

Authoritarianism and the survival of natural resources.

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Inhaltsverzeichnis

1.0 INTRODUCTION	2
2.0 THEORETICAL FRAMEWORK	4
2.1 CONCEPTUAL DEFINITIONS	4
2.1.1 AUTHORITARIANISM	4
2.1.2 RENTIER STATE	5
2.1.3 NATURAL RESOURCE DEPENDENCE	5
2.1.4 EXTRACTION RATE OF NATURAL RESOURCES	5
2.2 AUTOCRACY VERSUS DEMOCRACY	6
2.2.1 THEORETICAL LINE OF ARGUMENT FOR INCREASED RESOURCE DEPENDENCE	6
2.2.2 THEORETICAL LINE OF ARGUMENT FOR HIGHER RESOURCE EXTRACTION RATES	8
3.0 DOES AUTHORITARIANISM FUEL NATURAL RESOURCE DEPENDENCE?	11
3.1 LINE OF ARGUMENT	11
3.1.1 REPRESENTATION AND TAXATION	11
3.1.2 TRANSPARENCY	12
3.1.3 RULES OF THE GAME	13
3.2 IMPLICATIONS FOR THE ECONOMY	15
3.3 THE CASE OF OIL	17
4.0 DOES AUTHORITARIANISM INCREASES NATURAL RESOURCE EXTRACTION RATES?	19
4.1 THEORETICAL LINE OF ARGUMENT	ERROR! BOOKMARK NOT DEFINED.
4.2 DEFORESTATION	ERROR! BOOKMARK NOT DEFINED.
5.0 DISCUSSION AND CONCLUSION	21
6.0 BIBLIOGRAPHY	23

1.0 Introduction

During the past decades an economic phenomenon has attracted a great deal of attention in economics and political science. The phenomenon is a paradox, the paradox of plenty or better referred to as the so-called resource curse. The term describes a negative causal effect of resource abundance on economic growth, meaning that resource-poor countries tend to economically outperform resource-rich ones. But how can that be? Is more not usually better? Many economists tried to get to the bottom of this paradox. Today the discourse is still in progress where the main positions can be distinguished into three groups of research, each examining a different correlation with resource abundance. The first is the interplay of resource abundance and conflict, secondly slow growth and thirdly autocratic political regimes. This paper will deal with the latter correlation. A large and growing literature claims a causal link between resource abundance and the rise of autocratic regimes. Following the hypothesis that natural resource abundance fuels authoritarianism many economists and political scientists found empirical evidence in favor of the argument (Escribà-Folch, 2011). Also the durability of autocratic regimes has been linked to natural resource abundance. "Dictators in countries which are relatively better endowed in terms of oil tend to stay longer in office." (Crespo Cuaresma, Oberhofer, & Raschky, 2011). This relationship of natural resource abundance and autocratic regimes often goes hand in hand with the concept of rentier states. Basically it is a state that derives a substantial part of its income through rents; in many cases these rents come from natural resources like petroleum (The rentier state will be further explained in chapter 2). "A rentier state therefore is a state that receives considerable revenues from sources other than taxes on (internal) productive processes, e.g. profits and salaries. The possibility of having access to rent renders the state indifferent to the problems of internal mobilization of factors of production; thus, a rentier state is the opposite of a tax state. As a consequence, the basic political contract of modern democracies, i.e. no taxation without representation, is suspended in rentier states" (Guyer, 1992). On the basis of this argument numerous scholars have investigated if natural resources fuel authoritarianism through the emergence of rentier states and many have concluded so. In these cases the link between natural resources and authoritarianism is often seen as unilinear. Within this paper I will

