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## Unintended Consequences: Effects of Foreign Direct Investment in Resource Extraction on Ethnic Conflict

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Political Science Honors Undergraduate Thesis

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## Unintended Consequences: Effects of Foreign Direct Investment in Resource Extraction on Ethnic Conflict

### Abstract

Over the past 70 years civil wars have become the most common form of war. Much time and thought has been devoted to understand why subnational groups fight. Additionally, scholars have long analyzed the so-called “resource curse”, whereby states with high levels of natural resources may tend to experience violence. As levels of globalized economic markets have proliferated in this time too, it is important to understand the relationship between foreign investment and war. Little research has been done on the interaction between resource extraction, foreign investment, and subnational conflict, especially using social identity formation as an analytical tool. This study identifies social identity formation as a possible causal mechanism of ethnic conflict and assesses whether foreign direct investment in resource extraction leads to conflict via such a mechanism. This study uses a qualitative case study to argue that this mechanism is at play in Nigeria’s Niger Delta region and then attempts to show that the same relationship may also exist globally using large-N quantitative data.

### Keywords

foreign direct investment, resource extraction, ethnic conflict, social identity formation, Social Sciences, Political Science, Nicholas Sambanis, Sambanis, Nicholas

### Disciplines

Comparative Politics

### Comments

Political Science Honors Undergraduate Thesis

**Unintended Consequences:  
Effects of Foreign Direct Investment in Resource Extraction on Ethnic  
Conflict**

**By**

**Daniel Matthews**

*Advisor: Dr. Nicholas Sambanis*

**This thesis is submitted in fulfillment of**

**Bachelor of Arts Degree  
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University of Pennsylvania**

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## **Abstract**

Over the past 70 years civil wars have become the most common form of war. Much time and thought has been devoted to understand why subnational groups fight. Additionally, scholars have long analyzed the so-called “resource curse”, whereby states with high levels of natural resources may tend to experience violence. As levels of globalized economic markets have proliferated in this time too, it is important to understand the relationship between foreign investment and war. Little research has been done on the interaction between resource extraction, foreign investment, and subnational conflict, especially using social identity formation as an analytical tool. This study identifies social identity formation as a possible causal mechanism of ethnic conflict and assesses whether foreign direct investment in resource extraction leads to conflict via such a mechanism. This study uses a qualitative case study to argue that this mechanism is at play in Nigeria’s Niger Delta region and then attempts to show that the same relationship may also exist globally using large-N quantitative data.

## **Introduction**

In the 1950s oil was discovered in Nigeria. Since then multi-national corporations (MNCs) have descended on the Niger Delta regions, which contain most of the oil in the country. The foreign investments in oil extraction have brought unprecedented wealth to the country, although the resulting oil rents have exacerbated inequality across and within its regions. While Nigeria has seen oil rents regularly compose over a tenth of its annual GDP, Nigeria’s oil-rich regions have been economically and environmentally decimated

with far-reaching consequences for the regions' ethnic minority groups, notably the Ogoni and Ijaw. In the last 30 years, the oil-rich regions have become completely militarized by ethnic militias and government militaries fighting over oil production and thousands of lives have been lost to violence. Sadly, Nigeria's history is not unique; examples of resource-fueled subnational wars abound.

In fact, over the past 70 years civil wars have become the most common form of war. It is then imperative that we better understand how and why wars between subnational groups are fought. As expected, much time and thought has been devoted to develop our understandings of the various causes of subnational wars. Many scholars have focused on distinguishing types of subnational wars for further study (Sambanis, 2001), since different types of war in different contexts may have different causes. This paper aims to examine one type of civil wars identified in the literature, ethnic or identity-based wars, and how foreign direct investment (FDI) in resource extractionary industries (REFDI) may play a role, as it seems to have in Nigeria.

Drawing on existing literature and empirical results that evidence social identification and political exclusion of politically relevant ethnic groups as key mechanisms and determinants for ethnic wars, respectively, I attempt to evidence short-term relationships between increases in REFDI and ethnic war via mechanisms of social identification. Given that ethnic demography, political representation of ethnic groups, and levels of economic development vary tremendously across countries, and that resource extractionary development has been associated with subnational conflict, this study will aim to examine how ethno-political marginalization and REFDI can combine to increase risk of ethnic conflict via mechanisms of social identification.

The rest of this paper is organized as follows: I review the existing literature and parse previously theorized causal mechanisms. Next I introduce a formal model of identity formation created by Sambanis and Shayo (2013), and use the model to develop intuition on the possible contextualized effects of REFDI on social identity and conflict. I then illustrate how REFDI contributed to ethnic conflict in Nigeria using existing studies and articles. After demonstrating these processes in Nigeria I analyze large-N economic and political data to show that the same processes apparent in Nigeria may also exist around the world. Do to a lack of satisfactory data on REFDI I use a rough proxy detailed below. I conclude by assessing the results given the available quantitative data and point to new avenues of inquiry.

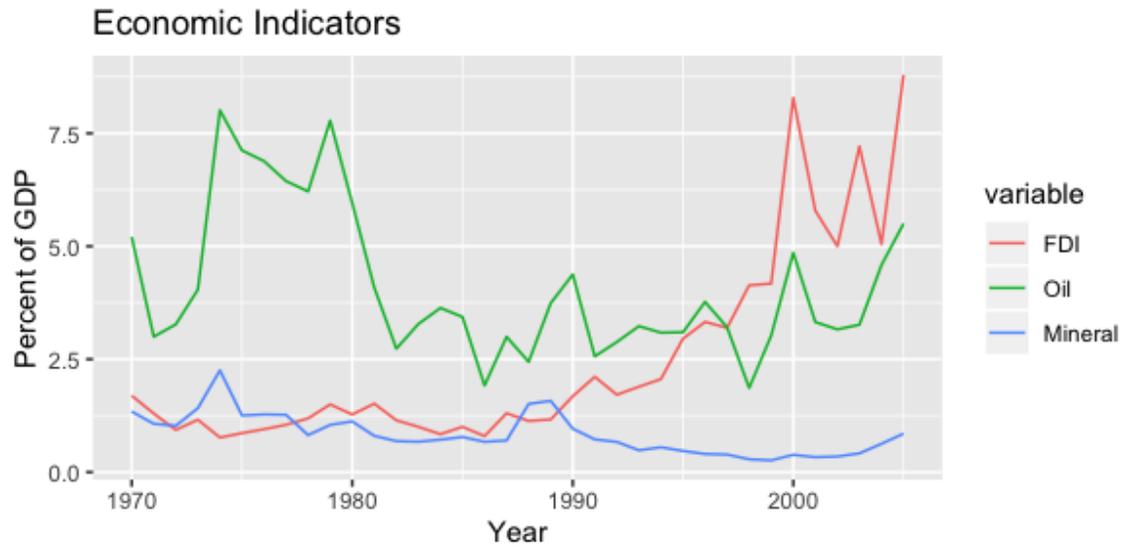
## **Existing Literature**

While many scholars have focused on economic determinants of civil war, the literature on identity-based conflict has identified, in addition to economic determinants, affective and political factors that lead people to fight (notably, Sambanis, 2001; Wood, 2003; Cederman et al. 2010). Additionally, scholars have long analyzed the so-called “resource curse”, whereby states with high levels of valuable natural resources such as petroleum or alluvial diamonds tend to see more violent conflict. Asal et al. (2013), show that while oil alone may not dramatically increase the chances of ethnic conflict, when ethnic groups are politically excluded from central executive state power and live in geographically concentrated regions, the presence of oil in these regions increases the chances of conflict.

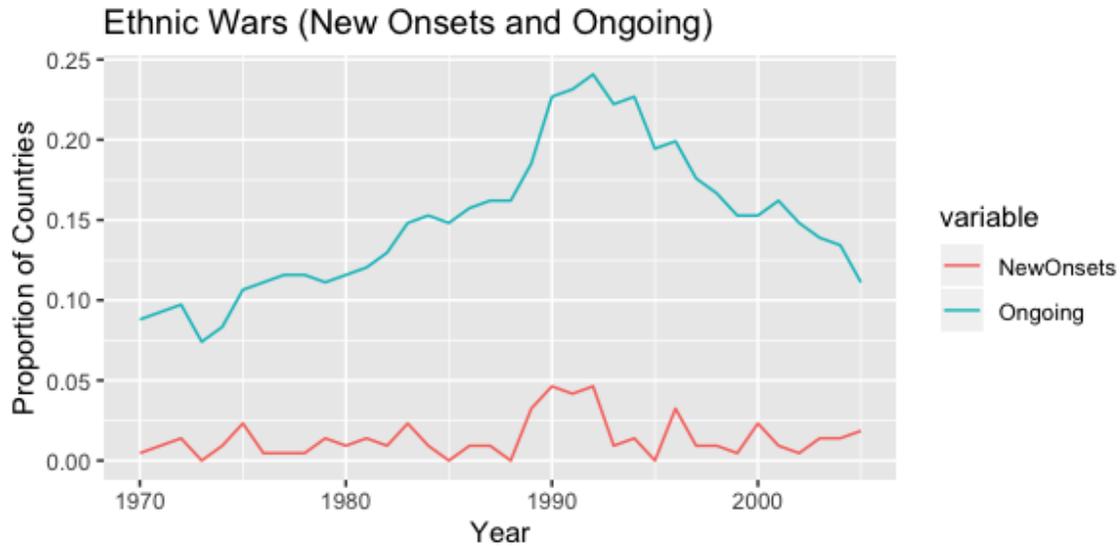
As levels of globalized economic markets have proliferated in this time too, it is important to understand the interactions between globalization on war, especially at a subnational level. Many empirical studies as well as surveys of corporate officers of multinational corporations (MNCs) show that firms choose to invest in countries where political instability and thus investment risk is low (Pierpont, 2005; Global Investment Competitiveness Report, World Bank Group, 2018). This leads to a negative correlation between conflict and FDI. Less research, however, examines the reciprocal effects of FDI on the risks for political instability, corruption, and subnational violence and the results have been mixed and largely ignore ethnic conflict as a factor in violence (Gissinger and Gleditsch, 1999; Barbieri and Reuveny, 2005; Robertson and Watson, 2004). Since MNCs aim to invest in countries with lower risk, any empirical analysis of a causal relationship between REFDI and conflict or vice versa must account for endogeneity bias. This paper aims to use a qualitative case study of Nigeria to trace causal pathways from REFDI to ethnic violence as a means of demonstrating one way in which REFDI can affect violence.

