estimation differences away all variation between states and relies on variation within states. We lag the right-hand-side variables. The advantage of this type of lag structure is that it focuses on the long-term effects of the covariates. We expect that US support and state capacity have longer term consequences on conflict propensity.

Data
The existing literature also uses several measures for US support and hierarchical relationships. For example, Lake (2011) distinguishes between security and economic hierarchy. The former is a composite measure based on American alliances and US troop deployment in a country. The latter is based on trade dependence and exchange rates. Though it is useful to distinguish these types of hierarchies, Lake (2011) notes the limitations, particularly with the economic measure. First, trade occurs for many reasons, and trade levels are sometimes independent of government action. Second, these measures capture actual trade levels, but not potential. As a result, it does not necessarily measure whether a supported state has outside options. We turn to an alternative measure that captures the US purposeful effort to support some states.

To measure variance in US support, we use McManus and Nieman’s (2019) measure of signaled support. This measure accounts for a range of activities the United States uses to signal support, including alliances, leader visits, military exercises, nuclear deployment, arms transfers, troop deployment, and statements of support. Instead of focusing on just one aspect of
US support, such as troop deployment, McManus and Nieman (2019) use a Bayesian latent model to provide a coherent measure of support level. The resulting measure is a continuous variable, where higher values signify higher support from the United States to other states.7 We note that while McManus and Nieman’s (2019) measure focuses more on security dynamics, some of the components—such as leader visits and statements of support—map onto our argument. In addition, we consider alternative measures in the appendix, including Lake’s (2011) hierarchical measure and US foreign aid data.

Capacity is a much evaluated concept in social sciences, and as a result the existing literature uses several measures (Hendrix 2010). Because state capacity is a latent concept (Lindvall and Teorell 2016), existing measures do not always perfectly capture the components that connect capacity to conflict. For example, we expect that tax revenue measures that are commonly used for proxies for state capacity would be ill suited for our analysis because the United States often pushes states to decrease tax obligations to make investment more enticing for American firms. Similarly, some measures of capacity map onto related but distinct concepts. For example, Fearon and Laitin (2003) use GDP per capita as a proxy of capacity, whereas that measure is probably more closely related to economic development. Thus, we turn to V-Dem’s latent measure of capacity, where higher values signify stronger extractive capability (Coppedge et al. 2020). The measure is a function of country experts’ responses to the question: “On which of the following sources of revenue does the central government primarily rely to finance its activities?” The answers range from a state not able to raise any revenue itself to a state taxing economic transactions. Using these expert responses and a Bayesian item response model, V-Dem produces a continuous measure of a state’s capacity.

The key difference between this measure and tax revenue measures is that V-Dem’s latent measure captures the latent potential that a state can (or cannot) extract resources but is not necessarily measuring whether these states actually extract those fiscal resources. As a result, we argue that this measure best captures our conceptualization of state capacity. We also highlight that while this measure does not directly measure a state’s informational or administrative capacity, such capacities are related to extractive capacity. Without the resources generated by extractive capacity, a state cannot afford the bureaucratic institutions associated with coordination capacity (Berwick and Christia 2018, 73). Consistent with this idea, prior research has often used indicators of fiscal capacity as a proxy for state capacity in general (Lindvall and Teorell 2016).8

To measure property rights, we again rely on the V-Dem data set (Pemstein et al. 2019). The V-Dem measure for property rights comes from expert responses to the question “Do individuals enjoy the right to private property.” The possible ordinal responses range from no property rights of any kind to all property rights (rights to acquire, possess, inherit, and sell property, including land). V-Dem then uses a Bayesian item response model to produce a continuous measure of property rights, where higher values indicate higher property rights.

To measure conflict onset, we use the Armed Conflict Dataset from the Peace Research Institute Oslo (PRIO; Strand 2006). An observation is coded one if a state experiences the beginning of an intrastate conflict in a given year; otherwise an observation is coded zero. The Armed Conflict Dataset defines intrastate conflict as violence (with at least 25 battle deaths) between a government and an organized rebel organization. These data cover all independent, non-OECD states with available data over the period 1970–2012.