question this causality. Could it not be that authoritarianism is fueling resource dependence and further that authoritarianism might increase the extraction rates of natural resources? The following two hypotheses constitute the starting point for this literature study: (I) authoritarianism fuels natural resource dependence and (II) authoritarianism increases natural resource extraction rates. I will deal with the conceptual understanding of these hypotheses in section 2 (theoretical framework). To give a better insight of how I came about these hypotheses I will expound my line of argument. Most of the theoretical explanations lay in the nature of authoritarianism itself. I will argue that (1) weak representation; (2) low transparency and (3) the rules of the game (including institutional quality) are the sources of resource dependence in an autocratic regime. Also the arguments for the second hypothesis lay in the nature of authoritarianism itself. I will identify autocratic rulers as racing against time. The short ruling period or at least the fear of it are reason enough for autocratic leaders to increase natural resource extraction rates. After establishing a theoretical framework for these hypotheses I will look for evidence in the literature. For the correlation between authoritarianism and natural resource dependence, the oil industry serves as an example, while deforestation gives a further insight into the correlation with extraction rates of natural resources. Explaining the resource curse is outside the limited scope of this paper but if the literature provides evidence for the preceded hypotheses, the impact of autocracies on natural resource dependence/extraction rates might be an important factor for future research. It could be an omitted variable unaccounted for in many empirical studies examining the resource curse. The objective of this study is therefore to identify dynamics and mechanism that change the perception of polity in the resource curse debate. The role of the rentier state might be different to the popular understanding.

2.0 Theoretical framework

To be able to make any claims about the correlation and causality between an autocratic regime and resource dependence/extraction rates, the fundamental principles of authoritarianism are presented, followed by the definitions of the rentier state, natural resource dependence and natural resource extraction rates. To further highlight the mechanisms of an autocratic regime it will be contrasted (with regard to relevant aspects for this paper) with a democratic one.

2.1 Conceptual definitions

2.1.1 Authoritarianism

In this paper Authoritarianism is used as a regime type (in the following chapters often referred to as an autocratic regime). The paper only makes use of two types of regimes: (1) autocratic and (2) democratic. The latter will not be explained in further detail, as it only serves to highlight the mechanisms of authoritarianism. Linz and Stepan managed to describe one of the most essential properties of an autocratic regime in one sentence. They call it “a system or a state which enforces strong and mostly oppressive measures against the population” (Linz, 1996). This is the part that should be remembered when reading the following chapters. But to grasp the full dimension of what the term authoritarianism comprises, I cite Theodore M. Vestals eight elements: “(1) Highly concentrated and centralized power structures, in which political power is generated and maintained by a repressive system that excludes potential challengers and uses political parties and mass organizations to mobilize people around the goals of the government; (2) a leadership that is self-appointed, even if elected, cannot be displaced by citizens' free choice among competitors; (3) absence of any guarantee of civil liberties or tolerance for meaningful opposition; (4) weakness of civil society where there is no freedom to create a broad range of groups, organisms, and political parties to compete for power or question the decisions of rulers, but instead an attempt to impose controls on virtually all elements of society; (5) maintenance of political stability by control over and support of the military to provide security to the system and control of society; (6) a pervasive bureaucracy staffed by the regime; (7) control of internal opposition and dissent; and finally (8) the creation of

allegiance through various means of socialization” Vestal (1999, p. 17). These eight elements make up the conceptual frame for the following chapters.

2.1.2 Rentier state

The rentier state is a fundamental concept in resource economics and will be used within this paper. Selby (1988) formulated four characteristics that are present in a rentier state:

1. Rent situations predominate.
2. The economy relies on a substantial external rent – and therefore does not require a strong domestic productive sector.
3. Only a small proportion of the working population is actually involved in the generation of the rent
4. and, perhaps most importantly, which the state’s government is the principal recipient of the external rent.

These four characteristics form the theoretical understanding of rentier states within this paper.

2.1.3 Natural resource dependence

Many empirical studies examining the resource curse have used the share of exports of primary products in GNP as a measure for natural resource dependence (nominal resource intensity = $\frac{\text{exports of primary products (in US dollars)}}{\text{GNP (in US dollars)}}$) (D. Sachs & M. Warner, 1995). As this paper will not contain an empirical analysis of data sets it is not necessary to find right proxies for measurement. Rather it is essential to understand what natural resource dependence means. It represents the degree to which a country economically relies on natural resources. The lower the disposal of other incomes the higher is the degree of natural resource dependence.

