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What is This?

The impact of diamonds on economic growth, adverse regime change, and democratic state-building in Africa

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Abstract

Recent studies point to how resources such as diamonds have funded insurgency movements and how their geographic presence can foment the incidence but not necessarily the onset of civil wars. Such empirical studies are based on global models; however, we believe regional effects may be present. In order to address this, we disaggregate the empirical findings based on Africa as a region. By estimating a panel study of African states, we discover that those that are secondary diamond producers are not only vulnerable to domestic strife, but also prone to lower levels of economic growth, coup d'état episodes, and state failure—conditions that inhibit democratic state-building. We also find that secondary diamond-producing states in Africa are prone to both the onset and incidence of civil wars, a finding that diverges from previous empirical work. In asking how states may obviate this curse, we affirm a claim of state developmentalism: that in order to prevent collapse, states must harness the revenue potential of diffuse resources. The regulation and legitimisation of diamond production *is* an effective bulwark against the potential opportunity structures that such lootables may provide to warlords, insurgents, and military factions.

Keywords

Blood/conflict diamonds, democratic state-building, political conflict in Africa, political instability in Africa, resource curse, state developmentalism

Introduction

Political geography and the bounty of natural resources have been linked to political instability (Berdal and Malone, 2000; Snyder, 2006; Westing, 1986). More recently, the impact of diamonds

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on civil wars has received significant attention from scholars. The causal linkage between diamonds and civil conflict has been found to be nuanced. Michael Ross's (2004b) pioneering work suggests that diamonds do not necessarily trigger civil wars, but they play a significant role in lengthening their duration. This is corroborated by Lujala et al. (2005), who find that diamonds are linked with the incidence of civil wars, but not necessarily its generalised onset. Snyder and Bhavnani (2005) develop a theoretical model suggesting that diamonds play a role in exacerbating the duration of civil conflict because the lack of state capacity in harnessing resources to promote economic growth is likely to be exploited by would-be insurgents.

A general oversight in the extant research concerning diamonds is that they are based on global models, wherein such studies do not parse out the analysis based on the African region alone. The region of Africa is where a preponderance of diamond deposits are physically located (US Geological Report, 2003), which many policymakers believe to be a barrier in promoting the region's political, economic, and social development (Orogun, 2004). This is because these valuable diamond deposits in Africa "perpetuate regional destabilization, cross-border military incursions, and acute internal political instability … which unleashed a major humanitarian refugee catastrophe in parts of post-colonial Africa" (Orogun, 2004: 151). For instance, the Kimberly certification scheme sponsored by the United Nations (UN) was heralded by the UN to prevent the sale of alluvial diamond deposits in the international market in recognition of the devastating impact of African conflicts fuelled by the trade of conflict diamonds, which led to innumerable civilian deaths and casualties in Sierra Leone, Angola, the Democratic Republic of Congo, and the Central African Republic (Campbell, 2002; Collier et al., 2003; Diamond High Council Report, 2001). In these African states and many others, rebel armies, ethnic-based militia groups, and disgruntled members of the army have resorted to the illegal selling of lootable diamonds to purchase weapons and recruit armies. Often, they aim to destabilise the state either by civil wars or by full-blown coups.

This article provides new insights about the curse of blood diamonds on the African region. First, we find that African states that have alluvial diamond deposits have lower economic growth rates than states that do not. Second, we provide empirical evidence of how diamonds, as a lootable resource, can increase the likelihood of adverse regime changes through military coups in Africa. Finally, most African states that have a high concentration of lootable diamonds also have inherent problems with the democratisation process, as evidenced by continued political and human rights violations, the denial of civil and political liberties to their citizens, and poor governance. In light of this, we make a case for a public policy option based on the importance of state developmentalism and the Kimberly Process[1] as a curb to civil wars in the region.

This article expands on the empirical findings of Lujala et al. (2005). They find that the presence of diamonds together with ethnic fractionalisation increases the likelihood of prolonged civil conflict. One methodological weakness in their work is that they employ a pooled time-series cross-national study that involves developed states in Europe and Asia. Moreover, their models could merely be capturing an Africa effect, to which they allude (Lujala et al., 2005: 558). Yet, they do not provide specific models with an African regional dummy variable or parse out the analysis by region. Hence, this study goes beyond their work by analysing the data that involve 47 African states only. Thus, the major aim of the article is to determine if the presence of lootable diamonds has the propensity to generate low economic growth, higher levels of political instability, and democratic deficits in Africa—rendering democratic state-building difficult. The findings illustrate that there appears to be a diamond curse in Africa.

Further, this article contributes to the extant literature on the effect of natural resources on political instability by paying heed to the recommendations of Snyder and Bhavnani (2005: 588), who argue that studies in the resource-curse literature must parse natural resources into "finer types and

subtypes" as a way to improve conceptual precision. Likewise, it complements pioneering research by Lujala et al. (2005: 560), who recommend that their global models (that parsed diamond production between primary and secondary producers) be subjected to geographically disaggregated empirical testing.

Finally, the study shows how ethnic heterogeneity plays an important role in exacerbating the harmful effect of secondary production of diamonds on economic growth, political instability, and democratic development. Although diamonds provide an opportunity structure to finance the armed rebellions of insurgents and to sustain their struggle, we also find that what can provide the powder keg for even higher levels of political violence is a more ethnically diverse society in Africa.

Primary and secondary diamond production

Diamonds, as a lootable resource, are unique because of their high price. The diamond industry has made a niche out of developing industrialised trading posts in Africa, which then supply markets in Europe, Asia, and North America. According to a 2003 US Geological Survey report, on average, the price of diamonds is 45 times higher than that of gold, and such stones are highly valued by gem traders over silver, copper, or iron. Diamonds, often regarded as a "girl's best friend", have become the most popular stone used in engagement and wedding rings in the industrialised world (US Geological Report, 2003). The external trade of diamonds has thus become wealth-inducing even among those who make a living in the illegal trading market. Given that the transport of lootable diamonds involves low transaction costs compared with timber or large-scale agricultural produce, a single stone can be worth thousands of dollars. Further, lootable diamonds, unlike illicit drugs such as cocaine and heroin, are not easily detected by customs agents or metal detectors. The illegal commerce of lootable diamonds is perpetuated by their high tradability, low transaction costs, and low visibility (Olsson, 2003). As Olsson (2003) argues, diamonds are often sought after by predatory states and rebel armies because of their efficient convertibility to hard cash. Moreover, their small size and non-perishable state makes smuggling easier.