Control variables

In order for the mediation estimates to be interpreted as a causal effect, we assume sequential ignorability (Imai, Keele, and Tingley 2010).9 To account for potential confounders to meet this assumption, we include control variables that may simultaneously explain US support, property rights, state capacity, and civil conflict. Identifying and measuring these potential confounders can be difficult, so we follow three strategies. First, we estimate within-unit estimators that control for time-invariant confounders, such as geographic characteristics. Second, we build off of previous models that explicitly focus on the relationship of capacity and civil conflict or US support and conflict (e.g., Cunningham 2016; Thies 2010). Finally, we examine the sensitivity of our results by considering alternative model specifications and analyzing an instrumental variable. We now discuss the controls we include in the main models.

Given our within-unit estimation strategy, our controls are designed to address time-varying concepts. For example, we control for democratic institutions. The United States may be more likely to support democracies, and democracies may

---
7. McManus and Nieman’s (2019) measure is an estimate of US support and thus each observation has different levels of uncertainty. We demonstrate in the appendix that accounting for the uncertainty with Rubin’s correction does not change the inferences we make below.
8. See the appendix for additional discussion on the validation of V-Dem’s capacity measure.
9. In sum, this assumption means that we first assume that treatment levels are independent of potential outcomes and mediator outcomes, and then we assume that the mediators are independent of potential outcomes. This assumption cannot be tested, but we run a sensitivity analysis in the appendix to show how much we would need to violate this assumption before our inferences change.
have higher capacity and more property rights protection. If a state is a democracy (or nondemocracy) for the entire sample, then the within-unit estimation strategy already accounts for this time-invariant confounder. However, if states are democratizing relative to their mean institutions, then our control addresses this time-varying component. To measure democracy we use the Polity measure (Marshall, Jaggers, and Gurr 2010). Following the civil conflict literature, we also include the squared form of Polity to capture the nonlinear effects between institutions and conflict (Gleditsch and Ruggeri 2010).

The United States may also support growing states or states with expanding markets. These same types of states will have more resources in the near future with which to fiscally develop. Consequently, we control for GDP per capita and the natural log of a state’s population. With the within estimates, positive values of these variables indicate that states have higher than their mean values. These data are drawn from the World Development Indicators (World Bank 2019).

Next, we control for natural resource wealth, using World Bank data on the total natural resource rents as a percentage of GDP (World Bank 2019). Higher natural resource wealth may attract US attention and affect both states’ incentives to develop fiscal capacity and prompt rebel groups to fight.

We also consider a state’s international threat environment, which might both drive US support and also provide incentives to develop fiscal and military capacity (Gibler and Miller 2014). With this in mind, we control for the competitive geopolitical environment using a latent variable constructed by Markowitz and Fariss (2018). The variable is constructed to consider a “state’s relative geographic position to every other state in the international system, the relative amount of economic power of those other states, and the degree to which their interests are compatible” (Markowitz and Fariss 2018, 78). The measure is highly predictive of the development of power projection capabilities and thus well suited to capture the relationship between threat and capacity.

To address issues of time, we take a few approaches. First, we include a dummy variable indicating the Cold War era. Next, we include a time trend variable that counts the number of years since a state last experienced conflict onset. Conflict may attract or repel US support. At the same time, conflict is a well-known correlate of state capacity (Queralt 2019; Thies 2010; Tilly 1992). We also include the squared and cubed forms of this time trend into the empirical model as nuisance parameters in case conflict’s legacy effect on capacity is nonlinear (Carter and Signorino 2010).

**Results for US support and state capacity**

Our first set of results in table 1, model 1, verifies that US support actually increases fiscal capacity. Focusing only on within variation, we find that signaled US support increases fiscal capacity in non-OECD states. In additional analysis, we demonstrate that this positive effect is robust to a number of sensitivity analyses. We prefer the model specification presented in model 1 because it is the model form most easily adaptable to the product-of-coefficients mediation analysis.