2.1.4 Extraction rate of natural resources

The extraction rate of finite natural resources refers to “Hotellings rule” of economic efficiency. At the heart of this rule lays the question what to do with exhaustible resources? The first option is to extract the resources and the second one is to leave it in the ground. With Hotellings rule one can predict which decision is holding the higher payoff. In order to predict the future price and compare it to the current one a number of assumptions have to

be fulfilled. First According to Hotelling efficiency prescribes monotonically rising prices with monotonically decreasing extraction rates. Contrary to this prediction the past decades have shown a different development of exhaustible resource prices, which were either decreasing or constant (Gaudet, 2007). Many scholars have examined this contradiction by introducing new variables unaccounted for in Hotelling’s model. But these findings are often inconclusive and exceed the purpose of this paper. Therefore I will not further investigate increasing extraction rates a la Hotelling but focus on cross-country analyses that compare regime types to resource extraction rates. The empirical basis for the second hypothesis will be the case of deforestation, which is a renewable resource. The question here is not only how to achieve the highest profit but with respect to maximum sustainable yield. Therefore the *efficient extraction rate* = $\frac{\text{extraction}}{\text{maximum sustainable yield}}$.

In the following analyses (chapter three and four) I will only analyze the difference in relative extraction between autocracies and democracies. Therefore it is enough to examine $\frac{\text{extraction}}{\text{maximum sustainable yield}}$ for renewable resources and $\frac{\text{extraction}}{\text{resource stock}}$ for nonrenewable resources under an autocratic and democratic regime.

2.2 Autocracy versus democracy

Literature often identifies autocratic regimes and democracies as two opposite systems of government. Though numerous theories state that they are not necessarily polar opposites (Munck & Verkuilen, 2002); still many researchers use a spectrum (like polity VI) to represent the level of autocracy/democracy running from 0 to 100. 0 stands for total autocracy and 100 for total democracy (Marshall, 2002). As the spectrum is not relevant for this paper and the literature available often uses different concepts, I will only distinguish between the two extremes. Further I want to state some of the theoretical arguments that provide the foundation for the following analytical chapters. Therefore theoretical differences between authoritarianism and democracy are highlighted.

2.2.1 Theoretical line of argument for increased resource dependence

Representation is the first argument I want to bring forward. For century’s revolutionaries in Ireland and the United States of America have coined the phrase “no taxation without representation”. The literature cannot identify the precise origin of this expression but it

speaks for itself. In Luciani's words: "The fact is that there is 'no representation without taxation' and there are no exceptions to this version of the rule." (Luciani, 1987) The two statements deal with opposite causalities but can both be argued to hold true. In the first statement the causality runs from representation towards taxation. Democracies levy taxes from their citizens in return these citizens expect the leaders to act on their (voters/taxpayers) behalf. In autocracies the level of representation is low because the government is almost never elected by a majority vote. The low representation leads to a lower incentive for the citizens to pay taxes. The second statement deals with a lack of taxation leading to low representation. In this case there is a third factor involved, which is accountability. The incentive for the people to make their leaders accountable is lower than if they would pay taxes. This also leads to a lower level of representation, which can further open up room for corruption and a lack of transparency. Hollyer, Rosendorff, and Vreeland (2011) found that "Democracies are indeed more transparent" than all other regime types. Following the argumentative line of the second statement (no taxation → low representation) the concept of the rentier state plays an important role. It allows the ruling regime to be financially independent of its citizens and domestic economy. Further the financial inflows of natural resource rents liberate the rulers from the interdependency with the citizens (Guyer, 1992). In a state with a high institutional quality these mechanisms can be controlled in weakly institutionalized states they cannot. To point out the difficulties in autocratic regimes I quote Acemoglu, Verdier, and Robinson (2004): "Rulers make choices within strongly institutionalized polities. In these polities, formal political institutions, such as the constitution, the structure of the legislature, or electoral rules, place constraints on the behavior of politicians and political elites, and directly influence political outcomes. In contrast, kleptocracy emerges in weakly institutionalized polities, where formal institutions neither place significant restrictions on politicians' actions nor make them accountable to citizens." This quote circumscribes the institutional quality in which autocracy combined with rent seeking can emerge. It's the missing institutions and therefore control-mechanisms that allow autocratic leaders to exploit resources and citizens for personal benefits. As long as these benefits can be maintained no change is likely to occur. Elena Paltseva analyzed the effect of autocracies on devolution and economic growth. She finds that "If being in power is not associated with high private

benefits, the ruler self-imposes institutional checks and balances to protect entrepreneurs' property rights [...] if instead the benefits of control are high, the autocrat sacrifices capital accumulation to keep these benefits. Such an economy never develops.”(Paltseva, 2008)