For context, I present a few graphs that demonstrate the existing economic conditions and levels of ethnic violence over the past few decades. As seen in the graph of Economic Indicators from the World Bank's World Development Indicators (WDI, 2010), FDI and Oil Rents as a percent of each country's GDP (averaged across countries

by year) have risen in recent years.



Notably, Mineral rents have not risen, which I address later. Additionally, I present a graph of Ethnic Wars, representing the proportion of countries in a given year experiencing either at least one new ethnic war onset or an ongoing war, using the same data as Asal et al. (2016) from the Uppsala Conflict Data Program on ethnic wars. I explain the precise definitions of such wars later. While fewer countries experience ongoing ethnic wars since just after the Cold War and Soviet breakup, the proportion of countries at war remains high and the proportion of countries experiencing new ethnic war onsets remains relatively high.



Clearly, in an increasingly globalized world we have not figured out how to end subnational and ethnic violence. We have, however, made big steps in identifying and evaluating possible causes in the literature.

### **Literature on ethnic conflict:**

Early accounts of civil war focused on primordial, deep-seated antipathies between groups to account for irrational violence. Around the turn of the 21<sup>st</sup> century, researchers began to identify economic mechanisms to explain sub-national conflict. Collier and Hoeffler (2004) (henceforth CH), explained participation in civil war as a rational economic decision informed by available loot from the spoils of war. Similarly, Fearon and Laitin (2003) (henceforth FL) proposed that individuals participate in sub-national violence based on a rational decision weighing the costs of rebellion (affected by state strength) against group-based grievances. In this account, opportunity structures feature prominently in predicting rebellion. These seminal works pushed other researchers to examine underlying nuances in these studies, particularly in defining

independent and dependent variables, evaluating the legitimacy of different proxies for such variables, and illuminating various causal pathways between independent and dependent variables. For example, how do we measure the onset of a civil war? Do we define civil wars differently if groups make ethnically defined claims, and fight as ethnically defined groups? What if the civil war results from an elite coup? What if the war takes place in a democratic country as opposed to an authoritarian regime? What if international actors play a role?

The results of these inquiries have led to a few understandings. While CH and FL downplayed the role of ethnicity in their studies, Sambanis (2001), Cederman et al. (2010), Wegenast and Basedau (2014), and numerous other studies find that while ethnic identification may not be a necessary condition for civil war, some degree of ethnic identification and ethnic variance within a country can affect the chances of ethnic civil wars. Sambanis (2001) argues that unlike non-ethnic wars in which economic opportunity factors heavily, in ethnic wars, political grievances of ethnic groups predominantly cause ethnic wars. Cederman et al. (2010), using disaggregated group-level data, further evidence the importance of ethnicity, finding that ethnic groups that are excluded from central executive state power, especially having experienced a recent downgrade in power, tend to fight more. Cederman et al. (2010), however, also find that mobilizational capacity and histories of violence do matter in predicting conflict. Numerous political science, behavioral economic, and psychology studies have highlighted the importance of individual identification with a group for collective action (Littman and Paluck, 2015; Wood, 2003; Hale, 2004; Chandra, 2006; Charnysh et al., 2015; Reicher et al., 2008),

although many of these ascribe different mechanisms for the importance of identity for action. Such mechanisms include reducing information asymmetries, establishing norms, common in-group identity models (CIIM), and more, and will be discussed in the mechanisms section.

As noted in the introduction, researchers have also examined links between resource wealth, FDI, and conflict. CH argue that an increase in resource wealth incentivizes materially focused groups to loot. FL, however, argue that if a state is able to strengthen itself from its resource wealth then it can better prevent conflict. Clearly, these two arguments point in opposite causal directions. Both effects may likely exist to differing degrees in different contexts. Tomashevskiy (2016) creates a formal economic model that shows how foreign investors and authoritarian leaders can use investment inflows to reduce incentives for political elites to launch coups. Meanwhile, Roy (2018) argues that while easily lootable natural resources increase incentives to fight, politically inclusive institutions can limit these conflict-inducing effects.

Focusing on the individual level, a new study by Steven Liao presented at the “Immigration: Research Frontiers and Policy Challenges Conference” (October, 2019) argues that increases in foreign investment in the US housing market by Chinese international students decreases anti-immigration bias amongst locals due to sociotropic economic interests. While this context differs dramatically from REFDI in developing countries, it shows that some types of FDI may help decrease out-group bias.

Importantly, some studies have focused on the effects of natural resources and/or FDI *interacting with* ethnic identities. Notably, Asal et al. (2016) argue that “Ethnic groups subject to exclusion whose settlement area includes oil wealth are more likely to experience the onset of armed conflict than groups experiencing exclusion alone” based on a large-N statistical analysis (1343). Wegenast and Basedau (2014) find evidence that salience-based ethnic fractionalization is associated with higher conflict onset risk, and “that oil further increases the conflict potential within fractionalized countries” (431). Sorens (2011), however, argues that the presence of lootable resources should not increase chances of ethnic-based coups because looting has negative externalities on the rest of the group. Sorens finds that among geographically concentrated ethnic groups in peripheral regions of states, increasing values of mineral resource wealth increase chances of autonomist rebellions and decrease chances of rebellions that aim to control central power, and that rebels do not loot from their own constituencies. Sorens, however, uses a data set of secessionist movements from Walter (2006) that has since been repudiated as imprecise and misleading (Sambanis et al., 2017).

Meanwhile, Aspinall (2007), in a qualitative examination of processes leading to conflict in Indonesian regions argues that the combination of ethnically salient politics and resource wealth in the Aceh region ultimately led to conflict. Aspinall argues that a legacy of past conflict, state institutionalization of ethnicity, and elite agency in constructing discourse allowed oil resources to be interpreted as ethnic grievances, facilitating violence. The wealth of (often conflicting) research has generated multiple theoretical mechanisms linking ethnicity, resources and foreign investment to conflict. In the next section I articulate these mechanisms.

## **Causal Mechanisms**

Various causal mechanisms have been theorized to explain sub-national conflict. Here I identify those associated with ethnic wars, i.e. those in which individual identity matters. Under an instrumentalist conception of identity, individuals can easily choose and switch their identities based on rational decisions. Under Primordialist conceptions, individuals have deep-rooted fixed identities and natural antagonisms toward out-groups. Under Constructivist theories of social identity, individuals may choose from an available set of identities based on rational decision making, however identities are sticky, and switching is psychologically costly and rare (Shayo, 2007). Some of the following mechanisms can apply under each or some of these conceptualizations of identity.

### **Material Greed for Loot (Booty Futures):**

This mechanism highlights the rational incentive individuals face to engage in violence to control state resources and/or secede from a state to control a region's resources completely. CH highlights this method, although numerous studies such as Humphreys (2005), and Aspinall (2007) argue that material greed cannot account for large-scale rebellions, while other studies mentioned find that material greed is negligible in ethnically defined wars.

### **Low (Material) Cost for Violence via Weak States**

Here, rebel groups choose to rebel when the cost of violence is low due to weak state capacity. FL champions this mechanism (among others), although they use GDP/capita as

a proxy for state capacity, a potentially misleading estimator. While GDP/capita correlates with decreased conflict in many studies, attributing this correlation to the weak states mechanism may be spurious. Humphreys (2005) finds evidence that conflict is more likely in weaker states (proxied by other estimators), although a social-identity construction mechanism (below) can also account for this result.

### **Low (Material) Opportunity Cost for Violence**

Here, individuals participate in violence because their opportunity costs are so low that violence is rational. Here, economic development, education, employment, or other economic factors are so dismal that individuals might as well participate. Economic determinants (such as GDP/capita) have been correlated with decreasing conflict (as mentioned above), although these correlations may not imply causal mechanisms.

### **Information Asymmetries in Wealth Distribution**

Here, conflict results because rebel groups face information asymmetries in regard to potential resource rents under state control. Since governments can obscure profits from resource extraction rebels may not be able to accurately assess the material costs and benefits of rebellion without actual control over extraction, thus making nonviolent negotiation over rents impossible. The only way for groups to know if they are fairly compensated for resources in their region may be to acquire control over those resources through violence. Numerous studies site the possibility of this in exacerbating conflict, but testing for a lack of knowledge proves methodologically challenging.

### **Political and/or Material Grievances**

Here, individuals rebel because they perceive political or material grievances for themselves and their groups. I combine political and material grievances here because unequal political power may determine unequal economic development. I.e. material grievances may be the result of political exclusion, a political grievance. In other cases, political power may result from economic power, in which case the causal sign is flipped. It is of more use to consider whether some form of grievance per se causes individuals to commit violence. Cederman et al. (2010) and Asal et al. (2016) provide evidence for this mechanism by showing a correlation between political exclusion and conflict. This mechanism is distinguished from “greed”, because the greed mechanism focuses on future loot, while grievances focus on past inequalities. Kalin and Sambanis (2018), however, argue that the desire for political or economic benefits can encompass both of these mechanisms, and that the differences in these mechanisms, as well as the opportunity cost mechanism, are negligible.

### **Social-identity Construction**

Here, political and material circumstances (including histories of violence) influence how an individual identifies, which in turn determines the rational level of violence to commit. Here, individuals can choose from a fixed set of identities to maximize utility. This mechanism is based on micro-evidence in social psychology, behavioral economics, and political science (Sambanis and Shayo, 2013; Kalin and Sambanis, 2018; Wood, 2003). Under this mechanism, weak state institutions may contribute to violence less because they have lower capacity to quell violence, but because weaker states may not have

infiltrative bureaucracies, social programs, and development programs that could boost national status and national identification and thus decrease violence.

