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WHY GIVE AID TO RESOURCE-RICH AUTOCRATS?

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Abstract

Why give aid to resource-rich autocrats? We find that the interaction between natural resources and most forms of international aid results in enhanced political instability in most autocratic countries. Interestingly, some types of government aid (notably humanitarian aid) do not have this effect, indicating that the impact of aid varies with its form. Furthermore, we find that only aid structured in the form of loans (rather than grants) is more likely to flow toward resource-rich autocracies. This combination of loans with any political instability they may induce, can create speculative rights (for the donor) in the resource-riches of the recipient country. This potential claim on resources provides one important strategic reason to give aid to resource-rich autocrats. Aid can act as a form of foreign intervention in the pursuit of regime change, and claims on resources.

Keywords: Foreign Aid; Resource Curse; Economic Growth; Dictatorship; Looting

JEL Classification: O11; O13; F35

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1 Introduction: Literature on Intervention and Instability

Why give aid to resource-rich autocrats? By definition these are countries possessed of riches, and so less in need of the limited resources available for development. And autocracy is usually viewed by aid donors as one of the less desirable forms of government, and so supposedly less deserving of aid allocations as well. Then why is it the case that aid flows toward these countries nonetheless? What do donors hope to achieve through such acts of generosity? We argue in this paper that there is evidence that the provision of aid to resource-rich autocracies is motivated by the donor's interests in the recipient's resources, and that the aid is intended as a form of foreign intervention to generate instability within the recipient state.

In general, the literature on aid finds that the effect of foreign aid depends primarily on the policies and institutions of the recipient country. Burnside and Dollar (2000) have argued that aid can have a positive impact, or not, depending upon the policies and governance of the recipient country.¹ And, with regard to governance, it is argued that aid provided to autocracies demonstrates little if any positive impact.² (Svensson (2000)) The fundamental argument is that, in the context of such weak states, the provision of aid can *unintentionally* distort incentive structures and generate moral hazard problems, the so called "Samaritan's dilemma".³ (Buchanan, 1975) Our argument is different: we posit that, at least for resource-rich autocracies, aid can have very negative effects indeed that are very likely intended.⁴

¹There are numerous domestic policies which may contribute to the non-beneficial impact of aid: exchange rates (Rajan and Subramanian, 2011); fiscal, monetary and trade policies (Burnside and Dollar, 2000).

²When aid flows toward democracies with some degree of political and civil liberties and stronger checks and balances, it has been found to have a positive impact upon growth (Svensson, 1999; Kosack, 2003). Conversely, Svensson (2000) has found that aid that flows toward autocracies has a demonstrably negative impact. Most of these studies have measured the impact of aid in relation to growth. There is, however, a significant amount of debate concerning various aspects of the empirical findings in this literature (Easterly et al. 2004; Hansen and Tarp, 2001).

³For instance, Knack (2001) finds the possibility of an unintended deterioration of the risk profile of a country with increasing aid flows. Brautigam and Knack (2004) identify several unintended reasons why aid could demonstrate little positive impact on growth: first and foremost aid can reduce the internal pressure for change in the context of poor governance. This literature also surveys the direct but marginal impacts of aid on internal prices and incentives. Project based funding may siphon the most capable workers away from other positions by offering better salaries and future opportunities. Prices of resources and activities may be generally distorted because of the external demand represented by aid funds. It has even been argued that prices may be rendered uncompetitive externally, due to a potential impact of aid flows on real exchange rate appreciation (Rajan and Subramanian, 2005). All of this literature hinges on the argument that aid can unintentionally distort prices or policies, resulting in adverse unintended consequences for the recipient state.

⁴This places our paper within the literature that relates aid to the resource curse. It has been found that aid acts as another form of non-tax revenue for developing countries that has often been associated to poor growth and de-

In this respect our argument is more closely related to the literature on the strategic motivations for giving aid.⁵ Strategic motives are said to be involved when aid is channelled toward countries with poor governance institutions - and in pursuit of the interests of the donor countries. (Svensson, 1999; Burnside and Dollar, 2000) For example, strategic flows of aid may involve the pursuit of patronage within the recipient governments, as demonstrated by the continued development of past colonial and political links or ties.⁶ (Alesina and Dollar, 2000)

Here we argue that the patronage being pursued by the aid donor is the status of rightsholder in the resources of the recipient state. Sometimes aid is given with “no strings attached”, and other times there are clear legal obligations tied to its receipt - such as in the case of loans provided as aid. An obvious advantage may then accrue to a “donor” with the potential for future rights in the resources of a recipient. For this reason strategic aid which generates both legal rights and political instability may be of substantial benefit to the donor country.⁷

Our specific argument here is that certain forms of aid can generate both legal rights in resources and political instability in recipient states. In such instances, aid is malfunctioning by design, rather than by reason of the pre-existence of inadequate domestic institutions.⁸ We show that this is the

velopment outcomes (Morrison, 2009). In the literature, the so called “resource curse” (Sachs and Warner, 1995) has been explained related to both external and internal factors. On the one hand, resource-richness may be associated with many phenomena that arise externally: increased indebtedness (Manzano and Rigobon, 2003), volatile revenues (Humphreys and Sandbu, 2007), or the so called “Dutch disease”, an appreciation of the exchange rate due to the export of the resource, which penalizes domestic industries by inflows of cheap imports and unfavorable conditions for exports (Sachs, 2007). On the other hand, the curse could also hinge on internal factors: higher rent-seeking and corruption (Leite and Weidmann, 2002), domestic conflict and political instability (Collier and Hoeffler, 2004), autocratic regimes and poor institutions (Ross, 2001; Isham et al., 2005) and in general with weaker accountability of the political leadership (Ross, 2001). Our analysis, here and elsewhere, finds that the resource curse sometimes originates from the combined phenomenon of poor internal governance and strong external intervention (Sarr et al., 2011).

⁵One of the general conclusions of the aid literature is that aid is often poorly targeted at the needs of recipients (McGillivray, 1989). This has been argued to be the case in substantial part because aid can be motivated more by the strategic interests of the donors than by the needs of the recipients (Maizels and Nissanke, 1984).

⁶There is also a literature finding that investments in autocracies may be motivated by lender self-interest, because autocracies are more likely to generate greater returns to investments. (Acemoglu, 2008; Oneal, 1994)

⁷We are not the first to link aid to potential political instability. There is a significant political science literature looking at the impact of aid on the longevity of leaders (Licht 2010; De Mesquita and Smith 2007, 2009; Lai and Morey 2006). Our analysis is distinct because of our relative emphasis on the empirical consequences of aid on autocracies, and because we focus on the potential transfer of rights in resources as an explanation. Most of the political science literature recognizes that there are both humanitarian motivations for aid as well as instrumental objectives, but to our knowledge few papers have attempted to separate out between the two (see Clemens et al. 2012), or to demonstrate how they in fact operate.

⁸We are not the first to note that aid may have a negative impact on institutions. Djankov et al. (2008) argue that aid has an even more detrimental impact on institutions than revenues from oil. We provide an alternative mechanism for examining how poor institutions may be undermined by some forms of aid.

case only in the context of a particular set of developing countries (autocratic, resource rich ones) and only in regard to particular categories of aid (sectoral and resource-driven aid). We believe that the fact that aid is seen to induce instability only in regard to a certain set of countries and for particular categories of aid (not humanitarian, for instance) demonstrates that the impact of aid in this instance is driven by the designs of the donor, rather than the characteristics of the recipient state (because the same domestic characteristics sometimes result in instability and other times do not). Resource-rich autocracies are possibly being targeted by donors - on account of this attractive combination of weak institutions and strong resources - in order to secure instability-driven returns. In this respect our paper is also closely related to the literature on foreign intervention and regime change. In that literature, the fundamental work by Acemoglu and Robinson (2001) has established the framework for examining how domestic competition for control may be manipulated by external forces to determine internal outcomes.⁹ Later contributions to this literature examined the potential motivations for foreign interventions, focusing especially on the role of foreign direct investment in determining the incentives for intervention. (Aidt and Albornoz, 2011) The contribution of Aidt and Albornoz (2011) has been to show that the motivating factor behind foreign intervention is likely to be the share of the recipient state's profits flowing toward foreigners, relative to that flowing to insiders. The greater is the extent that foreign investors are able to benefit from the state's resources (via its existing share of profits, or equity position), the greater is the likelihood that the foreign entity will intervene.

