Capital flight is a phenomenon that has plagued many African countries ever since they gained independence in the middle and later parts of the twentieth century. Estimates suggest that Africa’s GDP per capita is 16% lower than if it had been able to retain its private wealth.\(^1\) Capital flight, the flow of capital out of a country, erodes the domestic tax base and hinders development. Nadeem Ul Haque, Deputy Chairman of the Pakistan Institute of Development Economics, is worried that “foreign bankers, for example, may be unwilling to make new loans that would merely finance future capital flight.”\(^2\) It is for this reason that the problem has been investigated by many scholars, who seek to explain what factors cause capital flight; the hope is these factors can then by regulated, providing Africa with more capital it can use for development purposes.

Some of the numerous variables shown to be positively associated with capital flight include: net external borrowing, presence of natural resources, and political violence. Our variable of interest is oil rents percent GDP. Oil rents are defined by the World Bank as the difference between the value of crude oil production at world prices and total costs of production.
Our hypothesis is that countries will have more capital flight if oil rents constitute a significant portion of their GDP. Thus, increases in oil rents percent GDP should lead to increases in capital flight. Suggested mechanisms for this increase are corruption, economic instability, and political instability. The discovery and subsequent export of oil reserves is linked to increases in corruption, which is logical because the government oftentimes controls large swathes of the petroleum sector in developing countries. Government officials usually hide their illicit profits outside of the country, thus driving up capital flight rates. Economic stability also suffers when an economy becomes more dependent on a single resource such as oil. This can lead to currency depreciation, which causes citizens and businesses to store and invest their capital in other countries, which means that foreign direct investment (FDI) from the oil-rich country is increasing; positive FDI from a country adds to that country’s capital flight. The third mechanism, political instability, caused by political violence or military conflict, is questionable, as some studies indicate that there is not a relationship between oil rents and political instability.

As this study is focused only on post-colonial sub-Saharan African countries, it is constrained by the amount of available data, and the reliability of collected data. However, the sample size is large enough that we are confident that the significance of the results is reliable. Our statistical results are supplemented with succinct case studies of three sub-Saharan oil-rich countries: Nigeria, Angola, and Cameroon.

**Existing Literature**

Capital flight is defined most basically as the legal or illicit flow of funds out of a country. For the purposes of this paper, capital flight will be defined as:

\[
KFit = \Delta DEBTADJit + FDit - (CA + \Delta RESit)
\]
where $\Delta DEBTADJ$ is the change in stock of external outstanding debt after it has been adjusted for exchange rate fluctuations, $FDI$ is the net foreign direct investment, $CA$ is the current account deficit, and $\Delta RES$ is the net additions to the stock of foreign reserves.\(^3\) Positive values indicate that net capital outflows are larger than net capital inflows. Legal capital flight occurs for many reasons, many of which arise from political or economic instability in a country. As this paper is concerned with sub-Saharan African countries, illicit capital flight takes on added importance. “Diversion of funds from public accounts into private accounts, kickbacks on government contracts, [and] inflated procurement costs” are among the methods used by rulers and their cronies to orchestrate illicit capital flight.\(^4\) The DRC and Nigeria are the best examples of this illicit flight. Mobutu Sese Seko, who took power of the DRC in 1965, allegedly accumulated $4 billion in private assets by the mid-1980s.\(^5\) That is impressive, but Nigeria, with political leaders like General Sani Abacha, who had $2 billion in Swiss banks when he was eventually ousted, is the archetypal example of illicit capital flight. Nigeria’s net external assets are almost three times larger than its GNI.\(^6\) The existing literature on capital flight tries to explain this by looking at predominately measurable economic factors.

Net external borrowing, net official development assistance, and total foreign aid are three major factors that need to be examined when dealing with capital flight. Much research has been done on debt, which primarily stems from external borrowing, with relation to capital flight. The debt service to export revenues ratio in Nigeria is a good example. In 1985, it was 33.2 percent. If debt rescheduling hearings did not go in Nigeria’s favor and loan restructuring was kept off the table, rulers would have had lost access to a lot of rents, thus leading to a decrease in illicit capital flight.\(^7\) However, just because debt-fueled capital flight, defined as a situation in which debt provides the “resources for capital flight,” may decrease, net capital flight
may not necessarily decrease. This is because debt-driven capital flight, a situation in which debt causes instability that causes capital to flee the country, may cause even more capital flight. Boyce and Ndikumana (2011) have calculated, in a study involving 33 sub-Saharan African countries, that “out of every dollar of new borrowing, as much as 67 cents left the country in the form of capital flight the same year.” Fungible aid also plays a part in increasing debt, and thus capital flight. Studies in the Dominican Republic indicate that increases in aid shifts government expenditure “from development to deficit reduction,” which means more debt-fueled capital flight will occur, as countries convince foreign backers to fund development projects.