Model 2 begins the mediation analysis. Model 2 replicates model 1 but examines whether US support increases property rights. We find that US support increases property rights. We argued above that US pressures supported states to protect American firms’ property, requiring these states to develop added information, administrative, and extractive capacity. As a result of these additions, we expect property rights to increase states’ capacity. Model 3 considers property rights as a potential mediator. We find that property rights has a positive and statistically significant relationship with fiscal capacity. To further illustrate the substantive effect of US support, as mediated by property rights, we plot the predicted values of state capacity as a function of US support in figure 2A. We compare the effect of US support in model 1 (unmediated) to the effect of US support, controlling for property rights (mediated), in model 3. We observe a decrease in effect size in figure 2A, which sometimes, but not always, suggests mediation.

To determine whether there is an indirect effect of US support operating through increased property rights, we employ the product-of-coefficients mediation analysis by multiplying $\beta_1(\text{US Support})$ from model 2 by $\theta_1(\text{Property Rights})$ from model 3. We report the indirect effect in table 1. We find that US support has an indirect effect operating through property rights that represents roughly 43% of the total effect size. In sum, US support increases fiscal capacity in states, in large part, because US support increases states’ incentives to increase property rights protections.

We graphically represent the direct and indirect effects of US support, as mediated by property rights, in figure 2B. We compare the effects of property rights on state capacity from model 3 when US support is at its mean value and when US support is at its mean value plus one. These comparisons convey the substantive meaning of effects and how these results relate to each other structurally (Fritz and MacKinnon 2008). For example, in figure 2B, $\rho$ represents the total effect of US support on state capacity, which is $\theta_0(\text{US Support})$ from model 1 in table 1. The indirect effect is the difference between $a$ and $c$, where $c$ is the direct effect, or $\theta_1(\text{US Support})$ from model 3. This difference is also the same as the product of $\theta_1(\text{Property Rights})$ in model 3 $(d)$ and $\beta_1(\text{US Support})$ in model 2 $(b)$.

In addition, we report the direct and indirect effects estimated using the algorithms discussed in Imai et al. (2010) and...
implemented by the mediate package in R using a non-parametric bootstrapping approach to estimate standard errors. These results are substantively similar to the product-of-coefficient results and are found in figure 2C.

Unfortunately for international relations scholars, the United States and other major powers do not randomly assign their support to protégé states. As a result, estimates of the effects of major power support could be biased if some confounder
existed that influenced both the US decision to provide support and fiscal capacity. For example, if the United States focused its support on states with higher capacity, then our estimates do not represent a causal effect. In the regression analysis above we attempted to avoid this problem in two ways. First, we estimate within-unit regressions that control for time-invariant confounders. Second, we control for time-varying variables that potentially confound our relationships of interest. Admittedly, neither empirical strategy can guarantee that our estimates represent unbiased causal effects. Thus, we consider a third strategy: instrumental variable analysis.

Instrumental variable analysis requires a valid instrument that predicts US support but is orthogonal to the outcome variable. To find such an instrument, we follow Aklin and Kern (2019). Their study utilized the “echelon” corridor of states that forms the path from US conflict zones (Iraq and Afghanistan) to military hospitals in Germany. To ensure the safe arrival of wounded soldiers to these hospitals, the United States provided support to the countries along the route so that the corridor would be well supplied. This support included new bases and troop deployment in echelon countries (Aklin and Kern 2019). Like Aklin and Kern (2019), we find that the echelon is plausibly exogenous to a state’s capacity, property rights, or risk of conflict. Instead, whether a state is located in the echelon corridor is a function of happenstance geography. However, we do expect that states in the echelon will receive more US military support, and this military support will attract the attention of American businesses (Biglaiser and DeRouen 2007). One possible concern is that spillover from the conflicts in Iraq and Afghanistan could influence neighboring states’ capacity, property rights, and civil conflict in a negative manner. Similar to Aklin and Kern (2019), we exclude countries in direct proximity to Iraq and Afghanistan.11

We run the analysis in two stages. In the first stage, we estimate US support as a function of echelon and the same set of control variables in table 1. In this stage, we find that echelon has the expected positive effect on US support at the bottom of

---

Figure 2. Mediation effects in state capacity. A, Difference in effect size of US support. B, Mediated effects. C, Mediation with bootstrapping. Color version available as an online enhancement.