Our approach is slightly different, in that we are viewing the likelihood of regime change as increasing whenever greater liquidity is made available to the autocrat, and with less regard to the mechanics of internal competition. That is, in our view, an autocrat has increased incentives to depart whenever the relative value of an outside option is increased (such as the amount of cash in a swiss bank account), and this occurs whenever unrestricted liquidity is made available to the autocrat. (Sarr et al., 2011) This link between aid and regime change has been made before, but with the timing reversed. Incentives for regime change have already been noted in respect to the "Golden Hello" of multilateral aid-giving. (Gassebner et al., 2012) In that paper the authors noted

⁹In the Acemoglu and Robinson (2001) framework the external power intervenes in order to select the domestic constituency retaining control (elite, opposition), and to influence the form of government resulting (autocracy, democracy).

that the incentives to change regimes would increase in anticipation of the potential receipt of future aid (flowing toward regimes after a change of administration). In this view, the practice of greeting new regimes with aid packages generates the incentives for regime change. In contrast, under our framework, the incentives to end a regime may also arise after the arrival of aid, when the autocrat sees the relative rewards to staying in power shift in the direction of looting and departure. The other difference in our approach is that we emphasise the role of debt over equity in creating the potential for a significant return from resource-rich countries to foreign entities. Debt is interesting because there are several important links between debt levels and the potential for returns to foreign entities. Most obviously, high levels of debt are widely observed to be associated with poor economic performances and political instability, so that many of the most highly-indebted countries are also those closely linked to the resource curse and to regime change.¹⁰ (Manzano and Rigobon (2003)) More interestingly, debt gives lenders entitlements to underlying assets when nonpayment is probable, so that large quantities of loans to resource-rich countries - that generate a combination of unsustainable debt and unstable politics - can potentially result in rights in the underlying assets for the lenders.¹¹ The idea that aid donors might be doing this on purpose is the hypothesis we explore here.

In short, the use of foreign intervention for the pursuit of profits from overseas investments in resource-rich countries is a topic already well-examined. Many authors have described how foreign intervention may be used as an instrument to protect overseas investments. (Kinzer, 2007; Dube et al., 2011) Other authors have demonstrated that induced regime change (political instability) may be used to this effect. (Aidt and Albornoz, 2011) Still others have argued that aid may inadvertently produce this same outcome. (Gassebner et al., 2012) The difference in our approach is that we argue that the use of aid may also be *intended* for the purpose of producing instability in the target regime, thereby returning profits to the agents of the donor regime. In this situation aid

¹⁰Manzano and Rigobon (2003) find that the resource curse disappears when controlling for the level of indebtedness in resource-rich countries. Sarr et al., 2011 demonstrate that high commercial indebtedness is linked to instability in resource-rich countries.

¹¹Bulow (2002) provides a neat description of the manner in which lenders take their returns, when sovereign borrowers are in trouble. He describes the possibility of lenders seizing any sovereign assets existing overseas (claiming rights in assets in lieu of rights to interest), and the rescheduling of loans. Many of his policy proposals point to the need for restraining governments from providing loan-based funding to other governments, and the need for having domestic courts place foreign lenders on the same footing as domestic creditors when loans go bad.

is functioning as an instrument of intervention and regime change, in order to benefit from the resulting instability.

The paper proceeds as follows: in section 2, we briefly set out our claims regarding the way that inter-governmental aid might induce liquidity-based instability in autocracies, and the evidence that this may be of an *intended outcome* in these societies. In section 3, we set out our empirical analysis of these claims, examining the evidence regarding the relationship between inter-governmental aid, instability and growth. In section 4, we discuss the manner in which different flows of aid are structured depending on the riches of the regime, and what this means for our question above. Finally, in section 5, we perform some robustness checks, using a different dataset which includes alternative measures of political instability and oil wealth and oil discoveries as a measure of the resource stock. Section 6 concludes.

2 Testable claims

We have two claims we wish to explore, in sections 3 and 4 respectively. Our first claim concerns the impact of aid on political instability. We have argued previously that any form of liquidity conferred upon an autocrat renders the “outside option” more attractive. An autocrat will almost always be somewhat insecure concerning its autocratic tenure (given the nature of the job) and so a stash of outside cash can render continuing incumbency less desirable. Aid is one possible source from which such a stash might derive.

Anecdotal evidence suggests that political instability and aid in resource rich countries may be related. In numerous developing nations, foreign aid is diverted from its *bona fide* purposes by officials and leaders for private gains. The effect may be to entice a leader to leave early, rather than to face a forced departure. Such “looting” has been described by us and others elsewhere. (Sarr et al. (2011)). Notorious examples of looting—by autocrats who received vast amounts of aid—that ended in coup, revolutions or exile are readily recalled: Mohammed Reza Pahlavi (Shah

of Iran)¹²; Mohamed Suharto (dictator, Indonesia)¹³; Mobutu Sese Seko, Zaire (currently, the Democratic Republic of Congo).¹⁴ Examples of resource-rich countries receiving substantial aid include countries such as Angola, ranked 133 of 167 in the Economist democracy index and 43 of 60 on the Foreign Policy failed states index, which receives substantial amounts of aid from many donors while maintaining the second greatest oil exports in sub-Saharan Africa. Similarly, Nigeria continues to receive approximately \$300m. in aid from the United States per annum, while holding the position of lead sub-Saharan African petroleum exporter (providing 8% of all petroleum imports to the US). (see <https://results.usaid.gov/nigeria>). Perhaps one of the best examples of the phenomenon might be found in Equatorial Guinea, which is the leading world exporter of bauxite as well as a recently developed oil exporter. During the early years of its mining (i.e. 1989), overseas development assistance reached a fantastic 54% of its GDP. (Larru (2010)) Clearly there is some anecdotal evidence that aid is attracted by resources, and also some evidence that political instability can be observed within such resource-rich countries.

But what do donors hope to accomplish by providing aid to such regimes? Our second claim concerns the nature of the donor's motivations for intervening within resource-rich autocracies. Of course, one possibility is that there may be an interest in accruing the favour of the autocrat, while that autocrat remains in power; however, it is clear that foreign aid donors often make dubious loans to corrupt dictators, and then look on as they loot the liquidity and leave the country. (Raffer and Singer (2002)) In describing the building of Africa's odious debt, Ndikumana and Boyce (2011) provide numerous accounts demonstrating that resource rich autocracies attract aid-based lending (from rich nations and international financial institutions), which are then looted by unscrupulous

¹²Pahlavi, who received continuous American foreign aid and military support, was eventually overthrown following the 1979 Islamic Revolution. He is believed to have looted over USD 35 billion according to the United Nations Office on Drugs and Crime (Dulin and Merckaert, 2009).