Natural resources and capital flight are also correlated. In a study of 33 sub-Saharan African countries, Boyce and Ndikumana (2012) found that sample-wide increases in capital flight correlated to Africa’s natural resource boom. From 1995 to 1999, there was 30.9 billion 2010 US dollars in capital flight, while from 2005 to 2010 there was 202.4 billion 2010 US dollars in capital flight. Oil exporters dominated the list in the 2000s, with their capital flight accounting for 92 percent of the sample’s total capital flight, opposed to 46 percent in the 1990s. Examples of this natural resource correlation are best seen in Nigeria and Sudan, which, from 1976-1987, combined to account for more than half of the total capital flight in the 36 countries used in the 1991 World Bank study on capital flight in Africa. Non-economic factors must also be examined, though.

The effect of armed conflicts on capital flight has also been investigated. Empirical evidence indicates that political instability leads to increases in capital flight. And indeed, capital flight is greater in warring countries. A battle death dataset is used in our research in an attempt to account for this.

Model and Data
Our sample includes data from 40 sub-Saharan African countries between the years 1970 and 2000, which provides us with 1240 country-years to work with. Of these 1240 country-years, 760 will be used in our regression. Our dependent variable is capital flight percent GDP. Our explanatory variable of interest is oil rents percent GDP. Our first control variable is non-petroleum natural resources percent GDP. Other control variables are log GDP per capita, log net official development assistance and official aid received, and conflict, which is a dummy variable based on the number of battle deaths in a country in a given year. We also controlled for country fixed effects and lagged the dependent variable one year.

The model we used for our regression is:

\[ KF_{it} = \alpha + \beta_1 OR_{it} + \beta_2 NR_{it} + \beta_3 GDP_{it} + \beta_4 AID_{it} + \beta_5 C_{it} + KF_{it-j} \]

where for country \( i \) in year \( t \), \( KF \) is the ratio of real capital flight to GDP (and \( j = 1 \ldots q \) is the number of lags), \( OR \) is oil rents percent GDP, \( NR \) is log non-oil natural resources rents percent GDP, \( GDP \) is log GDP per capita, \( AID \) is log net official development assistance and official aid received, and \( C \) is a dummy variable where military or political conflict is 1 if there were >24 battle deaths in that year, 0 otherwise.

The data for total natural resources rents percent of GDP, oil rents percent of GDP, and population came from the World Bank’s “World Development Indicators.” The data for net official development assistance and official aid received came from the World Bank’s “Africa Development Indicators.” Battle death data came from a dataset compiled by Bethany Lacina, Patrick Meier, and Martin Schüepp and located on the Peace Research Institute Oslo website. Capital flight and GDP data was provided by Leonce Ndikumana and is from his “Capital Flight from 39 African Countries, 1970 – 2010” data set. All financial information has been converted to 2010 US dollars.
The range for our variable of interest, namely oil rents percent GDP, is 0 percent for a whole host of countries and 209.4808983 percent for 1998 Angola. Having oil rents account for 209.48 percent of GDP is a little confusing at first glance, but following the World Bank’s calculation method, Angola’s very small exports denominator, influenced by a high number of imports, drives the percentage figure higher than 100 percent.

We first tested for correlation and collinearity, determining that there was no correlation or collinearity between variables. The highest absolute correlation value was 0.17. The test for collinearity involved determining whether or not the variance inflation factor (VIF) was three or greater. The VIF is never greater than 1.61, so we determine that collinearity was not an issue (Fig. 1).

Figure 1: VIF results for our KF-OR model.