Diamonds are categorised as also falling into two categories based on their geographical and physical distribution. Non-lootable diamonds are deep-shaft immobile resources of the natural earth that require a high degree of capital and technology to extract. These deep-shaft Kimberline diamond deposits also have a tendency to be highly concentrated in a specific region. Furthermore, deep-shaft Kimberline diamonds require large amounts of revenue in order to be exportable, and hence the state has every incentive to monopolise production and to develop state-owned companies to regulate their production, extraction, and exportation. By contrast, lootable diamonds, which are easily extracted directly from the soil, are highly mobile and regionally diffused, and are often subject to illegal trading by artisans, local merchants, and insurgents. Because the state cannot monopolise the extraction and production of lootable diamonds, they often facilitate the creation of illegal trading, which has subsequently financed rebel group activity and led to civil wars (Lujala et al., 2005; Snyder and Bhavnani, 2005). While many nations in Africa possess a healthy mix of both lootable and non-lootable diamonds, some states have a higher proportion of lootable diamonds, which makes them more susceptible to low-growth economy and political instability.

Recent empirical work has shown that diamond production itself is not a homogeneous economic enterprise. We can specify two distinct categories of diamond producers. Gilmore et al. (2005) classify primary producers as states whose governments officially nationalised, monopolised, or authorised private companies to regulate the diamond industry, while secondary producers are states where most of the production is informal or artisanal. Lujala et al. (2005) show that primary diamond producers generate non-lootable diamonds because their production volume is high

and regularised. Furthermore, among primary producers, a significant portion of gross domestic product (GDP) is derived from diamond exports. By contrast, secondary diamond producers mostly have alluvial deposits, where production volume is sporadic, making the exportability of diamonds insubstantial. Thus, the conceptual difference between the primary and secondary production of diamonds largely hinges on state capacity.[2] For the purposes of this article, we rely on the classification scheme of Lujala et al. (2005). Table 1 provides a list of countries in Africa that are primary and secondary producers of diamonds, the duration (in terms of civil war years) of civil conflict for African states that experienced the onset of civil war, and the insurgent groups involved in African civil war from 1960 to 2004. Table 1 shows that secondary diamond-producing states have a higher incidence of protracted civil conflict. In terms of total civil war years, secondary producers have a total of 167; primary producers have a total of 25; while non-producers have a total of 85.[3]

Additionally, primary and secondary producers display different trajectories for economic growth. On the one hand, as Snyder and Bhavnani (2005) argued, primary producers are advantaged and blessed because the state is given the opportunity to monopolise control of production. Thus, they create a revenue-seeking avenue that can harness this resource wealth for economic development. Primary producers can also use the increased revenue from diamond exports to increase military spending—which is an effective bulwark against factional splits and infighting that can erupt among ethnic groups. On the other hand, secondary producers are cursed because the state has limited capacity to organise production. Revenues from diamond production are mostly artisanal, which enables rebel groups to infiltrate towns and cities that have high levels of diffused alluvial deposits. As a result, illegal trading is of greater importance among secondary producers. Civil wars erupt more frequently among secondary producers, a fact that can have a greater impact on their economic growth potential.

Determinants of civil wars: Motivation, opportunity structures, and identity formation

The theoretical framework of this article is predicated on the social movement theories proposed by Charles Tilly (1978) and Sidney Tarrow (1996).[4] From this position, the argument is that armed rebellion or insurgent social movements arise due to motivation, opportunity structures, and identity formation (Lujala et al., 2005). By motive, we mean that there must be some sort of grievance around which rebels coalesce. This then leads them to want to overthrow the state, claiming relative deprivation, economic dislocation, or chronic institutional discrimination by agents of the state. But such motivations may also be based solely on the desire of rebels to gain political power or enhance their social standing because of the rent-seeking opportunities that governing provides. While resource abundance can prolong the power of personalist dictators, rebel insurgency groups can develop the motivation to overthrow the state if they realise that the predatory regime has accrued rents and institutionalised corruption by capitalising on a particular resource. Thus, rebels acquire an added motivation to enrich themselves by controlling state assets.

However, motivation alone is not enough to spur insurgent movements that can initiate civil war episodes. Opportunity structures are needed. Opportunity structures are the productive value in the resources that accrue to contenders/insurgents as a result of the shifts in power alignments among those who rule. As a result of such power shifts, a window of opportunity is opened, which contenders may occupy or in which to bid for political legitimacy.

Further, there is a pressing need for the budding insurgency movement to legitimise itself by proving that it has the financial capacity or capability with which to recruit new members, purchase weapons and armaments, and concomitantly develop an effective propaganda machine (Ellingsen,

Table 1. Diamond production in Africa and the incidence and onset of civil conflict (1960–2004).