¹³Suharto stood as a bulwark against Communism in Asia, was rewarded by the United States with a foreign aid program that amounted to more than USD 4 billion a year. Suharto who presided over an extremely brutal (over 500,000 leftists killed in the 1960s) and corrupt regime in oil-rich Indonesia was forced out of power after plundering an estimated USD 15 to 35 billion during his 32-year dictatorship that only ended following violent riots in the aftermath of the 1998 Asian crisis (Transparency, 2004; New York Times 2008). See http://www.nytimes.com/2008/01/28/world/asia/28suharto.html?pagewanted=all&_r=0.

¹⁴President from 1965 to 1997, best epitomizes the resource-rich kleptocrat who is rewarded with considerable aid flows. By the time he was overthrown in 1997, he had embezzled almost half of the USD 12 billion in aid money that Zaire received from international donors and creditors (IMF, World Bank, and bilateral donors). See Guardian 2004: <http://www.theguardian.com/world/2004/mar/26/indonesia.philippines>

autocrats. These observations on the inter-relationship between “lending and looting” suggest that this might be a more subtle form of foreign intervention. If lending often leads to looting, then it can be practiced as a form of intervention to generate regime instability without more active intervention. Again, the history of Equatorial Guinea is instructive. There the country’s leadership changed continually through the early years of mineral exploration (when aid reached 50% of GDP), and for some years a substantial part of the leadership was even based in Spain. These earlier years showed signs of more indirect forms of intervention (aid and lending) that nevertheless generated continuous instability for 15 years. Direct foreign intervention was then practiced when the coup of 2004 was led by a group of South African mercenaries (among which was former Prime Minister Thatcher’s son), demonstrating a fairly direct form of external intervention in the pursuit of rights in resources. In this small resource-rich country, it is apparent that from 1989-2004 many forms of foreign intervention were practiced upon this small autocratic resource-rich country, always generating instability in pursuit of rights in its resources.

Our hypothesis then is that aid flows to resource-rich autocratic countries act as an indirect form of foreign intervention, in which political instability and regime change may be induced through the provision of aid-based liquidity - and that aid donors may do so in pursuit of rights in the resources of the states concerned. We pursue this hypothesis in two parts. In the first part of the paper, we examine whether governmentally-supplied liquidity generates political instability within autocratic countries. That is, is there evidence that inter-governmental aid flows can destabilize nations, resulting in regime change? In the second part of the empirical analysis we examine the possible motivation of donor countries for instigating such regime change through aid. That is, how can it be potentially profitable to provide destabilising aid to autocrats?

To do this, we test two claims, specifically:

Claim 1) Larger amounts of inter-governmental aid transfers (at a fixed level of natural resource wealth) enhance the likelihood of costly political instability in an autocratic resource-rich country.

Claim 2) Aid transfers to autocratic countries may be intended to serve as potential claims on the

resource-richness of the country concerned.

The two claims together indicate that the motivation for giving aid to resource-rich autocrats might be to generate the joint outcome of both enhanced political instability and increased rights in resources, thus creating a speculative claim on the resources of the autocratic resource-rich state. In sections 3 and 4, we turn to the investigation of these claims.

3 Empirical analysis I: Aid and Instability

3.1 Empirical model of Aid and Costly Instability

Our empirical strategy follows from the treatment regressions approach. Our baseline model features induced irregular political turnover as the treatment equation, and impact on growth as the outcome equation. We assume that any type of unscheduled irregular turnover is a potential treatment, i.e. a form of induced political instability.¹⁵ In order to address the possible problem of selection bias due to unobservable characteristics (e.g. unobservable forces that drive both growth and political instability), we jointly estimate the treatment and outcome equations by maximizing a bivariate normal likelihood function. In doing so, we allow for the correlation of the error terms of the two equations to be modeled directly. These equations are specified as follows:

$$\Delta \log(GDPcap)_{it} = \alpha_0 + \alpha_1 Turnover_{it} + \alpha_2 Aid_{it} + \alpha_3 NRStock_{it} + \alpha_4 \mathbf{X}_{1it} + u_{it} \quad (1)$$

¹⁵Enhanced incentives for looting generate a situation in which the autocrat is investing less productive resources in securing its own tenure, and hence any type of irregular departure becomes more likely as illustrated by the examples of the Shah of Iran, Suharto and Mubarak. This implies that there may be numerous ways in which the insecure autocrat may in fact depart (selected date, unanticipated coup, replacement by confederate, extended stay overseas, selection of replacement) but in all cases the changeover is going to be irregular, i.e., not part of any scheduled political procedure. For these reasons, we would anticipate a higher level of political instability, measured by the enhanced occurrence of irregular turnover of leadership.

$$Turnover_{it} = \begin{cases} 1 & \text{if } Turnover_{it}^* > 0 \\ 0 & \text{otherwise} \end{cases} \quad (2)$$

$$Turnover_{it}^* = \beta_0 + \beta_1 NRStock_{it} + \beta_2 Aid_{it} + \beta_3 (NRStock_{it} \times Aid_{it}) + \beta_4 \mathbf{X}_{2it} + \eta_{it}$$

where *NRStock*, *Turnover* and *Aid* denote respectively the resource stock, the proxy for political instability and aid (more precisely, aid sector or aid type). \mathbf{X} 's are the vectors of control variables in each equation. Practically, the joint estimation will be performed using a conditional (recursive) mixed-process estimator developed by Roodman (2011).

Claim 1 hypothesizes that the marginal effect of foreign aid on the likelihood of political instability (here, measured by occurrence of irregular turnover) is positive and increases with the level of natural resource wealth. That is:

$$\frac{\partial Pr(Turnover = 1 | Aid_{it}, NRStock_{it}, \mathbf{W}_{1it})}{\partial Aid_{it}} = (\beta_2 + \beta_3 NRStock_{it}) \phi(\beta \mathbf{W}_{it}) > 0 \quad (3)$$

where ϕ is the standard normal density function. This requires that $\beta_2 + \beta_3 NRStock_{it} > 0$ and $\beta_3 > 0$. Thus, the interaction between aid and resources is of particular importance because its sign will indicate whether aid to resource-rich developing countries produces enhanced political instability.

We further hypothesize in Claim 1 that the political instability is costly (i.e. adversely affects economic growth in resource-rich states that are recipients of aid).

$$\frac{\partial E(\Delta \log(GDPcap)_{it} | Turnover(Aid_{it}, NRStock_{it}) = 1)}{\partial Aid_{it}} = \alpha_1 \frac{\partial Pr(Turnover = 1 | Aid_{it}, NRStock_{it})}{\partial Aid_{it}} \quad (4)$$

In addition to including the irregular turnover variable in the growth equation, we also control for a number of other important determinants of growth: a proxy for human capital accumulation (the

number of years of schooling), investment, inflation, a measure of trade openness as well as year and country dummies. We also test for the presence of the Dutch Disease, by including the level of resource stock relative to GDP. To ensure that the model is duly identified, exclusion restrictions assumptions are made. We control for the rulers' length of tenure (in years), institutional quality and ethnic polarization. We assume that these variables mostly affect growth via the political channel of looting-led political instability.

Claim 2a hypothesizes that it is important to investigate the reasons why aid flows toward resource-rich countries; we do so by adding a third stage exploring the motivations for aid transfers to the model presented above. The third equation is specified as follows:

$$Aid_{it} = \gamma_0 + \gamma_1 NRStock_{it} + \gamma_2 \mathbf{X}_{3it} + \varepsilon_{it} \quad (5)$$

The conditional mixed-process estimator developed by Roodman (2011) is also used to estimate our three-equation mixed-process model.

3.2 Data

We conduct our analysis on a panel of 74 countries, over the period 1970-2003. The main variables and sources are listed in Table S1 of the Supplementary data.