---

10. These countries include Germany, Czech Republic, Slovak Republic, Austria, Romania, Bulgaria, Armenia, Georgia, Azerbaijan, Turkey, Syria, Jordan, and Turkmenistan. The echelon begins in 2002 and continues to the end of the data set (2012). Note that only non-OECD states are analyzed. Importantly, the variable includes all states in the corridor, not only those states that received support.

11. Including or excluding these countries leads to substantively similar results.
In addition, we test whether echelon is a weak instrument using the Cragg-Donald Wald statistic and find $F$-values above the commonly used threshold of 10. Therefore, we reject that null that the instrument is weak. Further, the Anderson-Rubin $F$ and $\chi^2$ tests indicate that our results are robust to weak instruments. There is no way to test the validity of exclusion restriction. Since the instrument relies on the happenstance of geography in a way that is largely unrelated to factors that influence state capacity and property rights, we have strong theoretical confidence that our variable satisfied the exclusion restriction. Using the sensitivity test recommended by Conley, Hansen, and Rossi (2012), we find that our estimate of fiscal capacity and property rights still retain significance even with substantial violations of the exclusion restriction. Still, the main justification for the instrument’s validity is theoretical.

The results of the instrumental analysis are consistent with our other results. The instrumented US support has a direct, positive effect on capacity. We calculate the indirect effect using the product-of-coefficients method as before, and we observe a positive indirect effect operating through property rights.

### Results for US support, state capacity, and civil conflict

Having demonstrated that US support increases states’ capacity through increased property rights, we now examine whether this increased state capacity decreases the likelihood of civil conflict onset. We again employ a within-unit analysis, with all covariates lagged by one year. We make one adjustment from the models above. The dependent variable is binary, so we opt to add the average con-

ification to the models above. The dependent variable is

Justification for the instrument’s validity is theoretical.

The results of the instrumental analysis are consistent with our other results. The instrumented US support has a direct, positive effect on capacity. We calculate the indirect effect using the product-of-coefficients method as before, and we observe a positive indirect effect operating through property rights.

### Results for US support, state capacity, and civil conflict

Having demonstrated that US support increases states’ capacity through increased property rights, we now examine whether this increased state capacity decreases the likelihood of civil conflict onset. We again employ a within-unit analysis, with all covariates lagged by one year. We make one adjustment from the models above. The dependent variable is binary, so we opt to add the average con-

ification to the models above. The dependent variable is

Justification for the instrument’s validity is theoretical.

The results of the instrumental analysis are consistent with our other results. The instrumented US support has a direct, positive effect on capacity. We calculate the indirect effect using the product-of-coefficients method as before, and we observe a positive indirect effect operating through property rights.

### Results for US support, state capacity, and civil conflict

Having demonstrated that US support increases states’ capacity through increased property rights, we now examine whether this increased state capacity decreases the likelihood of civil conflict onset. We again employ a within-unit analysis, with all covariates lagged by one year. We make one adjustment from the models above. The dependent variable is binary, so we opt to add the average con-

ification to the models above. The dependent variable is

Justification for the instrument’s validity is theoretical.

The results of the instrumental analysis are consistent with our other results. The instrumented US support has a direct, positive effect on capacity. We calculate the indirect effect using the product-of-coefficients method as before, and we observe a positive indirect effect operating through property rights.

### Results for US support, state capacity, and civil conflict

Having demonstrated that US support increases states’ capacity through increased property rights, we now examine whether this increased state capacity decreases the likelihood of civil conflict onset. We again employ a within-unit analysis, with all covariates lagged by one year. We make one adjustment from the models above. The dependent variable is binary, so we opt to add the average con-

ification to the models above. The dependent variable is

Justification for the instrument’s validity is theoretical.