2.2.2 Theoretical line of argument for higher resource extraction rates

The standard political economic model of the behavior of dictators is rather straightforward: The dictator's objective function is the maximization of personal utility via the increase of political rents and subject to the constraint of maintaining political power. (Crespo Cuaresma, Oberhofer, & Raschky, 2011) Following this line of thought it can be deduced that autocratic leaders will increase extraction rates due to a combination of two factors: (I) autocratic leaders increase their personal utility by extracting natural resources and (II) they have to do it fast because they are always in danger of being overthrown. Congleton (1992) concludes his comparison of democracies and autocracies on the enactment of environmental regulations as follows: “the highly uncertain career path to the top of an authoritarian regime, and their relatively short term of office suggest that authoritarians tend to have a relatively shorter time horizon and be relatively less risk averse than median voters tend to be.” He further argues, “Liberal democracies are more willing to regulate environmental effluents than less liberal regimes.

“Utility maximizing environmental regulation for dictators and median voter

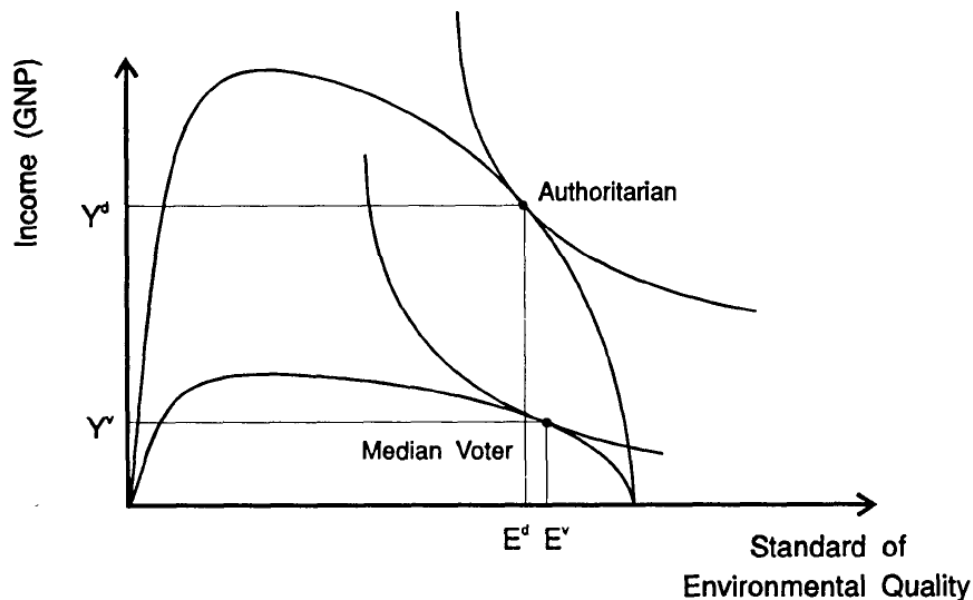


Figure 1 (Congleton, 1992)

The graph above shows the differences in utility functions between median voters and authoritarianism with respect to the standard of environmental quality and income. The median voter is approximately the voter with the median income share and time horizon. Authoritarians have greater than the median income share and probably tend to have a shorter than average time horizon, given the high turnover of authoritarian regimes. The graph shows that consequently autocratic regimes care less than democratic voters about environmental quality. Congleton argues that this is because autocratic regimes are relatively less risk averse than median voters. This difference in strategy implicates that autocrats are less likely to engage in insurance mechanisms of any kind, here insurance of environmental quality. This can be adapted to the case of deforestation showing that the likelihood of authoritarians to invest in sustainable extraction rates and forest management is lower than in democracies.

So on theoretical basis, authoritarianism compared to democracy should increase the relative extraction rates. The following section will deal with empirical studies examining deforestation.

The fundamental differences between autocracies and democracies are summed up in table 1.

Table1

Indicator	Autocracy	Democracy
Representativeness	Low	High
Transparency	Low	High
Legitimacy	Low	High
Corruption	High	Low
Quality of institutions	Low	High
Probability of conflict	High	Low
Form of extraction	Centralized	Decentralized
Rule of law	No	Yes
Independent judiciary	No	Yes

One could argue that illiberal democracies hold many aspects listed under autocracy but the complexity of the research topic necessitates simplification. Therefore the table is not a true representation of autocratic and democratic features rather it is an exaggerated visualization of the essential aspects, necessary to perform the following analysis in chapter two and three regarding the effect an autocratic or democratic regime has on natural resource dependence/extraction rates.