The dependent variable of the probit model, the irregular turnover variable *Turnover*, is our proxy for political instability. This is a binary variable that is equal to 1 if the executive has been changed through irregular means, i.e. if a ruler or regime has been deposed or forced from power in a non-constitutional manner. Because looting is often unobservable, we have argued above that enhanced incentives for looting will engender an increased incidence of irregular turnover in general. This is because incentives for looting decrease all productive investments in the economy, and hence leave the regime generally vulnerable. Many types of irregular departure are then more likely to occur.

The proxy was constructed using data from Archigos (which spans until 2004), a database of political leaders developed by Goemans et al. (2009). In our baseline sample there are 140 country-year

observations out of 2320 when *Turnover* equals 1 in autocratic countries. The explanatory variables of interest for the treatment equation regarding political instability are the stock of natural resources and foreign aid. The natural resources data are provided by the World Bank Environment Department (K. Hamilton and G. Ruta), while the aid *commitment* series come from the OECD-DAC aid statistics (See Summary statistics in Table S2 of the Supplementary data). In our analysis, bilateral aid *commitments* from the Creditor Reporting System (CRS) are disaggregated according to the broad sectors targeted by the aid funds (infrastructure, industry, program assistance, multi-sector and humanitarian)¹⁶ The disaggregated data are only available since 1973. This disaggregation enables us to analyze whether different categories of aid flows yield different incentives. Importantly, we control for past commitments (one year lag) of either category of aid because these are likely to generate actual liquidity in the near future. We also use another dataset from the OECD-DAC (available since 1970) which distinguishes between bilateral grants and loans commitments.

Our analysis focuses on the behavior of autocratic leaders. For this reason, we restrict our baseline sample to the years in which a given country is ruled by autocratic regimes since 1970. For instance, if a country transitions from autocracy to democracy (e.g. Chile, Argentina, Mexico), then the years following the transition will be dropped from the baseline sample. For robustness purposes however, we do investigate how different the outcome would be should we limit the sample to democratic regimes only (see section 5). The classification of authoritarian regimes is obtained from Cheibub et al. (2010).

3.3 Results: impact of aid on instability in autocracies

Tables 1 to 3 report the results of our empirical analysis. Much of our discussion pertains to the baseline model which accommodates country and time fixed effects. Our analysis considers the impact of inter-governmental transfers in aggregate (Total Aid) and disaggregated along various

¹⁶It is important to point out that, for sectoral aid data, *commitments* are preferred to *disbursements* due to availability and reliability of the former. The OECD CRS User's Guide advises that "*in general data on a commitment basis is of a better quality than based on disbursement [...]. Analysis on CRS disbursements [...] is not recommended for flows before 2002, because the annual coverage is below 60%*" (User's Guide to the CRS Aid Activities Database 2012 <http://www.oecd.org/development/aidstatistics/usersguidetothecreditorreportingsystemcrsaidactivitiesdatabase.htm>)

sectoral and motivational lines. We initially consider all forms of transfer in aggregate (both loans and grants) and then later further disaggregate these databases to demonstrate the difference in effects between grants and loans. We adopt a treatment-effects two-stage analysis in order to investigate whether aid-sourced liquidity has a direct impact upon political instability, and instability upon growth.

3.3.1 Aid and political instability

First of all, we discuss the impact of aid on political instability in all autocratic countries (with instability measured as the incidence of “irregular turnover” in government). Panel B of Table 1 shows the impact on political instability for each category of aid. Our initial finding is that aid commitments (Total Aid and the disaggregated sectoral aid transfers) do not induce increased instability in general across autocracies. In fact, aggregate aid commitments have a negative but not statistically significant impact on irregular turnover, as shown in Column 1. It is also interesting to consider this relationship across various categories of aid.¹⁷ We find negative but statistically significant results (at the 5% and 10% level of significance) for all sectoral aid commitments considered here except for humanitarian aid. So aid appears to have differing impacts upon stability in autocratic countries, depending upon the category under which the aid event is listed, but in aggregate the effect is almost nonexistent.

We now consider how aid impacts autocratic states when *resource-richness* is an important characteristic of the country concerned. Panel B of Table 1 demonstrates this effect—the interaction of aid with natural resource stocks generates statistically significant (at the 5% level) increases in political instability for Total Aid. In effect, the impact of aid is reversed when total aid is interacted with substantial resource stocks. In general, aid transfers to resource-rich states are destabilizing whereas there is no sign of such a relationship in the absence of resources. We examine the possible explanations for this difference in section 4.

It is also interesting to note that this relationship is not the case for all categories of aid transfers.

¹⁷The categories of aid for which we have data are: Infrastructure, Industry (assistance to extractive and manufacturing industries), Program Assistance (mostly budget support and food aid) Multi-sector (mostly environmental, and general developmental aid) and Humanitarian.

It is found for aid transfers categorized as Infrastructure, Program Assistance, Multi-sector aid and Industry (the latter being significant only at the 12% level). On the other hand, the interaction coefficient is negative for transfers classified as Humanitarian aid. This finding hints at a relationship between types of aid and their impacts. Again, we will return to examine this relationship further in section 4.

In order to illustrate the impact of these findings in regard to Claim 1, we calculate the marginal effect of the aid measures on the probability of irregular turnover, given natural resource wealth (and all other controls). To do so, we consider the impact of an increase of aid by one standard deviation from the mean and fix all the right hand side variables in the probit model at their sample mean. Figure 1 illustrates these marginal effect for Total Aid. It shows that for sufficiently large levels of resource wealth (158% of GDP, i.e. the 74th percentile), the marginal effect is positive and statistically significant at the 5% level. In addition, Table 2 demonstrates that the value of the resource wealth threshold varies across sectoral aid categories from 108% of GDP (70th percentile) for Program Assistance to 294% of GDP (84th percentile) for Industry aid. For humanitarian aid however, the effect of aid is always negative since the interaction effect reinforces the main effect of aid on political instability. These results provide clear and robust evidence in support of our hypothesis that the provision of increased amounts of foreign aid to resource-rich dictators has the potential to generate the political instability associated with looting. We will now turn to the impact of aid on growth, via this mechanism of instability. Nations aiding the looting of nations.

Table 1: Growth and Political Instability in **Autocracies**: Impact of Sectoral ODA (Commitments)