<table>
<thead>
<tr>
<th>Variance Inflation Factor</th>
<th>VIF</th>
<th>1/VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
<td>VIF</td>
<td>1/VIF</td>
</tr>
<tr>
<td>GDP</td>
<td>1.61</td>
<td>0.622721</td>
</tr>
<tr>
<td>AID</td>
<td>1.44</td>
<td>0.694833</td>
</tr>
<tr>
<td>lagKF</td>
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<td>0.818928</td>
</tr>
<tr>
<td>OR</td>
<td>1.10</td>
<td>0.912474</td>
</tr>
<tr>
<td>NR</td>
<td>1.05</td>
<td>0.949286</td>
</tr>
<tr>
<td>Conflict</td>
<td>1.04</td>
<td>0.964205</td>
</tr>
</tbody>
</table>
The next step was to test for heteroskedasticity. The Breusch-Pagan/Cook-Weisberg test was used, with the null hypothesis being that the variance is constant. The probability was calculated to be 0.0000, with the true value too small for the computer to measure, and so we reject the null hypothesis. A plot of the residuals versus fitted values elucidates the noticeable change in variance across fitted values, with variance increasing from left to right. In order to account for this heteroskedasticity, we use robust standard errors in our regression.

![Figure 2: Plot of residuals vs. fitted values of KF.](image)

Results

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>KF</th>
</tr>
</thead>
</table>
The results of our regression show that oil rents percent GDP, GDP per capita, official development assistance and aid, and lagged capital flight all have effects that are statistically significant. Though the negative effect of AID on capital flight is interesting, as it contradicts literature dealing with non-African developing countries, oil rents is the variable we are most interested in. The regression tells us that on average, an increase of oil rents by 1% of GDP is associated with an increase in capital flight by 0.193% of GDP. Interpreted causally, every dollar of oil rents causes 19.3 cents of capital flight. So, if oil rents accounted for 5 percent of a country’s GDP one year and increased to 10 percent of the GDP the following year, then we would expect capital flight to increase by approximately one percent. Though the magnitude is not great, the results were significant at the 0.05 level, so the next step is to consider mechanisms that could explain why this is.
**Mechanisms**

We offer three possible mechanisms that would affect capital flight positively and may be related to increasing oil rents percent GDP. These mechanisms can be seen in oil-rich nations on every continent, including Africa. The first mechanism, increased corruption, would contribute to illicit capital flight. The other two mechanisms, economic instability and political instability, would lead to increases in legal capital flight.

**Corruption & Illegal Banking**

Abnormal capital flows can be linked to events and are usually the result of instability, while most illicit capital flows are normal, with the magnitude not fluctuating too much from year to year. Furthermore, government corruption only accounts for 5% of illicit outflows. If corruption is the primary mechanism, then the fact that it accounts for such a small percent of capital flight may explain why increases in the oil rent to GDP ratio have such a small effect on overall capital flight.

One of the reasons why corruption would increase along with oil rents is that the government is more likely to have control over the natural resource sector than it is other sectors, thus allowing officials to more easily take from the country’s coffers. The reason why capital flight increases in this situation is that stolen money is best hidden abroad. This may be to avoid authorities or, in countries where the authorities are just as corrupt, it may be to keep wealth away from opponents who may expropriate the assets if they gain power. New regimes can undermine the old ruling factions by confiscating their wealth – some of which likely was accumulated via illicit means – while also providing the new leadership with something to provide to their clients. The basic idea is that those who amass wealth through illegal means
“are often in dire need of extra security and confidentiality.”18 This requirement is better met by foreign banks, rather than domestic.

Oil, corruption, tax evasion, and tax havens are all part of the process of illicit capital flight. African officials, after they have accumulated enough capital from their illegal endeavors in the oil sector, hire tax lawyers that go “treaty shopping” for the most favorable legislation protecting certain types of activities. These lawyers love laws that are highly flexible and have negotiable tax rates. One economic adviser to Jersey, one of the Channel Islands, recalls that “a major European bank that had a registered Jersey international business corporation negotiated how much profit it would declare for its registered business (£60 million), and how much tax it would pay (0.5 percent).” Furthermore, he said that “such meetings were not uncommon and were conducted in complete secrecy.”19

The “offshore” finance centers used by African elite are not always small islands like Jersey, though. Hong Kong, Switzerland, and microstates like Liechtenstein are all “offshore” tax havens, despite being located on continents. These “offshore” banks’ offers of negotiable tax rates combined with secrecy agreements, including such arrangements as the non-disclosure of beneficial ownership of companies or trusts, make them a perfect place to send capital earned via corrupt means.20 Norwegian anti-corruption campaigner Eva Joly referred to the City of London as “that state within a state which has never transmitted even the smallest piece of usable evidence to a foreign magistrate.”21 This may just be a coincidence, but most developing countries, e.g. Nigeria, have ties to England. It is not difficult to understand why these “offshore” banks are preferable to domestic African banks.