### **Exploring Social Identity Formation (SS13)**

Nicholas Sambanis and Moses Shayo in "Social Identification and Ethnic Conflict" (2013) (henceforth SS13) formalize a theory of ethnic identification and ethnic conflict that endogenizes violence in a constructivist process of social identification. They draw on micro-evidence in psychology, behavioral economics and political science to model determinants of ethnic identification. Notably, their model introduces the possibility of identity equilibria, in which identities and fighting efforts are balanced given different contexts. Under this model, individuals have a set of identities from which they can identify, some being sub-national communities, or ethnic groups, and one being a national group (some weighted union of all sub-national groups). Individuals consider their perceived levels of similarities with group members as well as groups' relative statuses, and then choose an identity. Based on existing evidence, they assume that:

1. Individuals that perceive themselves to be more similar to a group, A, than to a group, B, are more likely to identify with group A.
2. Individuals care about the status of groups (defined by material wealth and exogenous socio-political, historical factors), and would rather both identify with a group of higher status and that the group with which they identify increase in status.
3. Inter-ethnic fighting effort increases the salience of ethnic attributes in determining perceived similarity to groups.

Increased violence can push individuals to identify ethnically, and individuals choose levels of violence based on their identities. Therefore, violence is endogenous to identity and vice versa. In the next section I show how the SS13 model can develop intuition for how REFDI may affect violence and identity equilibria.

### **REFDI Effects in Light of SS13:**

Here I describe mathematically defined relationships between variables in SS13, and relate them to how REFDI may affect those variables. Afterwards, I show how fighting and identity equilibria in SS13 may change according to changes in the variables.

1. Individuals hold defining characteristics such as language, region of residence, region of origin, religion, and skin pigmentation, although there are theoretically limitless characteristics. Individuals are socialized in a given context to recognize a set of typical shared characteristics as categorizing a group (be it a nation, ethnic group, or other social group). Therefore, individuals will place different emphases on different characteristics across social contexts. For example, an American's country of origin may matter less than the color of their skin in determining their racial group as socially constructed by their society.
2. An individual will perceive himself to be closer to (or farther from) a group if his characteristics align more (or less) closely with the median characteristics of the group across members. In other words, the *distance* an individual perceives between himself and a group increases as the median characteristics of the group become less

similar to his own. Since ethnic groups may be subsections of more diverse national groups, an individual may likely feel less distance to an ethnic group than to a nation. Additionally, inter-group violence will increase the weight an individual places on group characteristics. (I.e. violence increases the saliency of group characteristics in determining distance.) Violence then makes it more costly to identify with a group that one perceives as distant.

3. Individuals perceive a nation group, N, and social group, A to have *status*, which increases with material wealth, especially relative to other groups. Exogenous socio-political and historical factors also influence perceived status. For example, when Israel won the 1967 War in six days, many Israelis felt more proud of their national identity because the symbolism of defeating historical enemies increased Israel's status.

a. Importantly, an increase in REFDI to N is an increase in N's GDP and is intended to spur economic development which may further increase N's GDP. This will increase the status of N. Under SS13, political dynamics in the state are not modeled, and increases in material wealth to N benefit all subnational groups equally. Extending SS13, if political exclusion of group A results in less economic development for group A compared to other subnational groups, then the status of A may decrease even though the overall status of N increases.

4. In equilibrium, an individual will choose to identify with N instead of A if the status of N minus the status of A outweighs his perceived distance to N minus his perceived distance to A. The difference in status may outweigh the difference in

distance because of the magnitudes of difference, or because the individual cares more about status than perceived distance. In other words the relative *saliences* of status and perceived distance can differ.

5. An individual will choose to identify with A if the above condition is flipped.
6. It is possible for an individual's perceived distant from a national group to be so great, or the saliency of distance to be so great, that it is almost impossible for him to identify nationally. For example it is conceivable that a Palestinian citizen of Israel would never identify nationally because that individual may feel too distant from the socially constructed Israeli identity.

Under SS13, members of A fight over shares of N's contestable resources, V, with another sub-national group, B. Fighting, however, decreases available V (by using resources), which subsequently decreases the status of N. Individuals choose to commit fighting resources, F, based on their chosen identities. Individuals who identify with N choose to commit very little resources to fighting because that would decrease the status of their group. Thus, all else equal, the more fighting there is in a country, the less likely an individual is to identify with N, and the more likely they are to continue fighting, resulting in identity-fighting equilibria.

According to the model, if an individual under equilibrium identifies with N instead of A or B, then F decreases as the salience of group status increases. If an individual under equilibrium identifies with A, or B, then F will increase as the salience of group status increases, because the more they fight the more of V they can control.

Under both equilibria,  $F$  increases with  $V$ . If  $V$  is easily contestable then this effect increases. In the context of natural resources, individuals fight over control of resource rent distribution. REFDI provides quick cash injections through royalties and production sharing agreements as well as later cash through income taxes, conceptualized as increases in easily contestable  $V$  (Moran). REFDI revenues can be contested differently in different political contexts, either through legitimate means such as legislation over budget allocation, or through elite corruption at the national or local levels. Below are different scenarios of how REFDI could affect various identity equilibria:

1. Let nation,  $N$ , have moderate to low status but not a lot of violence,  $F$ , with subnational groups  $A$  and  $B$ . Assume that the group statuses of  $A$  and  $B$  are very low. This is essentially why there is little fighting, because individuals do not have a lot of incentive to identify strongly with  $A$  or  $B$  instead of the nation,  $N$ . Thus there exists the identity equilibrium such that individuals identify with  $N$ . Now introduce an increase in REFDI. The increase in investment rents takes the form of a large immediate increase in contestable resources,  $V$ , which also increases national status. Even under national identification this increase in  $V$  can increase fighting. An increase in fighting could increase the salience of group characteristics even more, posing the potential to increase ethnic identification. This shift in identification should be easy considering  $N$ 's moderate to low status.
2. Now let nation  $N$  have low status and a history of political exclusion of ethnic group  $A$ , but little violence because there are few resources over which to fight (a

reasonable assumption given N's low status). This means that the salience of group characteristics must be high, as political exclusion is defined by such characteristics. An increase in REFDI in this country may drastically increase violence, since individuals are already in an ethnic group identity equilibrium.

3. Now, assume moderate national status and allow heterogeneous identification within groups, where some members of group A feel much closer to A than to N. The rest of the country identifies with N. The "radical" A members cannot switch their identity to the nation (in line with "sticky" constructivist models of identity; Shayo, 2007), and must continue to identify ethnically and care primarily about the status of group A regardless of exogenous shocks. Here, an increase in REFDI increases  $V$ , and increases the optimal  $F$  of these "radical" A's regardless of whether the increase in REFDI was enough to substantially increase  $F$  among other individuals. The increase in  $V$  among radicals, however, increases the cost of identifying with the nation for the rest of individuals with group A characteristics, leading to a new equilibrium where most members with group A characteristics identify with A. Fighting increases.

4. In this scenario, as in scenario 3, assume moderate national status and heterogeneous identification within groups. Allow for REFDI to increase  $V$  as before, but disproportionately degrades the productive capacity of the land on which most of group A lives. Some less "radical" individuals who choose to identify with N (but could identify with A) move away to other parts of the country for better economic opportunities, but the more radical A's find it hard to move (maybe they only speak group A's language). Here the status of group A decreases as its productive capacity

falls vis-à-vis other groups, and radical A's increase F to capture more V. As in scenario 3, this alters identity equilibria for potential A members and ethnic identification and fighting increase.

Below is a table summarizing the various possible scenarios, where I represents identification, S represents status; V, contestable resources; F, allocated fighting resources; and subscripts A, B and N represent groups A, B, and the Nation, respectively.

Scenario	Initial Conditions	Exogenous shock from REFDI	Initial Change	Secondary Change	New Equilibrium
1.	$I_N$ , Low $S_N$	Increase V	Increase $F_{A,B}$	Increase $I_{A,B}$ Decrease $I_N$	Increased fighting and ethnic Identification
2.	$I_{A,B}$ , Low $S_N$	Increase V	Increase $F_{A,B}$		Increased fighting
3.	$I_{N,A(\text{radicals})}$ Moderate $S_N$	Increase V	Increase $F_{A(\text{radicals})}$	Decrease $I_N$ , Increase $I_A$	Increased fighting and ethnic Identification
4.	$I_{N,A}$ Moderate $S_N$	Increase V, Decrease $S_A$	Increase $I_N$ , Decrease $I_A$ , Increase $F_{A(\text{radicals})}$	Increase $I_A$	Increased fighting and ethnic Identification

Thus, the material effects of REFDI pose the potential for increases in ethnic identification and increased violence in multiple contexts.

Abstracting from the narrow results of SS13, it is important to consider how REFDI allows actors to manipulate resource rents to change group status and levels of contestable resources. Let's say that a country in which most people identify ethnically receives an increase in REFDI from an MNC. The country could choose to distribute

rents to group A, increasing the status of group A vis-a-vis other groups. This may enrage members of other groups who value their own group status and encourage violence to capture control over rents.

Alternatively, let's say the state wants to avoid violence. The state could equally distribute rents among its various sub-national ethnic groups to spur economic development, raising the overall status of the nation as a whole without changing the relative statuses of subnational groups. This is most similar to how countrywide increases in  $V$  affect status in SS13. This would incentivize national identification and less violence. This could work, however if ethnic identification is high a priori, then different groups might still fight over the proportions of rents distributed to each group.

In a democracy, equal distribution could undermine an elected official's constituent support because said official could be seen to be giving resources to an out-group, reneging on perceived patronage norms existent in many democracies. In weak states, corruption could mean that there is not even the opportunity for rents to make their way down to real development projects at all.

Tomashevskiy (2016) shows that authoritarian leaders must pay off political elites in order to retain control after FDI. In a state where elite membership is ethnically defined, giving money to an excluded group diverts available rents from co-ethnic elites, increasing chances of a coup. Thus, there may exist incentives for an authoritarian leader to not distribute rents equally to different ethnic groups, or even at all. Given numerous information asymmetries between the state and excluded groups surrounding REFDI profits as well as information asymmetries surrounding fighting potential, out-group members could respond with increased  $F$  even if elites do aim to distribute rents equally.

If REFDI and group A are geographically concentrated in the same region, that alone could increase the perceived distance between A and the nation, incentivizing F. Additionally, if the REFDI (such as oil extraction) would cause environmental degradation or other decreases in group A status, then members of group A might oppose the REFDI altogether, or would demand even more resource rents as compensation.

As a result of this reasoning I propose two main hypotheses:

**H1:** In states with politically excluded ethnic groups, increases in REFDI increase ethnic identification.

**H2:** In states with politically excluded ethnic groups, increases in REFDI increase ethnic violence.

Next I explain how these hypotheses seem to manifest in a quintessential example of identity-based violence over resource control, that of Nigeria's Niger Delta Region, and how REFDI affects social identity and fighting equilibria.