Primary-producing state	Secondary-producing state	Non-producing state
Botswana	Angola (1975–2002, insurgency group União Nacional para a Independência Total de Angola; 1992–current, Front for the Liberation of the Enclave of Cabinda (Cabinda))	Algeria
Congo/Zaire (civil war 1960–1965, Katanga, Ksai, Conseil National de Libération); 1977–1978, (Front National pour la Libération du Congo); 1996–1997, Alliance of Democratic Forces for the Liberation of Congo-Zaire (Kabila); 1998–current, Rassemblement Congolais pour la Démocratie vs government)	Central African Republic (civil war 1980–1997, factional fighting)	Burkina-Faso
Lesotho	Chad (1965–current, Front de Libération Nationale du Tchad; 1994–1998, southern rebels)	Burundi (1993–current, Hutu groups vs government)
Namibia	Congo (1988–1999, factional fighting)	Cameroon
South Africa	Gabon	Djibouti (1993–1994, Front for the Restoration of Unity and Democracy)
Swaziland	Ghana	Egypt
Zimbabwe (1972–1979, Zimbabwe African National Union, Zimbabwe African People's Union; 1983–1987, Ndebele Guerilla)	Guinea (1988–1999, factional fighting)	Eritrea
	La Côte D'Ivoire (2003–current, various groups)	Ethiopia (1974–1992; 1997–current, various groups)
	Liberia (1989–1996, National Patriotic Front of Liberia (Taylor), Independent National Patriotic Front of Liberia (Johnson))	The Gambia

(Continued)

Table 1. (Continued)

Primary-producing state	Secondary-producing state	Non-producing state
	Mali (1989–1994, Tuaregs)	Guinea-Bissau
	Rwanda (1962–1965, post-revolution strife; 1990–1994, Rwandan Patriotic Front)	Kenya
	Sierra Leone (1991–2002, Revolutionary United Front, Armed Forces Revolutionary Council)	Madagascar
	Tanzania	Malawi
		Mauritania
		Mauritius
		Morocco
		Mozambique (1976–1995, Resistência Nacional Moçambicana)
		Niger
		Nigeria (1967–1970, Biafra)
		Senegal
		Somalia (1981–1991, Somali Salvation Democratic Front, Somali National Movement)
		Sudan (1963–1972, ANYA group)
		Togo
		Tunisia
		Uganda (1981–1987, National Resistance Army)
		Zambia

2000). Douglas McAdam (1982, 1997) also proposed that resource mobilisation, in the form of "money, facilities, and labor", is a necessary component for the success of insurgency movements. Also, Collier et al. (2003) and Michael Ross (2004a, 2004b) have shown that certain episodes of civil conflict in the developing world derive their opportunity structures from the abundance of natural resources. This suggests that a large amount of lootable resources that are not under state control can be harnessed by insurgent groups to expand their economic viability. Examples of this outside Africa include the narcotics trading that has financed the long-term insurgencies of the Fuerzas Armadas Revolucionarias de Colombia (FARC) and Ejército de Liberación Nacional (ELN) guerrillas in Colombia and the Tamil insurgency group in Sri Lanka (Thompson, 2003). But such motivation and opportunity structures cannot have any salience without a strong sense of collective consciousness among rebel groups. As a result, nascent insurgency movements need to have a shared sense of history or collective memory. This can be provided by a common linguistic, ethnic, or religious identity.

Where do natural resources play a role in forming opportunity structures? According to Le Billon (2001a, 2001b), the presence of alluvial diamonds has had a negative impact on the peace process in many African civil conflicts. He argues that the geographic presence of diamonds in certain regions has made peace talks among militia groups an exercise in futility. Although peace talks are essential to encourage rival factions to bargain and enter into a ceasefire, some rebel groups that choose to negotiate with the enemy may fractionalise. Fractionalisation among rebel groups is common because some insurgents are deeply loyal to the cause, and the availability of looted goods at the disposal of some insurgents can be used by breakaway factions to fund new insurgency movements. Therefore, the presence of alluvial diamond deposits has made it difficult for international organisations to sustain the long-term duration of ceasefires. Moreover, some guerrilla groups find it more profitable to fight than to achieve peace (Le Billon, 2001a, 2001b).

Further, there are cases where rebels, insurgents, and army commanders have launched protracted attacks against the state, not to overthrow it based on an ideological agenda, but rather, to render it weak and illegitimate in order to enable them to extract natural resources for their own personal enrichment and self-interested motives (Le Billon, 2001b).

Research design and empirical strategy

We employ panel time-series data of 47 African states that have data points from the Lujala et al.'s (2005) Diamond Dataset (DIADATA). This database presents as dummy variables primary diamond producers, which are coded as those states that have created state agencies in order to regulate diamond extraction and export distribution, while it codes secondary producers as states with substantial deposits of alluvial diamonds that lack effective state agencies to regulate diamond exports. The database excludes data from smaller states of Africa, including the Seychelles, Comoros, Cape Verde, and São Tomé and Príncipe, because data for such countries is not provided in the DIADATA database. The diamond dummies for primary and secondary producers serve as our primary independent variables, wherein non-diamond-producing states serve as the reference category.[5]

We also create an interaction variable that forms an interactive term between the secondary-producing state dummy variable and ethnic fractionalisation. Following the findings of Lujala et al. (2005: 551, 554), who find that this interaction term has a substantial effect on the incidence and onset of both ideological and ethnic-based civil wars, it is imperative that we utilise the same interaction term to statistically test it on a purely African model. Lujala et al. (2005) claim that they are capturing an African effect in their global model, yet no attempt was made to run an African regional dummy in their study. Thus, we can test empirically whether indeed it is the case that

African states with high levels of secondary diamond deposits that are also characterised by high levels of ethnic fractionalisation are prone to economic underdevelopment, higher likelihood of coup events, low political and civil liberties scores, and low prospects for democratisation.

This article utilises seven dependent variables. To test the effect of blood diamonds on civil wars, we utilise the data set of Fearon and Laitin (2003), which has a comprehensive listing of civil war episodes from the period years 1960–1999. To test the effect of secondary diamond production on adverse regime change, we utilise Banks's data set on coups. We code a coup event as 1, and a non-event as 0. Since coups precipitate political instability, and can have a long-standing effect on propagating future adverse regime change, we also tap Goldstone and Gurr's (2002) State Failure Index, which provides a score that ranges from 0 (minimum) to 12 (maximum), which is a proxy determining the extent of violent threats against state authority.[6]

As for economic growth and economic development, we utilise the natural log of per capita GDP of each African state from the period years 1960–1999, which is available from the Gilmore et al. (2005) database and the Human Development Index (HDI) scores. Economic growth rates do not fully capture the extent of economic development, so we rely on the HDI to determine if secondary diamond producers are indeed victimised by the diamond curse.