	(1) Total Aid	(2) Infrastructure Aid	(3) Industry Aid	(4) Programme Assistance	(5) Multi-sector Aid	(6) Humanitarian Aid
Panel A: Growth Equation						
Political Instability	-5.919*** (1.350)	-5.313*** (1.437)	-4.756*** (1.801)	-5.703*** (1.551)	-5.542** (2.257)	-4.748** (2.128)
Aid (% GNI)	0.0670 (0.0829)	0.548 (0.528)	0.701 (0.464)	-0.166 (0.341)	-1.808 (1.487)	-1.555** (0.664)
Aid ² (% GNI)	-0.00112 (0.00135)	-0.0210 (0.0584)	-0.0937 (0.0577)	0.0104 (0.0253)	0.148 (0.295)	0.0923** (0.0418)
Resource stock (% GDP)	0.00256 (0.00318)	0.00264 (0.00357)	0.00149 (0.00383)	0.00686** (0.00334)	0.000534 (0.00390)	0.00440 (0.00374)
Lag log GDP per capita	-7.467*** (1.631)	-6.408*** (1.805)	-6.613*** (1.615)	-7.451*** (1.755)	-8.031*** (2.107)	-9.429*** (2.597)
Investment (% GDP)	0.239*** (0.0457)	0.220*** (0.0409)	0.274*** (0.0497)	0.249*** (0.0546)	0.225*** (0.0468)	0.179*** (0.0577)
Trade (% GDP)	-0.0557** (0.0284)	-0.0628** (0.0318)	-0.0587* (0.0327)	-0.0952*** (0.0306)	-0.0753* (0.0387)	-0.0959** (0.0458)
Inflation rate	-0.000929** (0.000417)	-0.000947** (0.000422)	-0.000927** (0.000430)	-0.000988** (0.000403)	-0.00104** (0.000445)	-0.00112** (0.000505)
Schooling	0.644 (0.477)	0.194 (0.547)	0.868* (0.498)	0.121 (0.459)	-0.127 (0.513)	-0.0237 (0.840)
Intensity civil conflict	-1.595*** (0.484)	-1.361*** (0.507)	-1.483*** (0.532)	-1.472*** (0.529)	-1.735*** (0.607)	-1.636** (0.679)
Panel B: Political Instability						
Aid (% GNI)	-0.0271 (0.0189)	-0.198** (0.0907)	-0.735** (0.363)	-0.127* (0.0754)	-0.788** (0.366)	-0.120 (0.133)
Resource stock (% GDP)	0.0000562 (0.000296)	-0.000333 (0.000328)	0.000162 (0.000525)	-0.000455 (0.000428)	-0.000187 (0.000336)	0.0000123 (0.000868)
Aid × Resource stock	0.000171** (0.0000823)	0.00123* (0.000716)	0.00250 ⁺ (0.00159)	0.00117*** (0.000378)	0.00415* (0.00228)	-0.0152* (0.00857)
Lag log GDP per capita	-0.178 (0.137)	-0.0889 (0.146)	-0.229 (0.189)	-0.128 (0.137)	-0.193 (0.193)	0.130 (0.189)
Institutional quality	-1.019 (0.683)	-0.889 (0.743)	-0.703 (0.849)	-1.226* (0.718)	-0.640 (0.816)	-2.522*** (0.890)
Ethnic polarization	-0.391 (0.262)	-0.869*** (0.271)	-0.620* (0.338)	-0.300 (0.278)	-0.890** (0.399)	-0.516 (0.473)
Intensity civil conflict	0.304*** (0.0962)	0.340*** (0.107)	0.375*** (0.143)	0.298*** (0.103)	0.296** (0.136)	0.306** (0.142)
Leader's tenure	-0.103*** (0.0115)	-0.101*** (0.0131)	-0.112*** (0.0152)	-0.107*** (0.0123)	-0.0976*** (0.0167)	-0.119*** (0.0180)
Sub-Saharan Africa	0.185 (0.213)	0.189 (0.237)	0.157 (0.242)	0.0740 (0.190)	0.00481 (0.245)	0.305 (0.293)
North Africa & Middle East	-0.145 (0.353)	-0.212 (0.390)	-0.0678 (0.422)	-0.336 (0.380)	-0.301 (0.513)	-0.489 (0.509)
Latin America	-0.0557 (0.282)	0.0816 (0.329)	0.0818 (0.332)	-0.309 (0.296)	-0.0359 (0.385)	-0.167 (0.377)
Obs Growth Eq	1095	957	856	970	798	736
Obs Instability Eq	1179	1001	756	1082	781	708
Number of Countries	73	73	73	72	68	72
Log Pseudo-Likelihood	-3715.5	-3212.5	-2823.9	-3297.4	-2665.9	-2459.0
Error Correlation Growth/Instability	0.346* (0.190)	0.292** (0.142)	0.204** (0.0934)	0.334* (0.205)	0.186* (0.110)	0.152 (0.127)

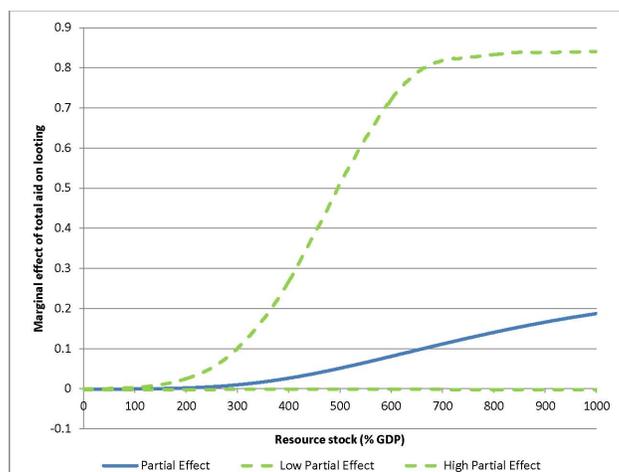
Standard errors in parentheses clustered at at country level. ⁺ $p < 0.12$, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Dependent variables: GDP growth in Panel A and Instability in Panel B.

Country and time fixed effects controlled for in the Growth equations

The probit equations control only for regional dummies: country fixed effects produce inconsistent estimates in a standard probit model due to the incidental parameters problem.

Figure 1: Marginal Effect of Total Aid on Turnover



The full line represents the marginal effect of Total Aid on the probability of Turnover as the resource stock increases from 0 to 1000% of GDP. The dotted lines represent the confidence interval at 5% level. This graph relates to the Total Aid regression performed in Table 1.

Table 2: Natural resource threshold for increased instability

	(1) Total Aid	(2) Infrastructure Aid	(3) Industry Aid	(4) Programme Assistance	(5) Multi-sector Aid	(6) Humanitarian Aid Aid
Aid (% GNI)	-0.027100	-0.19800	-0.73500	-0.12700	-0.78800	-0.1200
Aid × Resource stock	0.000171	0.00123	0.00250	0.00117	0.00415	-0.0152
Resource stock threshold	158.48	160.98	294.00	108.55	189.88	-7.89
Percentile	74	75	84	70	77	NA

The coefficients for aid and the interaction term come from Table 1.

3.3.2 Aid, instability and its costs to recipient countries

We now examine the evidence regarding the impact of aid on growth (through the mechanism of induced instability) in autocracies. The findings on the costs attributable to the political instability induced by aid are reported in (upper) Panel A of Table 1. As demonstrated there, irregular turnover has a strong and significantly negative impact on economic growth for Total Aid, and for each of

the disaggregated categories of aid.¹⁸

The size of the impact is substantial. The point estimate indicates that output per capita drops by 4 to 5 percent in the event of one unconstitutional political change. Put differently, the indirect effect of 1% increase in aid to autocratic states through looting-led political instability suggests that a country - that is average in all respects except in regard to its resource wealth (we use Nigeria's resource-richness as an example) - would result in a loss of up to 0.75 percentage point of economic growth (see Table 3). Our analysis indicates that this relationship does not hold true for countries that are not resource-rich. A country that is average in all respects and possess a median natural resource wealth does not demonstrate this effect; in fact, an autocratic state that is not resource-rich experiences heightened though minimal political stability, which in turn would translate into a very marginal increase of 0.002 percentage point in growth. This points to the role that resources play in attracting the "wrong sorts of transfers", as will be examined further below. In short, for the set of autocratic countries, liquidity-linked instability appears to be an important vehicle for explaining reduced growth prospects in these countries. Table S3 of the Supplementary data repeats the analysis with respect to democratic countries, and demonstrate that the analysis does not hold for non-autocratic countries. It is important that countries are both autocratic and resource-rich for our expected results to apply.

We believe that these findings support our claims that an offer of liquidity to dictators may tend to increase costly political instability. There are two fundamental caveats to our findings: liquidity-induced instability is only a problem for resource-rich countries and only for some (but not all) categories of aid (i.e. all except Humanitarian). And the manner in which resource-richness translates into reduced growth prospects, for our sub-sample of autocratic states, is via induced instability. In our sample, there is no evidence of any directly negative effect of resources on growth - the effect of natural resource stocks on growth is almost never distinguishable from zero. The other determinants of growth mostly provide expected results. Investment has the expected positive effect while inflation has a negative one. Meanwhile education remains statistically insignificant although positive.