## **Effects of REFDI in Nigeria's Niger Delta**

### **Historical Background**

In understanding the effects of REFDI on ethnic conflict, it is helpful to look at the history of Nigeria. Due to British colonial legacies, Nigeria was created as a federalist state, with three major regions, Northern, Western and Eastern, populated respectively by the country's three largest ethnic groups, the Hausa-Fulani, Yoruba, and Igbo, although

by Nigeria's independence, considerable population movement had occurred across regions and hundreds of diverse groups and languages live in Nigeria. Oil in Nigeria is largely concentrated in the Niger Delta regions in South-Eastern Nigeria, made up of Rivers, Bayelsa, and Delta states, an area of about 27,000 square miles (Hallmark, 2017). Oil has been extracted mostly by joint ventures between MNCs and national companies since 1956. Since the 1960s, the existence of oil and the potential rents associated have raised the stakes over who controls the land and how resource rents are distributed throughout the country (Ukiwo, 2007). Under SS13 this could be understood as an increase in contestable V.

Nigeria follows a "Derivation Principle" in distributing resource rents, whereby producing states get a percent of the rents from their own resources (Nwajiaku, 2005). Following the Biafran Civil War between (primarily) Igbo in the Eastern region and the Federal Government in the 1960s the state was severely weakened and new Local Government Areas (LGAs) for local administration were created. After the war the Derivation Principle was also weakened and the central government began to distribute less and less regional resource rents to the Niger Delta states. In the 1980s, government Structural Adjustment Programs also began to decrease public development efforts and employment.

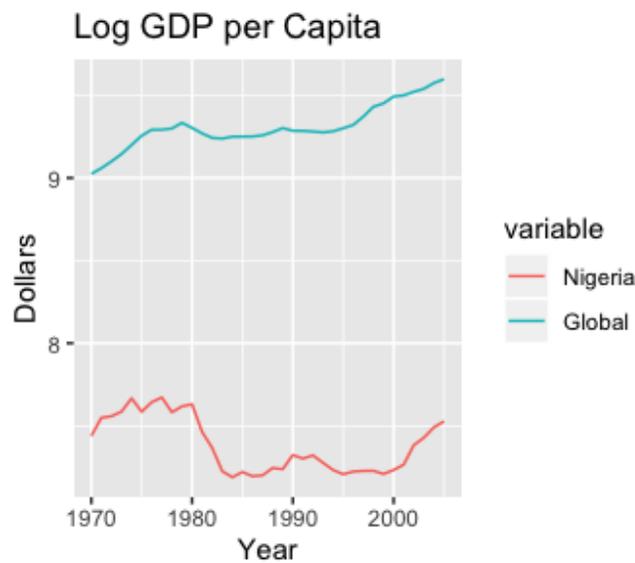
Simultaneously, while Shell-BP, Mobil, and other MNCs were profiting off of the oil from the region local tribal groups began to criticize the FDI, noting severe environmental and agricultural degradation and the lack of development initiatives for the region's populations. Countless oil spills in the mangrove-populated region have ruined the productive capacity of the land for farming and fishing for decades if not centuries to

come. Criticisms grew into political dissent, and eventually non-violent and then violent actions to rest control of the region's resources from the central government and MNCs (Hallmark, 2017). Notably, many of these movements have been ethnically defined. The first large scale movement was MOSOP (Movement for the Survival of the Ogoni People), which, founded by famed activist Ken Saro-Wiwa in 1990, agitated for local control over oil resources by the Ogoni, an ethnic group indigenous to a small area of the Niger Delta with extreme oil extraction and environmental degradation. MOSOP engaged almost entirely in non-violent action however the Nigerian government violently repressed the movement with discriminate and indiscriminate violence including wide-scale murder and rape of entire communities and the execution of movement leaders including Saro-Wiwa himself (Mai-Bornu, 2019; Hallmark, 2017).

The Ogoni movement (along with continued environmental degradation that left local communities unable to fish and farm) inspired the creation of MEND (Movement for the Emancipation of the Niger Delta), a predominantly Ijaw group. Ijaw are also primarily located in the Niger Delta region, although concentrated in slightly different sub-regions. MEND, which united a loose confederacy of Ijaw militant groups, tried to force concessions by the Nigerian government and MNCs to give Ijaw control over oil on their land. MEND violently disrupted oil extraction, seized oil, and even held foreign MNC workers hostage for ransom. MEND was very successful in hindering Nigerian oil extraction, at one point decreasing Nigerian oil production by 500,000 barrels a day (Ukiwo, 2007). After successive repression and appeasement tactics by the Nigerian Government MEND broke up and died out. The Nigerian government co-opted some Ijaw leaders and militants by offering amnesty, buying weapons from them, or offering

security contracts to guard the oil they once plundered (Pegg, 2015). Following MEND, the NDA (Niger Delta Avengers), another Ijaw group, took up the mantle and through well-armed and well-planned attacks has at times managed to cripple Nigeria's oil output. Following NDA attacks, oil output in Nigeria fell by 800,000 per day in 2016 to 1.4 million, its lowest output in 25 years (Hallmark, 2017). The NDA agreed to a cease-fire with the Nigerian Government to promote peace talks, but announced an end to the cease-fire in November 2017, citing insincerity on the part of the national government.

Additionally, Nigerian GDP/capita remains far below global averages, illustrated in the graph below using the same World Develop Indicator data:



Examined from afar, a pattern emerges of local minorities excluded from central government control rising up in rebellion against MNC oil extraction. Meanwhile, the Nigerian Government violently represses action and buys off leaders until rebellion subsides. Afterwards, new militants emerge to continue fighting against perceived grievances in the names of their ethnic groups and the cycle continues. On closer look, it becomes clear how social identity formation has helped mobilize fighting.

## **Social Identity Pathways**

### **Similarities to Scenario Two**

Certain structural elements of Nigerian politics, including its patronage and federalist legacies, draw certain similarities to Scenario Two in the section titled “REFDI Effects in Light of SS13”. Due to its federalist legacy the central government allocates resource rents to administrative states, which, in theory, use the money for economic development. In line with SS13, this provides contestable resource rents available for “capture” by various groups through political means. Ethnically defined groups can force the government to give their states more rents if they have more mobilizational capacity. They can do this through legal political institutions, such as electing politicians to the national government, or by less legal means such as corruption or violence. Due to its patronage legacy, representation in sub-national administrative units can determine how resources are allocated.

As Nwajiaku (2017) explains, “In a political system in which patron-client relationships prevail as the principle channel through which "citizens" gain access to the state and its resources, ethnicity matters. By increasing the distributive scope of the state, oil has served to entrench ethnicity as a set of effective codes through which to secure access to net-works of patronage.” If ethnic groups lack the political power to acquire resource rents then they choose to fight. Applying SS13, REFDI has increased contestable resources held by the state, and Nigerian citizens in the relevant regions tend to identify ethnically, while Nigerian national status remains relatively low.

Additionally, at various points in Nigeria's history sub-national administrative units, states, and their sub-units, LGAs, have been created or destroyed, changing which groups comprise majorities in these units. This can be understood as a non-violent way that ethnic groups compete through established political institutions for resource control, which at times has escalated into violence, as described in the historical overview. In short, after initial low national status and ethnic identification, an exogenous increase in contestable resources led to an equilibrium with entrenched high ethnic identification and high fighting efforts by ethnic groups for access to resource rents. This evidences H2.

### **Similarities to Scenario Four**

The struggle over resource control in the Niger Delta also bears similarity to scenario four, where increased resources and decreased ethnic status lead to increased fighting among highly identifying ethnic group members and thus more ethnic identification.

Part of the struggle over resource wealth has been by the Ijaw ethnic group, arguably the fourth largest ethnic group in Nigeria (Nwajiaku, 2005). Since the 1970s, Ijaw political leaders have tried to keep Ijaw administratively concentrated to achieve greater political control over oil (Ukiwo, 2007). Notably, one reason that Ijaw are *arguably* the fourth largest ethnic group is because the conception of Ijaw identity has changed over the last few decades in response to changing contexts. In the 1990s, various Ijaw elites were weakened or deposed from office, and many Ijaw interpreted this as the central government and other larger ethnic groups seizing power over the oil industry (Ukiwo, 2007). Azam (2009) notes that after resource extraction decimated local

economic conditions, many Ijaw migrated out of the Niger Delta region to areas where they could farm arable land. However, they were met with hostile responses from other groups, who saw them as outsiders. Attempted Ijaw emigration from Ijaw lands then stopped since their identity precluded them from assimilating into other groups. Here, under SS13, group characteristics are salient enough that many Ijaw can only identify with their sub-group, and thus must fight to rest control of resources. In response The Ijaw National Congress (INC) and the Ijaw Youth Council (IYC), both created in the 1990s organized and promoted an Ijaw ethnic nationalism. Here, the organizers of the INC and IYC can be viewed as highly-identifying Ijaw for whom it is hard to switch identities and their organization efforts can be conceptualized as extremely low level increases to fighting resources (as their efforts are largely peaceful). Increased Ijaw ethnic nationalism resulted in various Ijaw youths from different areas supporting each other in operations against the state and MNCs and even supporting Ijaw groups outside of the Niger Delta (increased ethnic Ijaw identification) (Ukiwo, 2007). Central to Ijaw claims were grievances that they attributed to MNCs and an uncaring Nigerian state. In its 1998 founding document, the Kaiama Declaration, the IYC conceptualizes their grievances as such: “That the quality of life of Ijaw people is deteriorating as a result of utter neglect, suppression and marginalization visited on Ijaws by the alliance of the Nigerian state and transnational oil companies... That the degradation of the environment of Ijawland by transnational oil companies and the Nigerian State arise mainly because Ijaw people have been robbed of their natural rights to ownership and control of their land and resources...” (Kaiama Declaration, 1998).

In April, 2019, the IYC declared that they must control local resources even if it means being killed, modeled as a sharp increase in fighting resources. They argue that in other Nigerian regions local people have been controlling resources and reaping the rewards so people of the Niger Delta should be able to do the same (Sahara Reporters, 2019). This explicit “us” versus “them” argument implies a salient sub-national identity. Indeed, the IYC’s President, Pereotubo Oweilaemi, stated “There cannot be one Nigeria if everybody in the country is not treated with the same measure” (Sahara Reporters, 2019). In this lens, REFDI in the Niger Delta clearly affects violence and social identity.