To assess the impact of secondary production on the prospects for democratic state-building, we draw upon the Freedom House scores of political and civil liberties and the International Country Risk Guide (ICRG) measures. For the Freedom House indicators, both political and civil liberties are based on a score that ranges from 1 (minimum) to 7 (maximum).[7] Higher scores indicate stronger levels of freedom. The ICRG measures capture the essence of effective democratic governance among states in terms of the entrenchment of the rule of law, bureaucratic quality, the protection of property rights, and the prevalence of corruption.[8]

In this study, we utilise the standardised control variables that have been used on extant civil war research. Primarily derived from the works of Fearon and Laitin (2003) and Lujala et al. (2005), the following control variables are utilised because they have had statistically significant effects on civil war onset and duration, which may have long-standing effects on economic growth and development, political instability, and democratic state-building. They include religious fractionalisation, the natural log of the population, a dummy variable if a nation is a primary commodity exporter, a democracy variable, a political instability measure, years since independence, prior war episode, and a dummy for oil exporters. Variance Inflation Factor scores indicate no problems with multicollinearity. Appendix 1 (available online at: http://ips.sagepub.com) provides the description and source of the variables.

Since the economic growth data, HDI scores, and democratic governance measures are continuous variables, we utilise time-series cross-sectional analysis with panel-corrected standard errors. To control for the occurrence of serial auto-correlation and panel heteroskedastic tendencies, we utilise country dummies for each of the models.

Rare-events logistic regression models are utilised for the models that use the onset and incidence of civil wars and coup events as dependent variables. This is generated by using the STATA syntax command provided by Tomz, King, and Zeng (1999). This function basically estimates and interprets logit results when the sample is unbalanced (one outcome is rarer than the other) or has been selected by a rule correlated with the dependent variable. The "RELOGIT" estimates the same logit model as the XTlogit command, but with an estimator that gives a lower mean square error in the presence of rare events data for coefficients probabilities, including those of control variables.

We advance several hypotheses beyond the conventional wisdom that alluvial diamonds facilitate civil conflict in the African region. We argue that the presence of lootable diamonds in African

states elicits long-standing economic instability, coup episodes, and inherent problems with democratisation. Civil wars are known to have a long-standing impact on economic growth. Research by Murdoch and Sandler (2002) and Addison et al. (2005) finds that the onset and duration of civil war have both long-run and short-run effects on economic growth. Specifically, the occurrence of a civil war retards socio-economic growth for a five-year duration after the termination of civil hostilities. Thus, civil wars have a substantial impact in producing negative growth rates and curtailed domestic and international investment rates, and can play a role in drastically inhibiting human capital development. Also, civil wars have significant spillover effects because of collateral damage. Further, human capital expenditures are reduced when a nation experiences a civil war. Considering that the incidence of civil wars has affected more African states that are secondary producers of diamonds compared with non-producers (refer to Table 1), it is important to test whether the presence of diamonds in a state has systemic effects on economic growth:

> Hypothesis 1: African states that are secondary producers of alluvial diamonds are more prone to low economic growth, and consequently also have low levels of human capital development.

Production of diamonds can also incite political instability, short of full-blown civil wars. As Ndumbe and Cole (2005) illustrate, African patrimonial states have created the unholy alliance between loyalists and cronies that remain subservient to the personalist dictator or one-party dictatorship. Oligarchic control of resources often leads to economic inefficiency, which may in fact explain the motivation of generals to organise coup d'état events in Africa from the 1970s to the 1980s (see Bates, 1981; Bratton and Van de Walle, 1997; Jackson and Rosberg, 1982; Ndumbe and Cole, 2005). Not all African coups arise from this pattern, as some have been launched by rightist generals who want to secure property rights (Ayittey, 1998; Tusalem, 2010). However, lootable diamonds can be exploited by military rebels to finance their coup expeditions, especially among factions that are hindered by institutional restraints on their promotion, advancement, or pay (Bald, 2000; Decalo, 1976). Reports by a panel of experts from the Diamond High Council (2001a, 2001b) have reported that military intervention in some African states may have been financed by blood diamonds, particularly the high-publicity coups that occurred in La Côte d'Ivoire in 1999 and Liberia in 1980 and 1990 (see Ali and Matthews, 2004; Reno, 1997). To substantiate this further, a 2004 Kimberly Process directive reported that the recent coup in the Central African Republic may have been a result of secondary diamonds. Specifically, General Francois Bozize of the Central African Republic was able to seize on lootable diamonds from artisanal extractors to finance his coup expedition. General Bozize then sold the looted diamonds illegally to Belgian traders through transit points in Zambia. Through illegal money seized from the diamond trade, Bozize was able to purchase high-tech artillery that ousted the government of President Ange-Felix Patasse, whose neo-patrimonial regime was known to be corrupt. Finally, past empirical research on coup episodes posits that coup events themselves perpetuate future coup episodes and thus are harbingers for protracted political instability (Decalo, 1976; Londregan and Poole, 1990).

Table 2 lists all the coup episodes for all African states according to the type of diamond production, for 39 years. It reveals how, during the years 1960–1999, 77% of secondary diamond producers experienced one or more coup episodes, while only 42% of non-producers and 43% of primary diamond producers experienced one or more coup episodes. Thus, it shows that secondary diamond producers are far more susceptible to coup episodes than non-producers and primary producers. Based on this finding, we hypothesise that secondary diamond production increases the likelihood that a state will experience the politicisation of the military and its intervention in the polity, resulting in longer episodes of political instability that lead to state failure:

Table 2. Diamond production in the African continent and incidence of military coups (1960–1999).