The results of the instrumental analysis are consistent with our other results. The instrumented US support has a direct, positive effect on capacity. We calculate the indirect effect using the product-of-coefficients method as before, and we observe a positive indirect effect operating through property rights.

### Results for US support, state capacity, and civil conflict

Having demonstrated that US support increases states’ capacity through increased property rights, we now examine whether this increased state capacity decreases the likelihood of civil conflict onset. We again employ a within-unit analysis, with all covariates lagged by one year. We make one adjustment from the models above. The dependent variable is binary, so we opt to add the average con-

ification to the models above. The dependent variable is

Justification for the instrument’s validity is theoretical.

The results of the instrumental analysis are consistent with our other results. The instrumented US support has a direct, positive effect on capacity. We calculate the indirect effect using the product-of-coefficients method as before, and we observe a positive indirect effect operating through property rights.

### Alternative specifications

With any model-based empirical strategy, there exists an endless possibility of alternative specifications. These alternatives include, but are not limited to, different control variables, different measurements of variables, different functional forms of the empirical models, and so on. Our study is no exception. We considered many of these alternatives but could not possibly present or analyze all alternatives. Nor would we want to. We focused on model choices that were consistent with our theoretical expectations. The alternatives we did not consider include, but are not limited to, different functional forms for the models, different control variables, and different definitions of the dependent and independent variables.

### Table 2

Table 2 reports the results for civil conflict. We begin with mediation analysis where US support’s effect on conflict acts through state capacity. In model 6, we find that increased capacity decreases the likelihood of civil conflict onset. This result is consistent with some previous research (Fearon and Laitin 2003) and is consistent with our theoretical expectations. By employing mediation analysis, we can determine to what extent this effect is mediated by the effect of US support on capacity. To formalize the mediation effects of US support, we again employ the product-of-coefficients mediation analysis by multiplying $\beta_1(US Support)$ from model 1 of table 1 by $\theta_2(Fiscal Capacity)$ of model 6, with the results reported at the bottom of table 2. Since model 6 is a logit model, we also report the estimates as odd ratios ($\text{exp}[^{\beta_1(US Support)} \times \theta_2(Fiscal Capacity)]$), to ease substantive interpretation. In sum, US support does not have a direct effect on civil conflict but indirectly decreases the proclivity of conflict through increased state capacity.

Model 7 includes property rights as an additional mediator. Here we expect US support’s effect on conflict to operate through property rights and then through state capacity. We proceed to calculate the indirect effect of US support through property rights and state capacity by summing the indirect effects of US Support operating through both state capacity and property rights (VanderWeele and Vansteelandt 2014).13 We observe that US support does not directly affect civil conflict onset but, rather, indirectly affects conflict through increased capacity. We observe a similar dynamic when property rights and state capacity are both mediators.

Finally, we return to our instrumental variable analysis to address endogeneity in the civil conflict models. Using the echelon instrument we used above, model 8 shows that the instrumented US support variable does not directly affect civil conflict onset. However, because the instrumented US support variable increases fiscal capacity, it has an indirect effect on civil war ($p < .05$), which is calculated using the same procedure as model 7. In sum, the instrumental analysis is consistent with our main results and our theoretical expectations.
consider were reasonable substitutes for our original design choices. In sum, these alternatives did not lead to substantively different results, so we do not report them here. Instead, we provide a brief summary, and the full results can be found in the appendix or replication files.

First, we consider alternative measures for our main variables of interest. For example, we examine bureaucratic quality measures as proxies for capacity. We also utilize Lake’s (2011) measures for American hierarchy and US foreign aid as alternative measures for US support. Next, we consider additional controls, such as trade. Following Aklin and Kern (2019), we include quadratic time trends in the models. We also include a lagged dependent variable in the mediation analysis. We also demonstrate that our results improve if we lag the US support variable by five years to address the long-term development of state capacity. Finally, we control for other major power support and examine the effects of EU foreign aid. In sum, these robustness results lead to the same conclusions as before: US support increases property rights and states’ capacity, which decreases the likelihood of civil conflict onset.