### **MNC Involvement in Identity Formation**

While some aspects of this violence appear very similar to SS13 scenarios, MNC involvement (the source of REFDI), has also affected social identity formation. Importantly, the Ogoni conceptualized the Nigerian government and MNCs as the same entity, bent on extracting resources at any cost. As Pegg et al. (2015) explains, quoting Omeje, “...“In the minds and reckoning of a large section of the local people, there is hardly any distinction between the oil industry and the state. The two are perceived as one and the same entity” (Omeje, 2005:328). Most self-determination movements direct their claims solely at sovereign governments. In the Ogoni case, such claims were always directed both at the state and at the oil companies”. Since MNCs and the state are so intertwined, identification with the nation necessitates identification with MNCs.

Another connection between MNCs’ REFDI and ethnic conflict lies in the federalist system and the weakness of the Nigerian state. After Nigeria’s civil war, Shell and other MNCs began to negotiate terms of investment with local communities. What

this meant was that the smaller the community that the MNCs negotiated with the more narrow the MNC would have to apply development initiatives, which were commonly promised as part of contracts. Additionally, the smaller the community, the less resource rents would have to be spread across people, increasing the share per person. What this meant was that “host communities”, which were very small and defined by their close proximity to oil drilling tried to claim more bargaining rights with MNCs to obtain more resource rents (Nwajiaku, 2005). “Oil producing communities”, which were larger and included the host communities, had to legitimate their claims to rents. The INC and IYC did this by promoting a “pan-Ijaw ethnic nationalism”. Under this conceptualization, they were all Ijaw and oil on “Ijaw lands” should benefit all Ijaw (Nwajiaku, 2005). But the Ijaw ethnic group is not a monolith; over 40 different clans attended the Kaiama Declaration, and many Ijaw subgroups speak languages that are more similar to the languages of other major ethnic groups in Nigeria (Nwajiaku, 2005). What this means is that because the MNCs wanted to negotiate with as small a group as possible the pan-Ijaw groups had to forge strong clan identities and then conceptualize them within a super-ordinate Ijaw identity (Nwajiaku, 2005). “So although oil, they (Ijaw Nationalists) argue, has not created the Ijaw nation, the struggle for ownership and more effective control of the revenues accruing from oil, has served to galvanise disparate members of the Ijaw ethnic community around a common plight” (Nwajiaku, 2005). The presence of MNCs seeking oil revenues created the need for a strong Ijaw identity for many. This can be viewed through the prism of SS13:

Let pan-Ijaw identification define a group identity called A, with heterogeneous identification within A. Some individuals from “host communities” choose to identify

differently because of the greater status they enjoy. Let host community identification be called H. Prior to REFDDI, according to Nwajiaku (2005), there was weak conception of pan-Ijaw identity, and thus most people did not identify at all with A. The injection of REFDDI (or contestable resource, V) incentivized individuals not included in H to construct A and claim more of V. The success of the IYC and INC in galvanizing a pan-Ijaw identity can be interpreted as an increase in ethnic group identification. This increase due to increased REFDDI evidences hypothesis 1.

It is possible that without MNCs offering REFDDI, this may still have happened if the oil producing communities needed to substantiate claims to resource wealth in order for local governments to allocate development projects to their areas and not just to the more localized host communities. In the case of Nigeria this is a moot point since MNCs were necessary to bring in the required capital to begin resource extraction. Considering all possible countries with REFDDI more broadly, this type of ethnic identity homogenization could possibly take place without the presence of REFDDI. That being said, without MNC involvement more local labor would be necessary for resource extraction. This would directly increase wealth and status to the region, mitigating environmental-based consequences to the economy, and decreasing the need to homogenize ethnic identity to gain resource wealth. Without REFDDI, oil extraction is a local development project. Additionally, as described below, the Ogoni pushed for local control over resources because they argued that unlike local communities, MNCs lack economic incentives to prevent environmental degradation. This is a clear difference between the effects of MNCs' REFDDI and locally funded oil extraction. While this is not

empirical evidence that REFDI necessitated changes in social identity formation, it offers a theoretical explanation for why it might.

It is also instructive to examine the shift from non-violent to violent actions to gain resource control (which constitutes an increase in fighting resources, F). Ken Saro-Wiwa, leader of the Ogoni MOSOP, studied the movements of Gandhi and Martin Luther King Jr. Along with other highly educated Ogoni elites, he wrote the Ogoni Bill of Rights, and mobilized other Ogoni using existing religious institutions and rhetoric to frame and conceptualize Ogoni grievances as community based. They then demanded autonomy over resources on their land via non-violent demonstrations and civil disobedience. Notably, they pushed for control over resource rents, rather than an increase in the derivation principle, because they did not trust the state to maintain such changes later, in line with arguments by Sambanis and Milanovic (2014). Additionally, they argued that without local control, MNCs would lack the economic incentives to prevent catastrophic environmental degradation. Claims for increased autonomy over resources were denied, and Saro-Wiwa began an international public relations campaign to portray Ogoni suffering as an environmental and human rights abuse at the hands of the state and MNCs (Mai-Bornu, 2019). The intersection of environmental and human rights causes was a groundbreaking theoretical conceptualization at the time. “Saro-Wiwa did this by playing the “Shell card” (Bob, 2005:81) and establishing the transnational oil company as the vital nexus which was both directly involved in the environmental devastation of Ogoni (United Nations Environment Programme, 2011) and indirectly involved in the repression and human rights violations directed against the Ogoni through its support of the Nigerian military dictatorship and its request for specific forms of

security assistance from that dictatorship” Mai-Bornu (2019) argues that the high educational levels of Saro-Wiwa and his confederates allowed them to conceptualize their struggle with terms that resonated with an international audience, allowing and necessitating non-violent resistance. Around this time, small Ijaw groups were mobilizing, especially the youth, and beginning to create non-violent activist groups claiming similar autonomy on the behalf of Ijaw people. However, after the Nigerian state violently repressed MOSOP and slaughtered thousands of Ogoni, Ijaw groups became more militant, eventually uniting under MEND. Mai-Bornu (2019) argues that the Ijaw leaders at the time were less educated and had less recourse to non-violent means of resistance, necessitating violence as an only option. I argue that non-violent Ijaw activism in the early 1990s, as well as non-violent organization in the IYC precludes this argument. I argue, as Mai-Bornu (2019) also concedes, that the violent repression of the Ogoni movement convinced Ijaw leaders that an increase in fighting resources, F (from non-violent to violent) was necessary to rest control of resource distribution. Under SS13, I also argue that state violence increased the saliency of characteristics of ethnic groups in the region, making it more costly for Ijaw to identify as anything but Ijaw, further increasing equilibrium fighting. “The end result of this is that “Ijaw youths have come to realize that the only language government and oil companies understand is violence” (Ukiwo, 2007:609). Ikelegbe (2001) similarly notes that “violent confrontations have actually been last resorts of the civil groups, embarked upon because of the failure of peaceful methods” (459), while the International Crisis Group observes that militants “have learned the unfortunate lesson that violence, extortion and kidnapping are a way—sometimes the only way—to be taken seriously” (International

Crisis Group, 2006:1). Under ethnic identification SS13 predicts increased violence given increased contestable resources. The increasing violence taken by ethnic groups in the region then makes sense given the unavailability of national identification and increasing REFDI.

### **Other Evidence of Identity Formation**

Oyefusi (2008) conducted a survey of male youths in the Delta and Rivers state to try and understand why they fight. The survey did not ask respondents why they fought, but rather asked respondents about their perceived and actual material and social conditions and if they fought or not. After regressing responses on fighting, Oyefusi (2008) finds material conditions can predict willingness to rebel, but that the high significance of self-reported Ijaw identity “tends to lend empirical support to the close, sometimes inseparable, connection between grievance and greed in motivating rebellion.” Again, material status and willingness to commit fighting resources are dependent (and influence) identity. Here, identity may serve as a medium through which to interpret grievances.

Finally, in establishing the connection between REFDI and conflict Terminski (2012) contends that some environmental degradation caused by development is not so bad (like making dams) because local communities eventually benefit (from access to productive resources, like water). Oil, by contrast, does not give these benefits. In Nigeria during oil field exploration the oil companies laid waste to the land because they had no incentive to protect its future productive capacity. Entirely state-sponsored development

would have had more incentive to protect the environment, but Nigeria lacks the capacity to sponsor such projects without REFDI from MNCs.

In Nigeria's Niger Delta region REFDI has increased conflict in part because of its effects on social identity formation. The qualitative analysis of historical contexts and documents evidences both hypotheses. In the next sections I examine the connections between REFDI, identity, and conflict with large-N statistical.

### **Quantitative Research Design**

In line with most quantitative research on ethnic conflict I use OLS and logistic regressions to explore any relationships between ethnic conflict and explanatory variables. I want to know the effects of REFDI on the chances of ethnic conflict, so I consider both the onset of new ethnic conflicts and the existence of ongoing ethnic conflicts as dependent variables in different analyses. In analyzing new onsets, I can see if REFDI increases the chances of conflict beginning when there was none previously. In looking at ongoing conflicts, I can see if REFDI may increase the probability of conflict continuing. Later I discuss potential insight from different results between onset and ongoing conflict. I also consider the effects of known determinants of ethnic conflict identified in the literature such as GDP/capita, political exclusion, population, and group size. When regressing new or ongoing ethnic wars on lagged REFDI (and other control variables), a positive and significant coefficient on lagged REFDI would evidence a correlation between REFDI and ethnic conflict and support hypothesis 2. While I argue that increasing REFDI will increase ethnic conflict because of its effects on social identity formation, this causal mechanism is hard to measure empirically. In a less-than-