Primary-producing state	Secondary-producing state	Non-producing state
Botswana	Angola	Algeria (1965)
Congo/Zaire (1965)	Central African Republic (1966, 1979, 1981)	Burkina-Faso (1982, 1987)
Lesotho (1986, 1990)	Chad (1975, 1982, 1990)	Burundi (1987, 1993)
Namibia	Republic of Congo	Cameroon
South Africa	Gabon (1964)	Djibouti
Swaziland (1982, 1983)	Ghana (1964, 1966, 1972, 1978, 1981)	Egypt
Zimbabwe	Guinea (1980, 1981, 1984)	Eritrea
	La Côte D'Ivoire (1999)	Ethiopia (1974)
	Liberia (1980, 1990)	The Gambia
	Mali (1968, 1972, 1990)	Guinea-Bissau (1980)
	Rwanda (1973)	Kenya
	Sierra Leone (1967, 1968)	Madagascar
	Tanzania	Malawi
		Mauritania (1984)
		Mauritius
		Morocco
		Mozambique
		Niger (1974)
		Nigeria 1966 (2[a]), 1975, 1983, 1985
		Senegal
		Somalia
		Sudan (1971, 1985, 1986)
		Togo (1967)
		Tunisia
		Uganda (1985, 1986)
		Zambia

Notes: [a]Nigeria experienced two coup episodes in 1966. Year indicates when successful coup episode occurred.

> Hypothesis 2: African states that are secondary producers of alluvial diamonds are more prone to military coup events and longer periods of state failure.

Further, the resultant regime after a civil war or a coup episode must rely on the Hobbesian Leviathan model of governance by relying on martial law or denying political rights to certain groups in order to neutralise opposition groups or warlords who are capable of making a political comeback. The repression in terms of civil rights and political liberty restrictions is often the norm in post-civil war regimes, and hence they often fail to democratise. African states with histories of civil war propensities create an institutional environment where they develop no political culture of tolerance, where consensus-seeking is seen as a recipe for more wars, and where prospects for democratisation or re-democratisation are nil. In fact, civil war states often become collapsed entities incapable of nurturing any aspect of civil society transformation or rule-of-law entrenchment. The result, therefore, according to Reno (1999), is that the political environment will always be mired in intra-ethnic and inter-ethnic conflict, where the democratic spirit cannot thrive.

However, this negative assessment by Reno is disputed by Wantchekon (2004) and Rotberg (2003). Both argue that post-civil war democratisation can occur expeditiously after years of protracted conflict, bypassing the autocratic interlude associated with the Huntingtonian and Hobbesian normative prescription. Using game-theoretic explanations, they both posit that political factions choose democracy over the "Leviathan arbitrator" because democracy allows them to continue their expropriation of natural resources tendencies (albeit on a reduced scale). Democracy is actually chosen by rival factions because the system allows them to alternate political power in pure equilibrium through the electoral process. Thus, chaos associated with civil wars can immediately lead to democratic order, especially if warlords and guerrilla factions are dependent on the investor class for revenue collection.

We seek to resolve the conundrum on whether post-civil war regimes can democratise in diamond-producing states. We systematically explore whether post-civil war democratisation is possible. In particular, we address the question: are African states that are victimised by the diamond curse capable of democratisation? We posit that Wantchekon's and Rotberg's arguments appear not to apply to most, if not all, sub-Saharan African states whose civil wars were financed by lootable resources (diamonds), wherein most still continue to experience unstable polities. Hence, it is common for post-civil war states to continue to experience democratic deficits. Consequently, we formulate the third hypothesis:

> Hypothesis 3: African states that are secondary diamond producers are less likely to democratise because they have persistent low levels of political and civil liberties and low democratic governance scores.

We seek to learn whether the presence of secondary alluvial diamonds leads to an increased propensity for civil wars in general. An important aspect of this empirical exercise is to assess whether or not secondary diamond production in Africa has an effect on both the onset and incidence of civil wars. This needs to be reassessed in light of how the extant literature using global models finds that diamonds do not necessarily trigger the onset of civil conflict, but only play a role in prolonging its incidence (Lujala et al., 2005; Ross, 2004b). Thus, we hypothesise that:

> Hypothesis 4: African states that are secondary producers of alluvial diamonds are more prone to civil war onset and duration.

Analysis

We begin the analysis by looking at the effect of secondary alluvial diamond deposits on economic growth and human capital development. Considering that ethnically fragmented states that are secondary producers of diamonds are more likely to experience civil wars, it is anticipated that their long-term economic modalities are affected for many years. Table 3 shows that secondary producers of diamonds with high levels of ethnic fractionalisation have low-growth economies as a function of the GDP (significant at $p < .01$), and that their human development scores from 1975 to 1999 are also lower when compared with non-producers (significant at $p < .01$). The level of significance of the interactive term between ethnic fractionalisation and secondary diamond producers is actually greater in magnitude (significant at $p < .01$) compared with the secondary diamond producer dummy alone (only significant at $p < .05$). This shows that ethnic fractionalisation is a salient variable that makes economic growth and human development significantly lower for African states that are also secondary diamond producers. Notably, primary diamond-producing

Table 3. The effect of alluvial diamond deposits on economic growth (1960–1990) and human capital development (1975–1999).

	Natural log per capita GDP	HDI score
Ethnic fractionalisation	−0.433** (0.168)	−0.113** (0.051)
Religious fractionalisation	0.141 (0.117)	0.457 (0.375)
Population size (log)	1.158*** (0.449)	1.010* (0.550)
Primary commodity exporter	−1.39* (0.698)	−0.256** (0.117)
Trade openness (exports as % of GDP)	0.597* (0.318)	0.025* (0.013)
Political instability	−0.005 (0.006)	−1.301*** (0.502)
Years since independence	0.196* (0.098)	0.004 (0.016)
Prior war	−0.214** (0.083)	−1.125*** (0.418)
Oil exporter	0.311 (0.297)	1.470* (0.738)
Primary diamond producers	0.471* (0.249)	2.143* (1.102)
Secondary diamond producers	−0.259** (0.086)	−0.896** (0.430)
Secondary diamond*ethnic fractionalisation	−0.324*** (0.091)	−1.074*** (0.286)
N	1172	965
Adjusted R square	0.318	0.493

Notes: Regression estimates (PCSE). Parameter coefficients reported (panel-corrected standard errors in parentheses). Significance: * $p < .10$; ** $p < .05$; *** $p < .01$.

states in Africa experience higher levels of economic growth and higher levels of economic development (although only marginally significant at $p < .10$). This is consistent with the argument that African states that promote a developmentalist approach involving the nationalisation and industrialisation of their diamond industries are more likely to create a predatory state. Such states can have high levels of rent-seeking. However, such states also create an institutional environment where modicum levels of economic growth and human capital development can occur in the long term by using such windfall profits to diversify their economy and for long-term investments in infrastructure (Rothchild, 1994; Sandbrook, 1986).