Table 2. Civil Conflict Onset, Within-Unit Logistic Regression, 1970–2012

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Conflict Onset (6)</th>
<th>Conflict Onset (7)</th>
<th>Conflict Onset (IV) (8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>US support</td>
<td>.540 (.361)</td>
<td>.590 (.370)</td>
<td>.201 (.989)</td>
</tr>
<tr>
<td>Property rights</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiscal capacity</td>
<td>−1.402* (.422)</td>
<td>−1.173* (.437)</td>
<td>−.532* (.205)</td>
</tr>
<tr>
<td>Controls</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Constant</td>
<td>−4.713* (.267)</td>
<td>−4.692* (.267)</td>
<td>−2.479* (.121)</td>
</tr>
<tr>
<td>AIC</td>
<td>543.5</td>
<td>541.8</td>
<td>2319.8</td>
</tr>
<tr>
<td>N</td>
<td>2,090</td>
<td>2,090</td>
<td>2,053</td>
</tr>
<tr>
<td>Indirect effect</td>
<td>−.044* (.038)</td>
<td>−.053* (.044)</td>
<td>−1.717* (.762)</td>
</tr>
<tr>
<td>Odds ratios</td>
<td>.902* (.085)</td>
<td>.885*</td>
<td>.179*</td>
</tr>
</tbody>
</table>

2SLS: First Stage

Echelon corridor .212* (.085)

Note. Estimates represent within-unit effects (differenced by unit average). Control variables not shown. Standard errors reported in parentheses. Indirect effects estimates are presented as both coefficients and odds ratios. AIC = Akaike information criterion. * p < .05.

CONCLUSION

A cursory search for “state capacity” in the Web of Science database reveals over 1,000 articles in the social sciences related to this topic. This is indicative of social scientists’ focus on this concept as both a cause and an effect. In this study, we consider both sides of the equation, where capacity is an outcome of US support and an important correlate of civil conflict. In doing so, we make several contributions to the literature.

First, besides the importance of war or the threat of war, previous research on state capacity has focused almost exclusively on internal factors such as domestic coalition politics or institutions. While we do not dispute the importance of these explanatory factors, we argue that external factors outside of war help explain a substantial portion of state capacity. In this study, we considered the question of what effect does US support have on a state’s capacity. Considering that US assistance may create moral hazard, supported states may find it difficult to fiscally develop. Despite this presence of moral hazard, we find that US support increases capacity. Using mediation analysis, we find that the United States has both a direct effect on fiscal development and an indirect effect that
operates through property rights. Given these results, we suggest that future research continue to focus on external explanations of states’ development.

Second, our analysis considers international and domestic factors’ effect on civil conflict conjointly. We demonstrate that an external factor (US support) affects the likelihood of conflict through domestic factors (state capacity and property rights). We suggest that future conflict research consider taking a similar approach. For example, the examination of how domestic factors such as rebels’ financing strategies or grievances affect the likelihood of great power support may be fruitful. Alternatively, future research can consider the scope conditions under which US support builds capacity and property rights. We consider some possibilities in the appendix but acknowledge that other conditional effects may exist.

Finally, our analysis shows another side to American hegemony, where US support leads to more state capacity despite added moral hazard. If the United States declines as a hegemon or chooses to withdraw support, we expect that capacity among these once-supported states would be stunted. Similarly, if the United States loses credibility as an ally, security partners may be less willing to provide advantageous investment conditions for American firms. Our analysis shows that there are many different consequences of the variation in US support, and the world should prepare for future changes in that support.

ACKNOWLEDGMENTS

We thank Tyson Chatagnier, Tom Hanna, Sarah Kreps, Alexander Kriss, and Rosella Capella Zielinski for their helpful feedback and support. We also thank the participants from the Boston University Political Economy of Security workshop, the APSA annual meeting, and the University of Houston Brown Bag Speaker Series. Finally, we thank the anonymous reviewers and the editor for their valuable comments.

REFERENCES


World Bank. 2019. World Development Indicators. World Bank, Washington, DC.