The value of capital coming out of West Africa due to the desire of high net-worth individuals to evade taxes since 2000 is not known, but estimates suggest that Africa’s political
elites hold upward of US$700 billion in offshore accounts. Unrecorded oil sales valued at US$8 billion annually contribute to these accounts. If capital flight does stem from “the need to hide illicit diversion of public funds via corruption and graft, not fear of instability in the market,” then stricter laws, new banking regulations, and better international cooperation to stop corruption are needed.

Economic Instability

Monoculture economies are less stable than diversified economies because they can be affected by market forces more easily. In the case of overdependence on the petroleum sector, a country can experience currency depreciation and be forced to take out loans if the global price of oil decreases. In a country that invests in multiple industries, like mining and agriculture, a drop in tin prices can be offset by increases in coffee exports; that can’t happen in a monoculture economy. Oil rents as a percent GDP can be a good indicator of economic instability because the larger a country’s reliance on oil exports, the smaller its chances of weathering deleterious changes in the market.

Since approximately 40 percent of Africa’s private capital is held abroad, and the majority of capital flight isn’t due to corruption, we can assume that a sizeable portion of this capital is legitimate capital kept away from the continent due to economic instability in the country in which it originated. A study from 2001 discovered that African real exchange rates had been substantially overvalued relative to Asian exchange rates. The authors believe that this large difference between the overvaluation of exchange rates “would have induced Africans to hold domestically around 14 percentage points less of their portfolios than East Asians.” This is significant because expected depreciation is related to the overvaluation of the real exchange rate.
As an example, the depreciation of the naira in Nigeria may be influenced by Nigeria’s overdependence on oil. This depreciation would encourage Africans to hold their capital in foreign banks and investments. Devaluation, via the printing of too much money for instance, may also incentivize Africans to keep their wealth stored abroad. Economic instability, in its many forms, can be diminished by the diversification of the economy and better government policies. Countries that discover oil oftentimes invest more in the petroleum sector than in any other, which is in direct contradiction to the above recommendations for how to avoid economic instability.

Increases in oil rents percent GDP do not always indicate a trend toward a monoculture economy, though; in certain cases it actually represents the opposite trend. For instance, if the Democratic Republic of São Tomé and Príncipe were to increase its oil rents as a percent GDP, this would indicate that it was moving away from its monoculture, cocoa-exporting economy. Thus, looking at increases in oil rents percent GDP is not as useful as looking at the level of oil rents percent GDP.

Political Instability

Political instability can be caused due to coup d'êts, assassinations, intra-state conflict, inter-state conflict, and many other factors. What we are interested in is whether or not increases in oil rents percent GDP may lead to political instability. We used conflict as a control variable and determined that it was not correlated with oil rents, nor was it collinear. We thus conclude that increases in oil rents percent GDP do not cause more conflict, which is one cause of political instability. A 2009 study conducted by researchers working with the International Monetary Fund rejected the hypothesis that oil rents were a direct threat to state stability. That same study confirmed the “common held belief” that oil rents are associated with corruption.28
Case Studies

Our scatter plot and best fit regression line indicate the presence of some data points that are outliers or influential points (Fig. 3). The influential points with over 100% oil rents percent GDP belong to Angola. The outliers with the highest capital flight values belong to Nigeria. As these two countries are different than the rest, we decided that brief examinations of each were in order. Cameroon has experienced moderately high amounts of capital flight fairly consistently over the years and has had oil rents account from anywhere from 5% to 20% of its GDP. It was chosen for the mere fact that it is unremarkable, which allows us to juxtapose the first two uncommon case studies with one that is more common.

Nigeria
Nigeria is an enigma. It is the world’s 10th largest oil producer, yet it has always been a debtor country. It has scores of anti-corruption laws on the books, yet is one of the most corrupt countries on earth. The question is whether or not petroleum production in Nigeria, and the corruption linked to it, enables the high levels of capital flight that make it an outlier.

Nigeria possesses a mono-product economy, in which oil and natural gas account for over 95 percent of export earnings and about 40 percent of government revenues. As a rentier state, the government restriction on this product provides officials with opportunities to siphon away public funds. The Bonny Island liquefied natural gas complex bribery investigation by a French court into General Abacha’s dealings with Technip, a French oil company, reveals the dimensions of corruption stemming from the government controlled oil and gas industries. The court found that Abacha was the “major beneficiary of an alleged slush fund derived from a $180 million [bribe].” Technip and former U.S. Vice President Dick Cheney’s Halliburton collaborated on the project, and British lawyer Jeffrey Tesler was the financial adviser to Abacha and commercial consultant to Halliburton. In return for the bribe, $6 billion in gas contracts were given to Technip and Halliburton by Nigerian officials, like Abacha, who controlled access to the country’s resources. This sort of corruption in the oil sector is responsible for the high levels of capital flight experienced by Nigeria.