¹⁸However, this negative impact on growth cannot be linked to positive humanitarian aid flows which, as we have seen earlier, tend to reduce political instability.

So, our analysis indicates that aid to resource-rich autocratic countries has a clear and costly effect on the political instability of those countries. In 4, we turn to the motivations for providing aid to such countries, when such effects are induced.

Table 3: Indirect Effect of aid on growth

	Mean Resource 162% of GDP	Nigeria Resource 750% of GDP	Median Resource 24% of GDP
Indirect Effect of aid on growth			
Coefficient Turnover	-5.919***	-5.919***	-5.919***
Pr(Turnover=1—Mean total aid, other controls)	0.00130	0.014	0.0011
Pr(Turnover=1—Mean total aid+std dev, other controls)	0.00182	0.141	0.0007
Increase in probability of Turnover	0.00052**	0.127 **	-0.0004
Indirect Effect	-0.00310	-0.75	+0.0023

In Column (1) all variables are set at their mean level (average country). Note mean resource levels is 162% GDP.

In Column (2) all variables are set at their mean level (average country) except for resource levels, which are set as in Nigeria in the year 1998 at the end of Abacha's dictatorship (750% of GDP)

We test whether the partial effect of lending on the probability of irregular turnover is different from 0.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

4 Empirical Analysis II: Motivations behind Destabilizing Aid

We have found that inter-governmental aid flows have the clear and costly effect of inducing political instability in autocracies, but only in regard to those which are *resource-rich* and only for some *categories of aid* (specifically, Infrastructure, Programme Assistance, Multi-Sector and marginally Industry but not Humanitarian). The fact that aid does not always operate to enhance the rate of departure is important. Why is it that sometimes the external provision of liquidity has a negative impact on instability and growth, and in other cases it does not?

This part of our investigation is related to the literature on the motivations for aid transfers. That literature has demonstrated that aid flows may be explained more by strategic motivations on the part of the donor state than the demonstrable needs on the part of the beneficiary (Maizels and Nissanke, 1984; Alesina and Dollar, 2000). We now wish to test Claim 2 concerning the claimed

motivation for aid to autocratic countries, i.e. that the object of the donor state is to generate speculative claims on the recipient state's resource richness.

In order to investigate this hypothesis, we perform a three-stage analysis in which we jointly estimate the instability and growth equations together with the aid allocation equation, in which we control for per capita GDP, debt service, institutional quality, British and French colonial ties as well as natural resource wealth. The results of the estimation of this three-equation system are reported in Table 4 (total and sectoral aid) and Table 5 (aid in the form of loans and grants). The results are striking.

First, the results demonstrate that aggregate aid flows are determined more by the needs of beneficiaries than by the strategic objectives of the donors. Panel C of Table 4 suggests that natural resource wealth is not a major attractor of aid. Most of the natural resource coefficients are insignificant indicating that donors tend to provide aid to countries that are less well endowed in natural resources. This is true across all categories of sectoral aid, and for Total Aid as well except for those flows dedicated to infrastructure and multi-sector purposes. Instead, it is low per capita incomes, high indebtedness, and long-standing political ties that explain all categories of aid flows. Therefore we find that, in general, aid is motivated to generate transfers in the direction of more needy countries (in terms of income), those that are facing challenges in terms of servicing their debt, and those countries with colonial ties irrespective of institutional quality. These flows of aid continue to have a deleterious impact upon instability and, through this, on growth, but it would appear from this analysis to be an *unintended effect* of the liquidity provided (consistent with the *Samaritan's dilemma* theory of aid's impacts).

Table 4: Growth and Political Instability with endogenous sectoral ODA (Commitments) in **Autocracies**

	(1) Total Aid	(2) Infrastructure Aid	(3) Industry Aid	(4) Programme Assistance	(5) Multi-sector Aid	(6) Humanitarian Aid
Panel A: Growth Equation						
Political Instability	-5.866*** (1.370)	-5.313*** (1.484)	-4.748*** (1.831)	-5.682*** (1.537)	-5.313** (2.363)	-5.104** (2.588)
Aid (% GNI)	0.0753 (0.130)	0.346 (0.484)	0.862* (0.498)	0.260 (0.518)	-2.833 (2.974)	-2.132 (1.761)
Aid ² (% GNI)	-0.00112 (0.00135)	-0.0232 (0.0596)	-0.0909 (0.0596)	0.0109 (0.0252)	0.140 (0.297)	0.114 (0.0839)
Resource stock (% GDP)	0.00256 (0.00317)	0.00273 (0.00358)	0.00154 (0.00385)	0.00695** (0.00328)	0.000853 (0.00382)	0.00440 (0.00377)
Lag log GDP per capita	-7.433*** (1.671)	-6.390*** (1.803)	-6.583*** (1.617)	-6.978*** (1.763)	-8.011*** (2.107)	-9.791*** (2.582)
Investment (% GDP)	0.239*** (0.0457)	0.220*** (0.0411)	0.274*** (0.0497)	0.251*** (0.0543)	0.226*** (0.0473)	0.179*** (0.0579)
Trade (% GDP)	-0.0557** (0.0284)	-0.0629** (0.0320)	-0.0587* (0.0328)	-0.0964*** (0.0307)	-0.0753* (0.0387)	-0.0957** (0.0460)
Inflation rate	-0.000929** (0.000418)	-0.000946** (0.000421)	-0.000918** (0.000430)	-0.000967** (0.000408)	-0.00103** (0.000454)	-0.00112** (0.000502)
Schooling	0.642 (0.479)	0.199 (0.548)	0.865* (0.498)	0.108 (0.460)	-0.128 (0.513)	-0.0222 (0.838)
Intensity civil conflict	-1.595*** (0.482)	-1.360*** (0.506)	-1.480*** (0.530)	-1.470*** (0.526)	-1.737*** (0.606)	-1.626** (0.678)
Panel B: Political Instability Equation						
Aid (% GNI)	-0.0334 (0.0260)	-0.202 (0.176)	-1.227* (0.710)	-0.163 (0.106)	-1.375*** (0.464)	-0.0342 (0.268)
Resource stock (% GDP)	0.0000407 (0.000301)	-0.000333 (0.000328)	0.000223 (0.000505)	-0.000474 (0.000440)	-0.000283 (0.000318)	-0.00000113 (0.000852)
Aid × Resource stock	0.000172** (0.0000831)	0.00123* (0.000719)	0.00240* (0.00143)	0.00120*** (0.000376)	0.00374* (0.00206)	-0.0149* (0.00817)
Lag log GDP per capita	-0.197 (0.147)	-0.0904 (0.156)	-0.312 (0.197)	-0.154 (0.152)	-0.320 (0.212)	0.184 (0.218)
Institutional quality	-1.019 (0.683)	-0.887 (0.747)	-0.606 (0.799)	-1.262* (0.724)	-0.288 (0.841)	-2.566*** (0.902)
Ethnic polarization	-0.394 (0.261)	-0.869*** (0.272)	-0.594* (0.355)	-0.305 (0.277)	-0.810** (0.402)	-0.515 (0.476)
Intensity civil conflict	0.304*** (0.0957)	0.339*** (0.108)	0.340** (0.159)	0.298*** (0.103)	0.290** (0.134)	0.306** (0.141)
Leader's tenure	-0.103*** (0.0117)	-0.101*** (0.0135)	-0.104*** (0.0208)	-0.106*** (0.0122)	-0.0905*** (0.0167)	-0.120*** (0.0180)
Sub-Saharan Africa	0.184 (0.212)	0.190 (0.238)	0.154 (0.229)	0.0550 (0.194)	0.0812 (0.240)	0.303 (0.295)
North Africa & Middle East	-0.133 (0.357)	-0.211 (0.393)	0.0308 (0.417)	-0.325 (0.383)	-0.166 (0.518)	-0.537 (0.526)
Latin America	-0.0352 (0.282)	0.0825 (0.335)	0.168 (0.333)	-0.294 (0.293)	0.201 (0.405)	-0.246 (0.418)