Next, we generate a model that examines if secondary diamond-producing states experience higher levels of adverse regime changes, in terms of coup d'état events. As the method employed is rare-events logistic regression, parameter coefficients are to be interpreted such that a positive value indicates an increased likelihood of an event and, conversely, a negative value pertains to a decreased likelihood of an event. Also, as mentioned previously, states vulnerable to such adverse regime changes are also susceptible to the failure of state authority, which may affect prospects for democratic statecraft. The results in Table 4 show that secondary diamond producers are more susceptible to military intervention in the polity (significant at $p < .05$), while primary producers are not (marginally significant at $p < .10$). Further, secondary diamond producers are more likely to experience failed state authority (based on the Goldstone and Gurr index; significant at $p < .10$), while primary producers are not. The results also show strong significance at the ($p < .01$) level for the onset of coups and the presence of failed state authority for secondary producers who also have high levels of ethnic fractionalisation. Thus, ethnically heterogeneous African states that are secondary producers of diamonds are more susceptible to adverse regime change. The results do not convey that ethnic fractionalisation per se is an antecedent or intervening variable. Rather, the results portray how ethnic fractionalisation is a salient variable that further exacerbates political instability in secondary diamond-producing African states.

Table 4. The effect of alluvial diamond deposits on adverse regime change in African states (1960–1999).

	Coup d'état event	Failure of state authority index
Log GDP (lagged $t - 1$)	–0.302** (0.134)	–0.049** (0.024)
Ethnic fractionalisation	0.214** (0.095)	1.200** (0.534)
Religious fractionalisation	0.405* (0.215)	1.703* (0.856)
Population size (log)	0.049 (0.034)	0.972* (0.488)
Primary commodity exporter	0.114* (0.057)	0.583** (0.286)
Trade openness (exports as % of GDP)	–0.366*** (0.082)	–0.052** (0.021)
Political instability	0.008* (0.004)	0.212 (0.220)
Years since independence	0.229 (0.221)	0.994 (0.770)
Prior war	0.088 (0.085)	0.296* (0.153)
Oil exporter	0.307 (0.251)	0.004 (0.003)
Primary diamond producers	–0.650* (0.355)	–1.286* (0.677)
Secondary diamond producers	0.788** (0.341)	0.991* (0.529)
Secondary diamond*ethnic fractionalisation	1.462*** (0.487)	3.616*** (1.244)
N	1008	1003
	Wald Test = 77.231***	Adjusted R sqr = 0.351

Notes: Rare-events logit estimates on coups; regression PCSE estimates on failure of state authority. Parameter coefficients reported (standard errors in parentheses). Significance: * $p < .10$; ** $p < .05$; *** $p < .01$. Cubic splines for the coup d'état model are not shown for space reasons.

The next set of analyses concerns whether or not secondary producers, because of their higher propensity for political instability and low growth, also have characteristics that render them incapable of democratic state-building. Table 5 shows that from the period 1972–1999, secondary diamond producers tend to score low on the Freedom House index for political and civil liberties (significant at $p < .01$), indicative of polities that restrict political participation and curtail individual freedoms.

In terms of the governance measures that assess the degree of state institutional quality (see Tables 6 and 7), there is evidence that secondary diamond producers are associated with polities where the rule of law is not strongly entrenched (significant at $p < .01$), where bureaucratic quality is low (significant at $p < .05$), where corruption is more pervasive (significant at $p < .05$), and where property rights are less secure (significant at $p < .05$). The reverse is true for primary-producing states, which display higher levels of such governance measures (attaining significance ranging from $p < .01$ to $p < .10$), indicating that they have institutional qualities that can be receptive to the creation of a fully functional democratic state. On the one hand, the findings suggest that primary-producing states can harness the resource of diamonds for economic development and state-building. On the other hand, secondary producers are less likely to possess the elemental institutional capacities that can foster the creation of a democratic state.

Addressing the last hypothesis, the findings in Table 8 show that secondary diamond producers in Africa are more prone to experience the onset and incidence of civil wars in general (both significant at $p < .05$), while primary producers are less prone to experience civil conflict. The analyses show that when the secondary diamond producer dummy is interacted with ethnic fractionalisation, the p-value becomes highly significant at ($p < .01$). This affirms Lujala et al.'s (2005) findings (in their global models) that ethnically heterogeneous states that are also secondary producers provide a lethal combination that increases the probability of domestic warfare. We find that in the region of Africa, this is particularly salient. Lastly, we also find that in Africa, secondary

Table 5. The effect of alluvial diamond deposits on political and civil liberties (1972–1999).

	Political liberties	Civil liberties
Log GDP (lagged $t-1$)	0.217** (0.109)	0.342* (0.171)
Ethnic fractionalisation	−0.654*** (0.218)	−0.628** (0.259)
Religious fractionalisation	−0.810* (0.407)	−0.925* (0.465)
Population size (log)	2.701 (1.801)	3.927 (3.133)
Primary commodity exporter	−1.135** (0.526)	−2.764** (1.242)
Trade openness (exports as % of GDP)	0.451** (0.210)	0.333** (0.155)
Political instability	−0.009*** (0.000)	−0.017*** (0.003)
Years since independence	0.589 (0.553)	1.672* (0.925)
Prior war	−0.201** (0.079)	−0.299*** (0.101)
Oil exporter	−1.465* (0.802)	1.243* (0.657)
Primary diamond producers	−0.972* (0.488)	−0.817* (0.410)
Secondary diamond producers	−2.217*** (0.420)	−2.435*** (0.462)
Secondary diamond*ethnic fractionalisation	−4.102** (1.871)	−3.220*** (1.243)
N	1009	1009
Adjusted R-square	0.343	0.257

Notes: Regression Estimates (PCSE). Parameter coefficients reported (panel-corrected standard errors in parentheses). Significance: * $p < .10$; ** $p < .05$; *** $p < .01$.