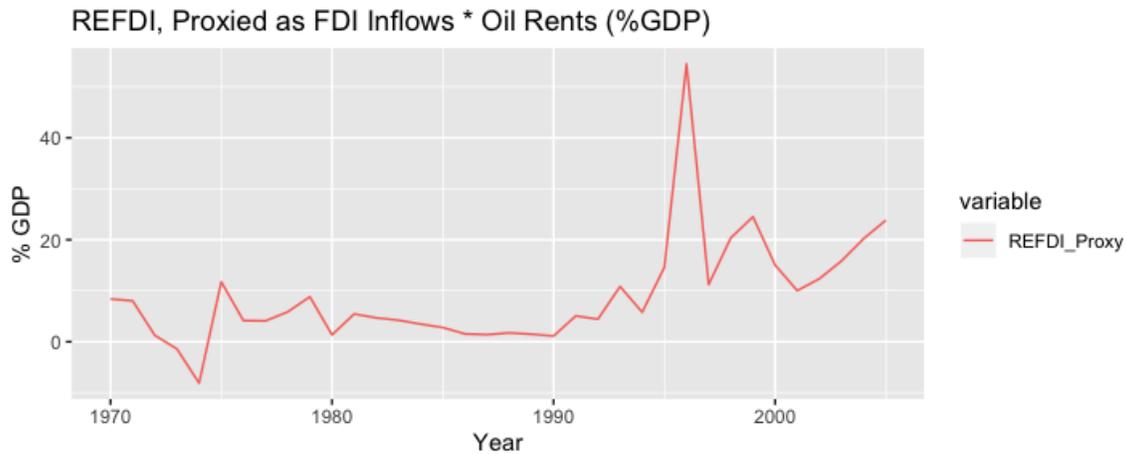
perfect solution, I analyze ethnic versus national identification in African countries compared with REFDI. A positive and significant correlation between lagged REFDI and ethnic identification would suggest that increasing REFDI might increase ethnic identification, supporting hypothesis 1. If both hypotheses are supported by the data then there is evidence that social identity formation may be in part responsible for some ethnic conflicts. I do not attempt to disprove other mechanisms nor claim that social identity formation necessarily causes all ethnic conflicts with REFDI. I use this data to show that the causal mechanisms I identify in Nigeria may also exist globally.

## **Data**

### **Economic Data**

I obtain economic data from The World Bank's "World Development Indicators" (WDI, 2010). Unfortunately I could not obtain direct data on REFDI. FDI inflows are measured as investments from other countries and can be grouped by sectors such as services, manufacturing, and mining. While The World Bank offers data on FDI inflows by country-year and FDI inflows by sector-year, it does not offer data on FDI inflows by country-sector-year. One other source sells data on FDI inflows by country-sector-year but only for a small number of years, most of which did not match the range of years of my other data. As a proxy for my main explanatory variable I use data on FDI inflows by country-year (as a % of annual GDP) and data on each country's Oil and Mineral Rents by year (as a % of annual GDP). I create an interaction term multiplying FDI and resource rents as a rough estimate for REFDI. Oil (mineral) rents are measured as the difference between the value of produced oil (minerals) at global prices and the costs of

production. I argue that this is a viable proxy because countries that rely heavily on resource rents can be expected to receive a large proportion of FDI inflows in those sectors. I also analyze whether groups were concentrated on land with oil production to try and mitigate estimation error. Of course this is not ideal data and any results from this analysis must be treated cautiously. I argue that any statistically significant relationship between the interaction of FDI and resource rents and ethnic conflict provides evidence that REFDI *might* lead to conflict, but definitely provides evidence that further research with better data should be pursued. All economic data ranges from 1970 through 2018 when available. To give a sense of the increasing levels of REFDI (proxied), below is a graph of yearly averages across each country's FDI (as a % of GDP) times its Oil Rents (as a % of GDP).



### **Conflict, Oil, and Group Data**

To measure conflict, group characteristics, and oil presence I use data from Asal et al. (2016). They use a pairing of data from Uppsala Conflict Data Program on ethnic wars, Ethnic Power Relations data on geo-referenced ethnically relevant political groups (Cederman et al. 2010), and geo-referenced data on petroleum production from Lujala,

Rod, and Thieme (2007). This data is measured by country-group-year and contains information on whether an ethnic group began a new conflict, was already engaged in conflict from a previous year, was concentrated on land from which petroleum was produced, was excluded from state central power, recently experienced downgraded control of state central power, and demographic statistics. Asal et al. (2016) find that groups excluded from central power are more likely to engage in violence and that the existence of oil further increases those chances. By using this same data I can draw connections between economic factors, political exclusion, oil, and conflict.

My data set aggregates Asal's (2016) data with the WDI data by country-year. Using Asal's (2016) data I code for the total onset of ethnic wars within a country-year, the total ongoing ethnic wars within a country-year, the percent of a country's population that is excluded from central power along ethnic group cleavages within a country-year, war history by country-year, as well as log GDP. I include the WDI indicators mentioned above by country-year as well as their single-year lagged equivalents. My data contains observations for years from 1970 through 2005, although many observations are missing data, oftentimes because countries have not existed for that whole period. The dependent variables in my analysis are the total onsets of ethnic wars within a country-year and the total ongoing ethnic wars within a country-year. I also code binary versions of the dependent variables, taking the value 1 if at least one new ethnic war began (or if at least one ethnic war was ongoing) in a country year, and 0 otherwise. By analyzing both cardinal and binary outcomes I can use both OLS and Logistic regressions in an attempt to increase robustness.

## **Identity Data**

To measure ethnic and national identity I intended to use Afrobarometer survey results. Afrobarometer administers rounds of surveys to diverse and representative populations in every African country deemed safe and open enough for reliable data collection. Among other questions, participants are asked if they had to pick whether would they identify ethnically or nationally. If ethnic identification increased in areas with REFDI, then that would support Hypothesis 1. Unfortunately, Afrobarometer only releases country level data for these questions to the public. Local geo-referenced responses are only available for one country at a time or one round at a time with special permission from the organization after an application. Admittedly, country-level data is not an ideal proxy for measuring changes in ethnic identification caused by REFDI. REFDI in one region may cause people from that region to identify ethnically, as we saw is the case in Nigeria, however that same REFDI may increase the status of the nation and incentivize other people elsewhere to identify more nationally. So the same increase in REFDI could have opposite effects on identification for different people that would not be captured by country-level averages. At the time of writing I did not have access to geo-referenced data from Afrobarometer, but the day before submission I was granted access to multiple rounds of geo-referenced data from Nigeria. Therefore I leave analysis of identity data to support Hypothesis 1 for an appendix that I will write in the coming days. The rest of this analysis deals with the relationships between economic data and conflict, H2.

## **Analysis – Country-Year Data**

I begin examining simple correlations between economic factors and war, using only complete observations. The results are below:

X	Y	Correlation
Total Ethnic War Onsets	FDI Inflows (% of GDP)	-0.005177101
Total Ethnic War Onsets	Oil Rents (% of GDP)	0.0291064
Total Ethnic War Onsets	Mineral Rents (% of GDP)	-0.01510931
Total Ongoing EthnicWars	FDI Inflows (% of GDP)	-0.02115598
Total Ongoing EthnicWars	Oil Rents (% of GDP)	0.01098177
Total Ongoing EthnicWars	Mineral Rents (% of GDP)	-0.05100424

Essentially, there is very little correlation between ethnic war and FDI inflows, oil rents, and mineral rents. The negative signs on both FDI inflow correlations are consistent with literature that correlates increases in FDI with stability. The positive signs on both Oil correlations are consistent with theories of the “oil curse.” For the rest of this section I omit analysis of Mineral Rents because there were no statistically significant effects of Mineral Rents. Later I discuss why this may be the case.

First I regress new ethnic wars and ongoing ethnic wars on the independent variables. The variables used and the outcomes are reported below. All use heteroskedasticity robust standard errors.

**Model 1: (OLS)**

$$Total\ new\ ethnic\ wars\ (or\ ongoing) \sim FDI\ Inflows + Oil\ Rents + FDI\ Inflows * Oil\ Rents$$

	Model 1 (new onset)	Model 1 (ongoing)
Intercept	0.01404 *** (0.00226)	0.16875 *** (0.01031)
FDI Inflows (% GDP)	-0.00019 (0.00016)	-0.00220 (0.00171)
Oil Rents (% GDP)	0.00041 (0.00029)	0.00042 (0.00073)
FDI-Oil Interaction	0.00002 (0.00005)	0.00008 (0.00016)
N	4604	4604
R2	0.00140	0.00133

Standard errors are heteroskedasticity robust. \*\*\* p < 0.001; \*\* p < 0.01; \* p < 0.05.

There is no significant relationship between the explanatory variable and the outcome for either new onsets or ongoing. Clearly REFDI cannot explain ethnic conflict alone.

**Model 2:** (Logistic)

*New ethnic war (or ongoing) (binary) ~ FDI Inflows + Oil Rents + FDI Inflows\*Oil Rents*

	Model 2 (new onset)	Model 2 (ongoing)
Intercept	-4.33638 *** (0.15432)	-1.95333 *** (0.06841)
FDI Inflows (% GDP)	-0.05404 (0.02873)	-0.07904 ** (0.02621)
Oil Rents (% GDP)	0.01554 (0.01014)	0.00344 (0.00597)
FDI-Oil Interaction	0.00133 (0.00278)	0.00188 (0.00248)
N	4604	4604
AIC	633.19161	3195.08685
BIC	658.93033	3220.82558
Pseudo R2	0.01049	0.01509

Standard errors are heteroskedasticity robust. \*\*\* p < 0.001; \*\* p < 0.01; \* p < 0.05.

Here I regress on the existence of at least one new ethnic war onset (or one ongoing) using a logistic regression. Again, these results show that REFDI alone cannot explain ethnic conflict. Results from using lagged WDI variables are similar and not reported here. Next, I include all of the country level variables used in Asal et al. (2016):

**Model 3: (OLS)**

*Total new ethnic wars (or ongoing) ~ FDI Inflows + Oil Rents + FDI Inflows\*Oil Rents + percent of population excluded + log GDP/capita (lagged) + history of war*

	Model 3 (new onset)	Model 3 (ongoing)
Intercept	0.07953 *	-0.44331 ***
	(0.03450)	(0.08615)
Percent Excluded	-0.00003	-0.00041
	(0.00014)	(0.00044)
log GDP/capita (lagged)	-0.01176 ***	0.03542 ***
	(0.00284)	(0.00864)
War History	0.01026 *	0.34917 ***
	(0.00440)	(0.02194)
log Population (lagged)	0.00346	0.02261 **
	(0.00261)	(0.00749)
FDI Inflows (% GDP)	-0.00145	-0.02206 ***
	(0.00087)	(0.00507)
Oil Rents (% GDP)	0.00068	-0.00280 **
	(0.00045)	(0.00107)
FDI-Oil Interaction	0.00016	0.00098 ***
	(0.00014)	(0.00025)
N	3097	3097
R2	0.02182	0.53417

Standard errors are heteroskedasticity robust. \*\*\* p < 0.001; \*\* p < 0.01; \* p < 0.05.