	(1) Total Aid	(2) Infrastructure Aid	(3) Industry Aid	(4) Programme Assistance	(5) Multi-sector Aid	(6) Humanitarian Aid
Panel C: Aid Equation						
Lag log GDP per capita	-3.216*** (1.195)	0.136 (0.282)	-0.165** (0.0827)	-1.186*** (0.371)	0.0637 (0.0939)	-0.818* (0.482)
Lag resource stock	0.000875 (0.00160)	0.00112** (0.000455)	-0.0000610 (0.000229)	0.000295 (0.000636)	0.000257* (0.000144)	0.000140 (0.000448)
2-year Lag resource stock	-0.000407 (0.00183)	-0.000556 (0.000597)	-0.0000546 (0.000242)	-0.0000448 (0.000409)	0.000276 (0.000298)	0.0000504 (0.000281)
Institutional quality	-11.55** (5.480)	1.944* (1.030)	1.068 (0.965)	-2.872* (1.522)	-1.096 (0.812)	-2.385* (1.305)
Lag debt service	0.131*** (0.0327)	-0.00447 (0.00827)	0.0295 (0.0183)	0.0797*** (0.0274)	-0.00226 (0.00240)	0.00703 (0.00989)
Egypt	0.510 (1.465)	0.914*** (0.278)	0.308 (0.202)	0.823** (0.396)	-0.0168 (0.131)	-1.038* (0.575)
British colony	4.503** (1.952)	-0.648* (0.381)	-0.0568 (0.245)	1.269** (0.563)	0.136 (0.181)	1.292* (0.713)
French colony	1.109** (0.499)	0.0725 (0.158)	0.262*** (0.100)	0.713*** (0.219)	-0.0984* (0.0567)	0.262 (0.169)
Obs Growth Eq	1095	957	856	970	798	736
Obs Instability Eq	1179	1001	756	1082	781	708
Obs Aid Eq	1280	1145	976	1202	977	880
Number of Countries	74	74	74	73	69	73
Log Pseudo-Likelihood	-7230.3	-4733.4	-3557.3	-5225.1	-3066.6	-3519.9
Error Correlation Growth/Instability	0.340* (0.188)	0.292** (0.144)	0.186** (0.0918)	0.325+ (0.204)	0.177 (0.125)	0.183 (0.156)
Error Correlation Instability/Aid	0.0416 (0.100)	0.00559 (0.172)	0.347 (0.500)	0.0632 (0.126)	0.336 (0.241)	-0.148 (0.345)
Error Correlation Growth/Aid	-0.00511 (0.0715)	0.0343 (0.0724)	-0.0173 (0.0384)	-0.0876 (0.0787)	0.0663 (0.184)	0.0518 (0.102)

Standard errors in parentheses clustered at at country level. + $p < 0.11$, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Dependent variables: GDP growth in Panel A, Instability in Panel B and Aid in Panel C.

Country and time fixed effects controlled for in all the Growth and Aid regressions.

The probit equations control only for regional dummies: country fixed effects produce inconsistent estimates in a standard probit model due to the incidental parameters problem.

There is an important exception to this general finding. This difference is demonstrated when we disaggregate aid transfers between *loans* and *grants*, where the impact of resource-richness on aid flows is clarified. This is demonstrated in Tables 5 and 5. As before, aid structured as grants flows toward needy countries that are not particularly resource-rich, as indicated in Table 5 Column 2. However, in the context of aid structured as loans, resource-rich countries attract significantly greater aid flows. The impact of resource wealth on aid-based loans then becomes positive and statistically significant at the 10% level. (Table 5 Column 1)

Aid transfers that are *structured as loans* are responding positively to resource-richness, while

grants are not responding to resource wealth. The remainder of the results between the aggregated and the disaggregated analyses are nearly identical. Although the coefficients are somewhat reduced, the significance and signs for income and debt burdens remain the same. This indicates that aid continues to flow toward poorer countries in general, but if a country is resource-rich aid flows remain possible in the form of loans (not grants).

We have presented evidence on the motivations for aid flows that demonstrates that, in aggregate, these flows generally respond to the needs of the beneficiary country (in terms of resource wealth, national income, indebtedness as well as colonial ties). These flows of aid still have the expected effects on instability and growth, but they are likely to be inadvertent (consequences of the Samaritan's Dilemma). More interestingly, aid also flows toward resource-rich autocracies, despite the obvious need for any specific aid flows. We believe that the combined effect of our Claims 1 and 2 above is that aid may be motivated by the desire to produce speculative claims in weak states' resources. Aid-based liquidity is seen to result in political instability across all types of recipient countries. This liquidity-induced instability may then redound to the benefit of the donor state, in terms of providing claims on its resource-richness, if the liquidity is conferred in the form of loans. We find that the only category of aid for which this impact is never present is in humanitarian aid flows. There is little evidence that this form of aid ever produces instability.¹⁹

This points to the difference between aid flows in the case of a country such as Equatorial Guinea (described above) where aid and instability seem to be closely related, and aid flows to its neighbor Guinea Bissau a country with few if any real resource stocks. Guinea Bissau receives most of its aid in form of projects and grants, whereas Equatorial Guinea has received large amounts of economic development assistance. As we saw above, the not-too-well-disguised objective in the case of Equatorial Guinea was the pursuit of its mineral resources. In the case of Guinea Bissau, the objective over the same time period was probably human development. Resource-richness has been a curse for Guinea-Bissau, primarily by reason of the predatory strategies such resources attract.

¹⁹This exception, to our mind, is more evidence to prove the rule: donors are able to structure aid in the manner that they intend, and achieve the results that they pursue in the provision of aid transfers. Sometimes aid transfers are structured to produce humanitarian outcomes, and other times they are structured to produce the possibility of future claims and reverse transfers.

Table 5: Growth and Political Instability with endogenous Concessional Loans and Grants (Commitments) in Autocracies

	(1) Loans	(2) Grants
Panel A: Growth Equation		
Political Instability	-7.949*** (1.973)	-8.082*** (1.957)
Aid (% GNI)	0.189 (0.502)	0.0706 (0.265)
Aid ² (% GNI)	-0.00154 (0.0147)	-0.00281 (0.00350)
Resource stock (% GDP)	-0.00118 (0.00371)	-0.00106 (0.00377)
Lag log GDP per capita	-7.828*** (1.501)	-7.865*** (1.766)
Investment (% GDP)	0.222*** (0.0432)	0.220*** (0.0439)
Trade (% GDP)	-0.0529* (0.0281)	-0.0530* (0.0278)
Inflation rate	-0.000904* (0.000461)	-0.000936** (0.000456)
Schooling	0.454 (0.458)	0.565 (0.479)
Intensity civil conflict	-1.470*** (0.495)	-1.496*** (0.492)
Panel B: Political Instability Equation		
Aid (% GNI)	0.0385 (0.0978)	-0.00522 (0.0252)
Resource stock (% GDP)	0.000284 (0.000296)	0.000393 (0.000375)
Aid × Resource stock	0.000215** (0.0000891)	0.0000544 (0.0000964)
Lag log GDP per capita	-0.0775 (0.127)	-0.113 (0.151)
Institutional quality	-0.557 (0.748)	-0.640 (0.748)
Ethnic polarization	-0.527* (0.272)	-0.388 (0.271)
Intensity civil conflict	0.365*** (0.102)	0.347*** (0.0955)
Leader's tenure	-0.0957*** (0.0104)	-0.0965*** (0.0111)
Sub-Saharan Africa	0.121 (0.221)	0.0865 (0.221)
North Africa & Middle East	-0.336 (0.344)	-0.352 (0.400)
Latin America	-0.0971 (0.285)	-0.144 (0.294)