Table 6. The effect of alluvial diamond deposits on governance measures (ICRG measures, 1984–1999).

	Law and order	Bureaucratic quality
Log GDP (lagged $t-1$)	4.329*** (0.465)	2.851*** (0.501)
Ethnic fractionalisation	−0.990** (0.431)	−0.917*** (0.306)
Religious fractionalisation	−0.610 (0.509)	−0.688** (0.273)
Population size (log)	−1.151 (1.132)	−1.190 (2.130)
Primary commodity exporter	−1.498 (1.192)	−1.534 (1.183)
Trade openness (exports as % of GDP)	0.120* (0.064)	0.271*** (0.102)
Political instability	−0.021*** (0.006)	−0.004*** (0.001)
Years since independence	1.193 (0.922)	1.526 (1.185)
Prior war	−1.584*** (0.596)	−1.327*** (0.492)
Oil exporter	−0.593*** (0.198)	−0.514** (0.239)
Primary diamond producers	2.175*** (0.838)	1.798** (0.792)
Secondary diamond producers	−7.108*** (2.686)	−7.223** (1.976)
Secondary diamond*ethnic fractionalisation	−5.022*** (1.343)	−5.182*** (1.308)
N	629	615
Adjusted-R square	0.252	0.286

Notes: Regression estimates (PCSE). Parameter coefficients reported (panel-corrected standard errors in parentheses). Significance: * $p < .10$; ** $p < .05$; *** $p < .01$.

diamond production increases the likelihood for both the onset and incidence of civil wars, whereas extant global models suggest that diamond production is linked only with the incidence and not the onset of civil conflict.

Table 7. The effect of alluvial diamond deposits on governance measures (ICRG measures, 1984–1999).

	Investment profile/property rights	Corruption in government
Log GDP (lagged $t − 1$)	3.461*** (0.937)	2.253*** (0.688)
Ethnic fractionalisation	−1.754*** (0.660)	−0.817*** (0.308)
Religious fractionalisation	−1.428*** (0.474)	−0.608*** (0.226)
Population Size (log)	−2.071 (1.682)	−1.994 (1.593)
Primary commodity exporter	−0.409 (0.389)	−1.012 (0.601)
Trade openness (exports as % of GDP)	0.371*** (0.144)	1.529*** (0.565)
Political instability	−0.025*** (0.006)	−0.007* (0.004)
Years since independence	1.587 (1.294)	1.462 (1.471)
Prior war	−2.421** (1.120)	−1.399*** (0.449)
Oil exporter	−1.268*** (0.407)	−0.975*** (0.315)
Primary diamond producers	2.795* (1.506)	1.302* (0.688)
Secondary diamond producers	−5.172** (2.421)	−2.094** (1.421)
Secondary diamond*ethnic fractionalisation	−3.471*** (0.869)	−5.982*** (1.966)
N	610	625
Adjusted R-square	0.205	0.202

Notes: Regression estimates (PCSE). Parameter coefficients reported (panel-corrected standard errors in parentheses). Significance: * $p < .10$; ** $p < .05$; *** $p < .01$.

Table 8. The effect of alluvial diamond deposits on the incidence and onset of civil war in African states (1960–1999).

	Onset of civil war	Incidence of civil war
Log of per capita GDP (lagged $t − 1$)	−0.217*** (0.059)	−0.068*** (0.018)
Ethnic fractionalisation	0.012* (0.006)	0.025** (0.012)
Religious fractionalisation	0.119 (0.120)	0.146 (0.114)
Population size (log)	0.375*** (0.089)	0.440*** (0.070)
Primary commodity exporter	0.528 (0.533)	0.990 (0.861)
Trade openness (exports as % of GDP)	−1.645* (0.829)	−0.978* (0.493)
Political instability	0.620*** (0.135)	0.511*** (0.098)
Years since independence	−1.297 (1.061)	−1.359 (1.294)
Prior war	1.245*** (0.127)	2.258*** (0.287)
Oil exporter	0.644 (0.636)	0.325* (0.174)
Primary diamond producers	−0.149* (0.081)	−0.522* (0.285)
Secondary diamond producers	0.244** (0.110)	0.249** (0.100)
Secondary diamond*ethnic fractionalisation	2.112*** (0.702)	2.097*** (0.692)
N	1184	1184
Wald test	216.347***	972.451***

Notes: Logistic regression estimates. Parameter coefficients reported (standard errors in parentheses); cubic splines not shown for space reasons. Significance: * $p < .10$; ** $p < .05$; *** $p < .01$.

However, we should be cautious in our interpretation of causal pathways. More specifically, the results do not demonstrate that secondary diamond production alone is the proximate cause of civil conflict and political instability in Africa. For example, the logistic regression results suggest that ethnic fractionalisation alone consistently has a statistically significant positive effect on

the occurrence of both civil wars and coups.[9] The analysis also suggests that secondary diamond production alone has a positive effect on inducing political instability through the occurrence of civil wars and coups (both significant at $p < .05$). To ascertain substantively which of the two competing variables has a stronger influence in precipitating civil wars and coups, we estimated the change in predicted probability of civil war and coup occurrence using the Clarify software package.[10] Clarify estimates the change in the predicted probability of civil war occurrence and coup onset as each causal variable varies from its observed minimum value to its observed maximum value while holding all control variables constant at their means and modes. Based on Clarify estimates, as ethnic fractionalisation moves from its minimum value of 0.002 to its maximum value of 0.930, the odds of a civil war occurring increase by 67%. Likewise, secondary diamond producers are 58% more likely to experience the occurrence of a civil war compared with primary producers. In terms of coup events, as ethnic fractionalisation moves from its minimum value to its maximum value, the odds of a successful coup occurring increase by 62%. Likewise, secondary diamond producers are 52% more likely to experience a successful coup compared with primary diamond producers. From this analysis, we can infer that secondary diamond production can also increase the propensity for political instability (the onset of civil wars and coups), but at a lower magnitude of risk compared with ethnic fractionalisation. Thus, ethnicity may have a stronger influence than secondary diamond production in inducing political instability. Notably, the effect of secondary diamond production is also dependent on its interaction with ethnicity. Based on Clarify estimates, the odds of a civil war increase by 127% and the odds of a coup occurring increase by 104% in secondary diamond-producing states with an ethnic fractionalisation score that is above the mean (0.440) compared with primary-producing states with an ethnic fractionalisation score that is below the mean. Thus, there is an interactive effect between ethnic fractionalisation and secondary diamond production that generates a higher risk of political instability.