When regressing on total ongoing wars the interaction between FDI inflows and Oil rents becomes statistically significant at the 95% confidence level, although the magnitude of the coefficient is tiny. Although log population size (lagged) was not significant in Asal et al.'s analysis I include it here because it is significant. Next I run logistic regressions on the binary versions of the dependent variables using the same explanatory variables.

#### **Model 4:** (Logistic)

*Onset (or ongoing) (binary) ~ FDI Inflows + Oil Rents + FDI Inflows\*Oil Rents + percent of population excluded + log GDP/capita (lagged) + history of war + log population (lagged)*

	Model 4 (new onset)	Model 4 (ongoing)
Intercept	-0.90020 (1.43354)	-4.73005 *** (0.63255)
Percent Excluded	-0.00263 (0.00495)	0.00054 (0.00245)
log GDP/capita (lagged)	-0.68892 *** (0.14349)	0.05047 (0.06567)
War History	0.11035 (0.05928)	1.16559 *** (0.10929)
log Population (lagged)	0.23358 * (0.10007)	0.19148 *** (0.04139)
FDI Inflows (% GDP)	-0.06420 (0.05452)	-0.16591 ** (0.06060)
Oil Rents (% GDP)	0.02654 * (0.01303)	-0.01620 (0.01086)
FDI-Oil Interaction	0.00309 (0.00242)	0.00757 ** (0.00235)
N	3097	3097
AIC	550.57043	1904.79165
BIC	598.87595	1953.09716
Pseudo R2	0.09252	0.42224

Standard errors are heteroskedasticity robust. \*\*\* p < 0.001; \*\* p < 0.01; \* p < 0.05.

Again, the interaction term is statistically significant at the 95% confidence level, but only for ongoing conflicts and not onsets.

### Model 5: Country Fixed Effects

Finally I run the same OLS regression as in Model 3, but with country Fixed Effects to partially account for endogeneity concerns (discussed later).

*Total new ethnic wars (or ongoing) ~ FDI Inflows + Oil Rents + FDI Inflows\*Oil Rents + percent of population excluded + log GDP/capita (lagged) + history of war + Country Fixed Effects*

I do not report the individual coefficient estimates for every country, but do report the coefficient estimates for the other explanatory variables.

	Model 5 (new onset)	Model 5 (ongoing)
Intercept	-0.23498 (0.17985)	-0.88270 (0.75679)
Percent Excluded	-0.00022 (0.00040)	0.00183 * (0.00076)
log GDP/capita (lagged)	-0.02628 (0.01449)	0.19305 *** (0.04887)
War History	-0.05936 *** (0.01574)	0.40874 *** (0.05004)
log Population (lagged)	0.06051 *** (0.01612)	-0.16908 *** (0.03515)
FDI Inflows (% GDP)	-0.00202 (0.00178)	-0.01067 * (0.00426)
Oil Rents (% GDP)	0.00276 (0.00144)	-0.00219 (0.00185)
FDI-Oil Interaction	0.00020 (0.00015)	0.00056 * (0.00023)
N	3097	3097
R2	0.10423	0.77317

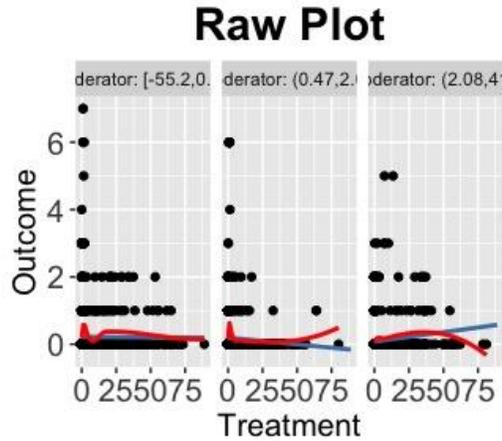
Standard errors are heteroskedasticity robust. \*\*\* p < 0.001; \*\* p < 0.01; \* p < 0.05.

The coefficient on the interaction term for REFDI remains statistically significant at the 95% confidence level.

### **Analysis of Interaction Terms**

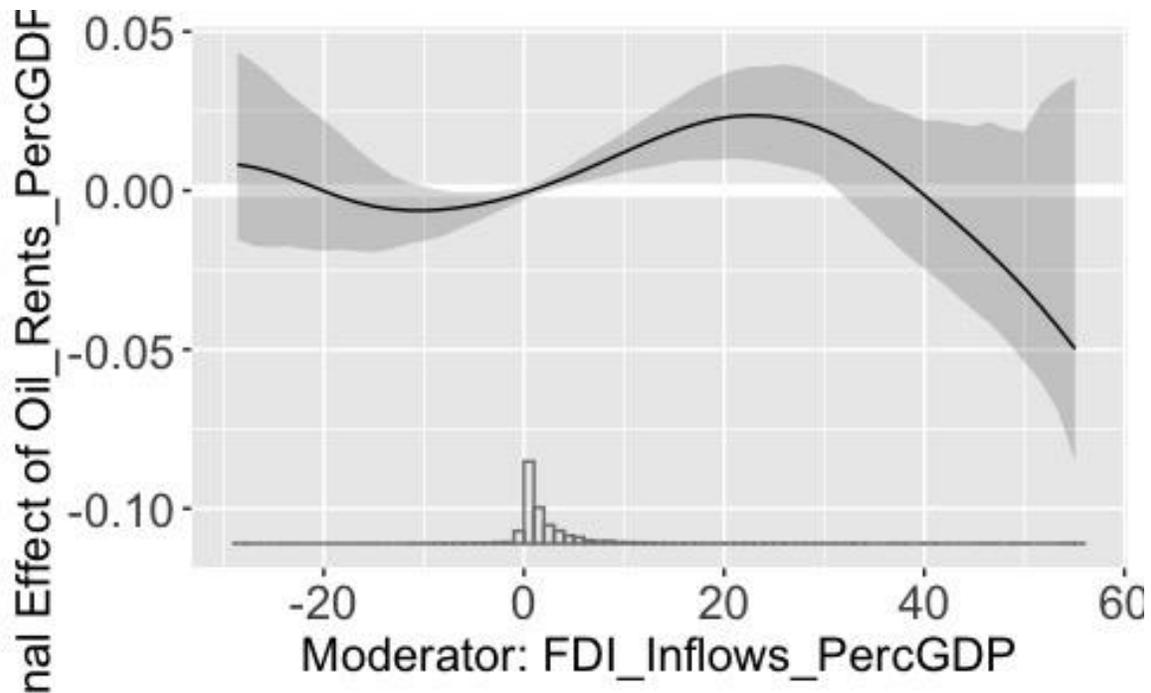
Since I am using the multiplicative interaction term of FDI inflows and Oil rents to proxy REFDI levels, I cannot interpret the interaction term's coefficient as an unconditional marginal effect of REFDI on the chances of conflict. Rather, as both FDI inflows and Oil increase, the chances of ethnic conflict increase. In line with recommendations by Hainmueller et al. (2019) and Brambor et al. (2006) on analyzing interaction terms, I report plots of the interaction terms from the raw data and kernel density estimations of the pdf of the outcomes for differing levels of the interaction terms.

Below is a plot of the interaction terms and outcome variable total number of ongoing wars created using “interflex” code from Hainmueller et al. (2019). “Treatment” on the x-axis reports Oil rents (% GDP), plotted against the number of ongoing wars. Each of the three graphs reports these relationships for low, medium, and high levels of FDI respectively. The blue line is a linear regression, while the red is a LOESS fit.



While the effects look very small, it is clear that the effects of oil rents change depending on levels of FDI inflows. Only at high levels of FDI do increases in oil rents increase the chances of conflict. This is expected given that I am attempting to proxy REFEDI with the interaction term. I am assuming that high levels of REFEDI (in the oil sector) correlate with high levels of FDI and oil rents, so low levels of either oil rents or FDI imply low levels of REFEDI. For low levels of FDI, I don't necessarily care about the effect of the interaction treatment.

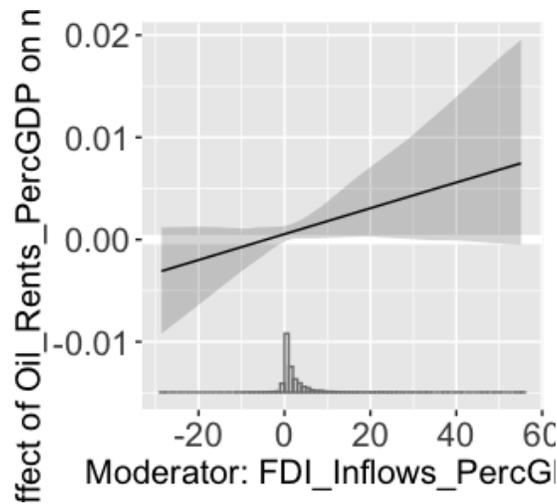
Next I report a graph of the kernel estimates and the bootstrapped 95% confidence intervals for the marginal effects of oil rents in predicting the number of ongoing wars for varying levels of FDI (controlling for GDP/capita and exclusion):



Here we see that for levels of FDI inflows ranging from just above 0% to about 30% of GDP, increasing Oil rents increase the probability of an ongoing war. While this appears to contradict the raw plot above, it should be noted that the third raw plot graph with the largest levels of FDI, the only graph that showed a positive relationship between the treatment and outcome variables, begins at FDI levels of roughly 2% of GDP. This is about the same level of FDI where marginal oil rent increases begin to show a positive effect on the outcome variable.

It should be noted, however, that the marginal effects as well as any statistically significant coefficient estimates in the regressions are very small, less than 0.05. While most quantitative analyses of ethnic conflict report small effects this is still relatively small. Below is the same graph with outcome equal to the number of new ethnic conflicts. While the kernel estimate becomes more linear, the confidence intervals

become so large that we cannot reject the null hypothesis that there is no multiplicative interaction effect for most levels of FDI inflows.