Illicit capital flight schemes in Africa used to be conducted by under-invoicing imports and over-invoicing exports. In recent decades, illicit capital flight has become “more a species of money laundering” achieved through “dubious banking practices” and tax havens. Nigeria has tried to address this via the Advance Fee Fraud and Other Related Offences Decree 13 of 1995, which made it an offense to transfer funds out of Nigeria, if the funds represent the proceeds of unlawful activity. The Foreign Exchange (Monitoring and Miscellaneous Provisions) Act
provides that transactions of more than $10,000 to or from a foreign country must be documented and reported to the Central Bank of Nigeria. Capital flight is a problem that continues to plague Nigeria and it is likely due to the high levels of corruption associated with the country’s oil and natural gas industry.

Angola

Angola is the extreme example of a monoculture economy, with up to 209% of its GDP being derived from oil rents. It is also rife with corruption, with the state oil company Sonangol being the main culprit. Not only is the petroleum industry controlled by the state, but the anticorruption measures that exist in Nigeria do not exist on the same scale in Angola.

In 2000 alone, up to $1 billion in Angolan oil revenues was spirited out of the country and into private bank accounts according to investigative journalists. Angola exported $6.9 billion in crude that year. In the summer of 2000, a bank account for Sonangol, located in the Bailiwick of Jersey, saw payments made to a charitable foundation run by President José Eduardo dos Santos, a private security company owned by a former government minister, and a private bank account.

This is a glimpse into the outcome of the “oil nomenklatura” process in Angola, by which a portion of oil rents is transferred to people in the government or individuals deemed important to the regime. The corruption occurs via rationed allocation of subsidized credit by state banks and kickbacks on oil-revenue financed government contracts. The capital flight itself occurs via shady banking procedures.

Cameroon

Ever since the 1980s, Cameroonian politics has been defined by “virulent ethno-clientelism,” with elites competing over a shrinking pool of state-controlled resources. Corruption had grown
unchecked by the 1990s, as President Paul Biya’s regime reached further into the state’s coffers in order to sustain the hegemonic exchange they had orchestrated.\textsuperscript{35} Cameroonian civil servants’ salaries were slashed by more than 70\% in 1993 when the IMF demanded cuts in government spending. This further encouraged corruption, as government employees sought to make up for loss of wages.\textsuperscript{36} Decades of corruption has left Cameroon underdeveloped and led to Transparency International bestowing upon Cameroon the title of most corrupt country in both 1998 and 1999.\textsuperscript{37}

It is interesting that before Cameroon became an oil-exporting nation in 1977, it only experienced one year of positive capital flight. From 1977 to 2000, all but five years were marred with positive capital flight. Oil rents accounted for as much as 20\% of Cameroon’s GDP in the 1980s, when hegemonic exchange was taking off. The 1990s saw a decline in oil rents percent GDP, and also capital flight. The capital flight, for the most part, is steady, indicating normal flows, which would be consistent with corruption. The fluctuations in capital flight seem to correspond to changes in oil rents percent GDP.

**Conclusion**

We suggest that the two driving factors of increases in capital flight in countries with growing oil rents to GDP ratios are corruption and economic instability. Arguments for these two mechanisms are better supported than the argument for political instability, the third mechanism which we proposed at the beginning of this paper. Corruption is the mechanism that we feel is most influenced by increases in oil rents percent GDP, and that assessment is consistent with our findings. This is because the magnitude of the effect of oil rents percent GDP on capital flight is small, but government corruption only accounts for a small percent of illicit capital flows and
illicit capital flows are usually normal, so that could explain the magnitude and the statistical significance of our results.

We end with two suggestions for how to further expand our understanding of the phenomenon of capital flight in Africa, specifically with respect to the mechanisms of economic and political instability. As increases in oil rents percent GDP do not in all cases capture a trend toward a monoculture economy, the next step may be to create a variable for the percent of total exports accounted for by a country’s main export for each country-year and test that; the variable would not be limited to petroleum-oriented monoculture economies. A dummy variable for monoculture economy could also be used if there is a definition of monoculture economy being used in which a specific percentage of exports is indicated as a cutoff. To better account for political instability, regime change data, specifically coup attempt data, could be added to the model as a control variable.
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Notes

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22 Christensen, “Africa’s Bane.”
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