Discussion and conclusion

The empirical results demonstrate that secondary diamond-producing African states are prone to low-growth economies and large-scale political instability, which can dim prospects for democratic state-building. In Africa, secondary producers of diamonds seem to have been unfortunate recipients of this highly valuable resource. Further, as ethnic fractionalisation increases, ethnic group identities become more salient. As a result, group cohesion among various ethnic groups becomes more solidified, and shared collective memories that can claim institutional discrimination or wrongs may provide a powerful grievance to launch a civil war (Gurr, 2000; Reynal-Querol, 2002). If ethnic hatreds continue to be entrenched over time, this may breed polarising cleavages in society, facilitating the rise of insurgent groups that use diamonds to finance their struggle to overthrow the state in a protracted struggle over power (Gurr, 2000). The findings show that high levels of ethnic heterogeneity combined with lootable diamonds provide a more lethal combination that can produce low growth, poor governance, and democratic underdevelopment in Africa.

State developmentalism is a policy prescription that African states must incorporate to prevent state failure in the region. We suggest that a developmentalist state that immediately nationalises and regularises the extraction and export distribution of diamonds can play a significant role in suppressing civil conflict and adverse regime change. The fact that Angola, Sierra Leone, and Liberia faced prolonged and bloody civil wars illustrates how such countries were not able to regulate their diamond industries, which precipitated the formation of mostly artisanal trading that encouraged the formation of illegal smuggling and a highly unregulated black market. As a result, such artisanal diamond production in these countries became vulnerable to guerrilla attacks, which

concomitantly financed the high level of arms procurement and rebel recruitment of Angola's União Nacional para a Independência Total de Angola (UNITA), Sierra Leone's Revolutionary United Front (RUF), and Charles Taylor's insurgency group in Liberia. The reverse was true in Ghana and Gabon. In these ethnically fragmented states, secondary diamond production was highly regulated immediately after independence and formed an effective bulwark against looting, smuggling, and black-market trading (Snyder and Bhavnani, 2005).

We agree with Chazan (1988) and Rothchild (1994), who argue that a developmentalist state is needed to develop and strengthen state institutional capacity, which greatly enhances human and social capital accumulation. This can be accomplished if the state does not reject responsibility for highly sponsoring economic development and directing the proper harnessing of natural resources in a way that promotes balanced state–society relations. Snyder and Bhavnani's (2005: 558) revenue-centred approach using various case studies in Africa provides a theoretical model of how some diamond-producing states averted political instability. They argue that African states that invested windfall profits from alluvial diamonds in the military, social entitlement programmes, and diversifying other sectors of the economy, were able to obviate the diamond curse.

Conversely, states that are incapable of unleashing the revenue potential of diffuse resources cannot promote sustained development and are candidates for continued underdevelopment and state failure (Auty, 2001; Castells, 1992). Therefore, we can infer that states which did not effectively nationalise or exploit diamond production fall under Migdal's (1968) classification of the "soft state". Such soft states are beset with weak administrative and institutional capacities and are incapable of promoting developmental projects and long-term economic plans.

Illegal diamond trading has led to numerous civilian deaths through long civil wars and bloody coups. This gives credibility to how the Kimberly certification process sponsored by the UN is a crucial initiative that can mitigate the sale of blood diamonds and neutralise the finances of military rebels and adventurists.

Acknowledgement

Notes

1. The Kimberly Process is a UN programme that aims to reduce the production of blood diamonds, which have been used by rebel groups in Africa to finance their insurgencies against the state. Because of the protracted civil wars in Angola, Sierra Leone, and Liberia, several African states convened in 2000 to push toward a certification scheme. The certification process was enacted in 2001. It mandates that all participating nations certify that the rough diamonds they export are not derived from black market trading. For a more detailed explanation of the provisions of the process, see: http://www.kimberleyprocess.com/

2. However, we should be cognisant of the fact that secondary and primary production may partly be influenced by the physical and geographic distribution of diamonds and not purely attributed to state capacity.

3. The incidences of civil wars are also quite high for non-producers of diamonds (in terms of civil war years). It is important to note that the existence of alluvial diamonds may not be the proximate cause of all civil wars and that ethnic fractionalisation has a larger role in facilitating both its onset and incidence (Ellingsen, 2000). However, other scholars have discovered that the relationship between ethnic fractionalisation and civil war onset is indirect and tenuous at best (Blimes, 2006; see also Fearon and Laitin, 2003).

4. Subsequent theoretical contributions by McAdam, Tarrow, and Tilly (2001) and Tilly and Tarrow (2006) have also looked at how contentious groups in society emerge and become routine as part of the political

process. Such works also theorise how such groups that have long-standing grievances against the state develop effective and durable recruiting strategies.

5. For a full listing of African states employed in this study that are primary producers, secondary producers, and non-producers of diamonds, consult Tables 1 and 2.

6. This ordinal score is a composite rating that measures the failure of state authority, the collapse of democratic institutions, and violence associated with regime change. The maximum score of 12 indicates a failed state, while a score of 0 portrays a fully functional state with no political disorder.

7. In this study, we reverse the score for ease of interpreting the results.

8. These measures are scored on an ordinal scale from 0 (minimum) to 6 (maximum), with higher scores indicating stronger ratings.

9. This is further corroborated by how non-producers of diamonds (that also have high levels of ethnic divisions) also experience a high frequency of civil wars and military interventionism, as illustrated in Tables 1 and 2.

10. See: http://gking.harvard.edu/clarify

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