	(1) Loans	(2) Grants
Panel C: Aid Equation		
Lag log GDP per capita	-0.486 (0.397)	-3.352** (1.364)
Lag resource	0.00142* (0.000795)	0.000206 (0.00132)
2-year Lag resource	-0.000900 (0.000589)	-0.00261 (0.00170)
Institutional quality	7.021*** (1.590)	-9.864** (4.369)
Lag debt service	0.0474** (0.0187)	0.150*** (0.0565)
Egypt	2.839*** (0.480)	-0.541 (1.498)
British colony	-1.754*** (0.652)	5.053*** (1.925)
French colony	-0.450** (0.204)	1.940*** (0.582)
Obs Growth Eq	1123	1135
Obs Instability Eq	1182	1225
Obs Aid Eq	1318	1331
Number of Countries	74	74
Log Pseudo-Likelihood	-6268.5	-7409.6
Error Correlation Growth/Instability	0.488** (0.240)	0.508** (0.228)
Error Correlation Instability/Aid	-0.105 (0.170)	-0.0719 (0.130)
Error Correlation Growth/Aid	-0.0116 (0.118)	0.0227 (0.128)

Standard errors in parentheses clustered at at country level

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Dependent variables: GDP growth in Panel A, Instability in Panel B and Aid in Panel C.

Country and time fixed effects controlled for in all the Growth and Aid regressions.

The probit equations control only for regional dummies: country fixed effects produce inconsistent estimates in a standard probit model due to the incidental parameters problem.

5 Robustness: oil and aid, alternate measures of instability

5.1 Alternate measures of key variables

In order to assess the robustness of our results, we perform a number of checks to see if the effect of aid in interaction with resource wealth remains the same under various specifications of our key variables. First, we perform a similar analysis, but using data relating to oil wealth and oil discoveries rather than natural resource endowments (inspired by the work of Cotet and Tsui, 2013). Second, we incorporate an alternative measure of political instability (irregular change of power)

using data from Colgan (2012). Third, aid *disbursements* are used rather than aid *commitments* used in our earlier analysis.

The structure of the empirical model remains the same. We consider the impact of oil resources in relation to this new index of political instability as well as our looting index, as originally defined. The explanatory variables of interest for the treatment are oil discoveries per capita, oil wealth per capita, and foreign aid. The oil data are provided by Cotet and Tsui (2013). Their original data (which cover the period 1930-2003) are obtained from the Association for the Study of Peak Oil (ASPO), a nonprofit organization that is devoted to gathering industrial data to study on the volume of production of world oil. They are also complemented with data from BP Statistical Review of World Energy (BP), Oil and Gas Journal (OGJ), and CIA factbook. The total aid disbursements series come from the OECD-DAC aid statistics.

5.2 Results: oil, aid and instability

Our results are set forth in Table S4 of the Supplementary data (with oil discoveries as the indicator of resources) and Table S5 of the Supplementary data (with oil wealth as the indicator of resources). Both tables report results for the full sample, as well as results for sub-samples consisting only of autocracies and of democracies. They also report results for the different measures of political instability (our original irregular turnover index and the new Colgan measure).

The first result to note is a new one - the manner in which oil wealth attracts aid. We see in our sub-sample estimations that in autocracies actual aid disbursements are attracted by oil wealth. Note that this result holds only for autocracies, and not for democracies.²⁰ Likewise, the result for oil discoveries is not quite significant for autocracies under the Colgan measure (just below the 10% level of significance) but wholly insignificant for democracies. The result for oil discoveries is statistically significant using our previous turnover index, again only for autocracies. In sum, the robustness analysis on the oil data demonstrates an even more interesting relationship between resources and aid, where oil wealth is itself found to attract aid in autocracies.

²⁰With the entire sample in the analysis, the overall results tend to tilt in the same direction as in autocracies although with attenuated effects. This is because of the weight of autocratic countries in the sample, which constitute a much larger group than democracies.

Resource-related aid when received then has the usual outcome for the countries receiving it. Our previous results go through, i.e. that (in autocracies) the interaction of oil discovery and aid increases political instability, which in turn reduces growth. The impact of resource-attracted aid is to reduce growth in the countries receiving it. As noted, we also use two different indicators of instability: one is the updated version of Sarr et al. (2011) irregular turnover measure (first three columns of Table S4 and Table S5) and the other measure is irregular regime change from Colgan (last three columns of the same tables). Results seem generally robust to these two different measures of instability although the former usually fares better. For a further robustness check, we also disaggregate aid disbursements between loans and grants, and find similar results (See Table S6 of the Supplementary data). Finally, the results are robust in terms of the natural resource measures: use of oil discovery and oil wealth. It is worth noting that oil discovery provides better results than oil wealth.

6 Conclusion

Why would a donor country give aid to a resource-rich and autocratic recipient country? It would seem that resource-richness makes further resources relatively unnecessary, compared to the truly poor countries of the world, and that the governance status of the country would indicate that it would be of little positive effect. What would motivate a country to give aid in these circumstances? We find three reasons in our database to support some fairly dubious reasons for such funding.

Our first empirical finding of note is that aid is related to instability, but that this is the case only for resource-rich countries. Aid-based liquidity performs the same function of any sort of liquidity within a poor governance situation, i.e. it increases the returns to looting and departure. The costliness of such aid-induced political instability is significant; the indirect impact of a 1% increase in aid results in a 0.75 percentage point decrease in growth prospects.

Our second empirical finding of note is that this aid-induced political instability is observed for most, but not all, categories of aid. Humanitarian aid flows do not result in significantly increased instability. Again, we find this to be broad support for our hypothesis concerning the impact of

liquidity, but indicative that some other forces are at work in this situation. For some reason, liquidity has a destabilizing impact only on some autocratic countries and for some categories of aid, but not otherwise.

Our third empirical finding provides a possible explanation for this conundrum. This is that resource-richness is an attractor of aid only when it is structured as *loans*. This indicates to us that the reason that aid flows toward resource-rich autocracies (in the form of loans only) is to place claims on the countries' resource-richness. This is why aid only flows toward these countries in the form of loans, and why humanitarian aid (which does not follow the same pattern of other flows of aid) represents the exception that proves the rule.

Our robustness checks, looking in particular at the impact of oil wealth on autocracies, tend to support these findings. In this context it is possible to see that the existence of oil wealth attracts aid flows, but only in autocracies. This once again indicates that the presence of resources combined with particular forms of governance generates many of the results described. Aid is flowing to autocracies in the knowledge that political instability is the likely result.

Our conclusion is that aid to resource-rich autocracies has generally destabilising impacts in these countries. Our contribution is to demonstrate that this is *not* because aid acts as a benign instrument working through poor domestic political institutions to generate unintended outcomes. Rather, poorly structured aid itself can have the effect of producing enhanced instability in resource-rich autocracies, and giving that aid in the form of loans can have the effect of staking a claim on this result. The motive for giving aid to resource-rich autocracies may be to ensure that these claims on those resources are made effective. Loans denominated as aid, and given to resource-rich autocracies can be just another form of foreign intervention in the pursuit of other country's resources. The only subtle thing about this strategy is that political instability is induced through liquidity-based incentives acting on unscrupulous autocrats. These are then just nations aiding the looting of nations, hoping to benefit from the loan-based claims left in the wake of the autocrat's departure.

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