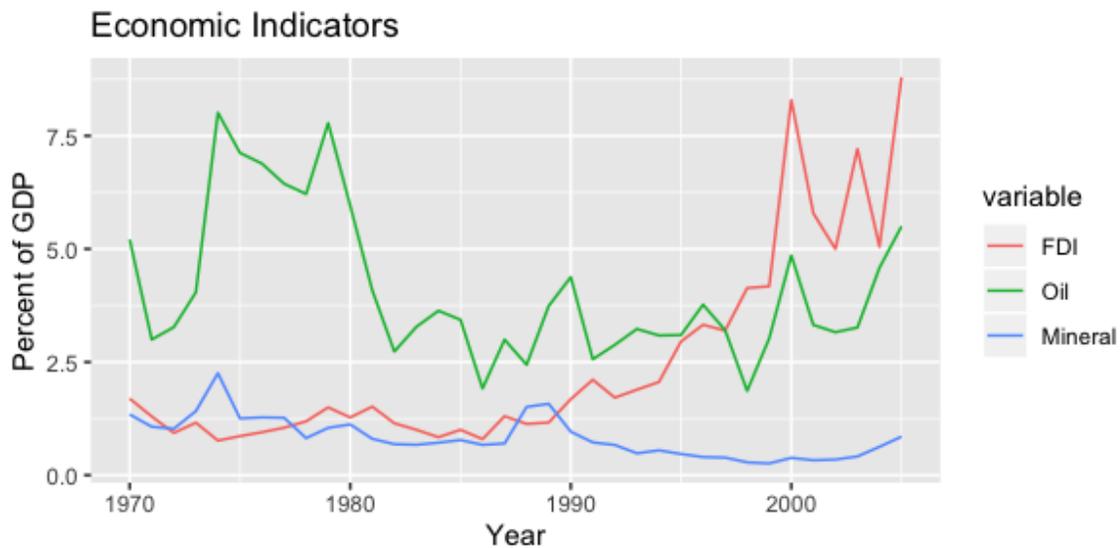


### **Mineral Rents?**

As noted, any effects of FDI and oil rents were not seen for FDI and mineral rents. The question then, is why? I argue that there may be structural differences between the oil industry and the mining industry. For one, Oil investments can only benefit local communities with the rents and compensation that they produce. As is the case in Nigeria, if that compensation never happens then the communities never benefit. As is also the case in Nigeria, bargaining over compensation forces judgments on who deserves compensation, which can be decided based on identity. Unlike oil, mineral investment poses the opportunity to create job growth. Oil production requires high skilled workers and many MNCs bring in foreign workers. Mining, however, does not require the same share of high skilled workers and so economic benefits may be shared more equitably among indigenous populations. Additionally, mining does not render neighboring land unproductive in the same way that oil drilling does after spills. If there are less grievances

and less bargaining over compensation under mining investments then there may be less reason to identify ethnically after mining foreign investments.

Aside from structural differences between oil and mining, the lack of explicit data on mining FDI inflows may also limit results. Empirically, mining rents account for far less than oil rents as a percent of GDP. On average, oil rents as a percent of GDP by country-year are 4.89 times higher than that of mineral rents in the dataset. Average yearly oil rents (% GDP) are 4.91 times higher than that of mineral rents. Given the low levels of mineral rents, mineral rents (% of GDP) times FDI inflows may be a poor proxy for Mining FDI. The graph below illustrates the low levels of mining rents in the data set compared to FDI and oil rents:



As such, more research about the differences between the effects of mining and oil on host communities and more precise data on FDI inflows by country-industry is required to make any substantive claims.

### Analysis – Country-Group-Year Data

The results from analyzing Country-Year data were not impressive, although hinted at possible relationships between REFDI and conflict. In order to assess the results better, I also import the country-year WDI data into Asal et al.'s (2016) country-group-year data. Now I can see how country-level FDI inflows and oil rents affect the chances of rebellion when there exists oil production within a given group's region. I can now also incorporate group-level variables. Groups that recently experienced a downgrade in political power are coded as well as (log) group size. Positive coefficients in these regressions further evidence a possible connection between REFDI and ethnic conflict. Since Asal et al.'s (2016) data codes binary variables for new ethnic conflict onsets I use logistic regressions.

**Model 6:** (Logistic)

$$\text{New ethnic war (binary)} \sim \text{FDI Inflows} + \text{Oil Rents} + \text{FDI Inflows} * \text{Oil Rents}$$

	Model 6 (new onset)
Intercept	-5.34976 *** (0.14564)
FDI Inflows (% GDP)	-0.09133 ** (0.03496)
Oil Rents (% GDP)	0.01727 (0.01005)
FDI-Oil Interaction	0.00422 *** (0.00121)
N	14794
AIC	883.74203
BIC	914.14994
Pseudo R2	0.01554

Standard errors are heteroskedasticity robust. \*\*\* p < 0.001; \*\* p < 0.01; \* p < 0.05.

Here we see that there are positive and statistically significant multiplicative interaction effects between FDI and Oil on the chances of war. However, after including other

explanatory variables used by Asal et al. (2016) the relationship becomes statistically significant at only the 90% confidence level:

**Model 7:** (Logistic)

*New ethnic war (binary) ~ FDI Inflows + Oil Rents + FDI Inflows\*Oil Rents*

*+ excluded + downgraded + log group size + log population (lagged) + log GDP/capita*

*(lagged) + Presence of petroleum production + war history*

	Model 7 (new onset)
Intercept	-1.54278 (1.68067)
Excluded	1.18485 *** (0.34847)
Downgraded	1.49720 *** (0.42387)
log Group Size	0.13503 (0.08652)
log Population (lagged)	-0.04365 (0.08369)
log GDP/capita (lagged)	-0.59879 *** (0.14493)
War History	0.07290 (0.24438)
Petroleum Production	0.55793 (0.30714)
FDI Inflows (% GDP)	-0.06553 (0.04211)
Oil Rents (% GDP)	0.01715 (0.01302)
FDI-Oil Interaction	0.00266 (0.00150)
N	14683
AIC	839.67334
BIC	923.21224
Pseudo R2	0.08153

Standard errors are heteroskedasticity robust. \*\*\* p < 0.001; \*\* p < 0.01; \* p < 0.05.

The results from this regression imply that we cannot reject the null that FDI inflows and oil rents have no effect on the chances for ethnic conflict onset. Nevertheless, the mixed results from all of the regressions imply that there still may be a connection and Hypothesis 2 may still hold.

### **Analysis – Endogeneity Concerns**

As noted, there exists a demonstrated negative correlation between war and FDI and numerous studies show a causal connection from war to decreasing FDI. This makes sense considering MNCs would not invest if they expect war to create negative returns on investment. However, I am trying to observe any causal connections moving in the opposite direction. Of course, then, endogeneity is a concern. Given the established causal connection between war and less FDI, any positive effects of REFDI in these regressions on war would be biased downwards and should be interpreted as lower bounds.

As shown above, Model 5 also includes country fixed effects to partially account for endogeneity. Countries with high FDI one year are likely to experience high FDI the next all else equal since MNCs aim to make rational risk assessments year after year. Using FE helps include this in the model leaving other explanatory variables to account for exogenous shocks.

Additionally, in most regressions FDI inflows alone were negatively correlated with conflict (as expected), but the interaction term was positive. If the interaction term is an acceptable proxy for REFDI then this implies that for most forms of FDI war correlates with lower FDI, but not necessarily for REFDI. This may be because resource

extractionary MNCs can still receive positive returns on investment during ethnic conflict and so are not as deterred by political instability. Or, it is because REFDI increases the chances of ethnic conflict beyond MNC's risk assessments. The stronger positive relationship between REFDI (proxied) and the existence of ongoing war versus the onset of new ethnic conflict evidences the latter relationship.

The difference between conflict onset and ongoing conflict existence also helps evidence effects of REFDI. Assuming that the existence of violence increases the known investment risk we would expect REFDI to decrease with ongoing conflict more so than new conflict. The fact that REFDI correlates more positively with ongoing war suggests that REFDI may exacerbate war. If there only existed a causal connection from war to reduced REFDI then we would not see investments during ongoing wars.

## **Conclusion**

The findings presented in the study are mixed. In the qualitative analysis of Nigeria as a case study I show that REFDI has led to increased ethnic identification among the Ijaw and Ogoni in the Niger Delta region that has led to increased violence. Using SS13 as an initial framework I argue that REFDI constitutes increases to contestable resources in Nigeria that incentivize less national identification and greater ethnic identification. I also argue that the Nigerian government's response has further exacerbated tensions and led to increased violence.

The theoretical expectations of the model and Nigerian case study predict a positive relationship between REFDI and ethnic conflict. The evidence from the quantitative analysis, however, does not allow us to reject the null hypotheses that REFDI

as no effect on ethnic conflict. Any effects of the proxy I use for REFDI in the models are weak if statistically significant at all. The evidence does, however, suggest that there still may be a connection between REFDI, social identity formation, and ethnic conflict as I argue there exists in Nigeria, especially considering that political instability decreases FDI and creates a downward bias on the coefficient estimates for REFDI.

This study is limited in its approach due to the lack of quantitative data on FDI by country-sector-year, and by the until-recent lack of data on localized identity. As is, regression models in the literature tend to report little explanatory power in general for evidencing causal mechanisms, so the quantitative analysis here is intended more to evidence the possibility of a causal relationship that I argue is apparent in the qualitative analysis.

In order to more adequately assess these relationships further qualitative research must be done in different countries and further qualitative research with localized surveys should be used to see if oil production and/or REFDI correlates with stronger ethnic identity and actual data on FDI inflows by sector-country-year should be used instead of proxies. In the upcoming days I intend to use the new localized identity data in Nigeria to see if the Niger Delta region, the area with the most REFDI and petroleum extraction also has exhibited an increase in ethnic identification, as the theoretical expectations of the model imply. I will include any results in a future appendix.

Aside from evidencing the need for more specific data, I argue that FDI may pose hidden challenges for countries with heterogeneous identification. These states as well as MNCs and the international community must be acutely aware of these challenges. Policy should aim to limit the harm of REFDI to local communities and harness the

wealth brought by REFDI for community development with fair wealth distribution to incentivize a strong national identification. The relationships and causal mechanisms relating to ethnic conflict, resource extraction, and foreign investment have only just begun to be understood and I hope that this research highlights gaps in our knowledge and offers possible answers.

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