Based on the theoretical framework the following two chapters will analyze the correlation between autocratic regimes and natural resource dependence, respectively natural resource extraction rates. The oil industry will serve as an example for the prior relation and deforestation for the latter.

3.0 Does authoritarianism fuel natural resource dependence?

The theoretical understanding of authoritarianism has been stated in the previous chapter as well as the definition of natural resource dependence. Based on these preconceptions this section will deal in detail with empirical arguments in favor of the hypothesis that “autocratic regimes fuel natural resource dependence”. Mainly I analyze the dynamics necessary to turn resource abundance into a blessing or curse and compare these to the properties of authoritarianism. In the second part of this chapter the oil industry will serve as a source of evidence to identify the effect of authoritarianism on natural resource dependence.

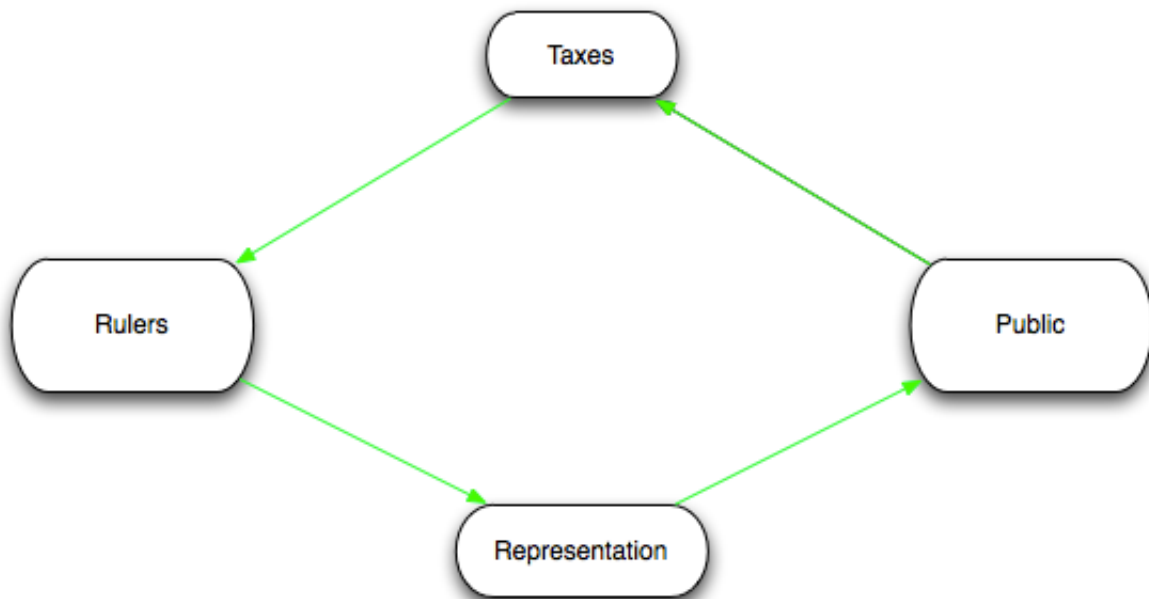
3.1 Line of argument

3.1.1 Representation and taxation

As discussed in the theoretical framework there is no representation without taxation and no taxation without representation. Adapting this line of thought to the case of authoritarianism first one could argue that due to the low level of representation in autocratic regimes, the rulers have a shortcoming in the financial account, as no tax revenues flow in. Secondly I stress that because rents from natural resources cover the governments money inflow there is no need for taxation and in return no need for representation. For revenues earned from oil extraction Huntington (1991) argues the following: “Oil revenues accrue to the state: they therefore increase the power of the state bureaucracy and, because they reduce or eliminate the need for taxation, they also reduce the need for the government to solicit the acquiescence of the public to taxation. The lower the level of taxation, the less reason for publics to demand representation.” It does not matter from which angle you look at the linkage between representation and taxation in many autocratic regimes it leads to the same outcome. Authoritarianism combined with natural resource abundance results in low representation and low taxation, hence low money inflow from the public and substantial rents from natural resources. The implications of these findings will be discussed later (3.2).

The following flow diagram illustrates the above-discussed linkages between the public and rulers highlighting that there is no representation without taxation and no taxation without representation.

Flow diagram 1



3.1.2 Transparency

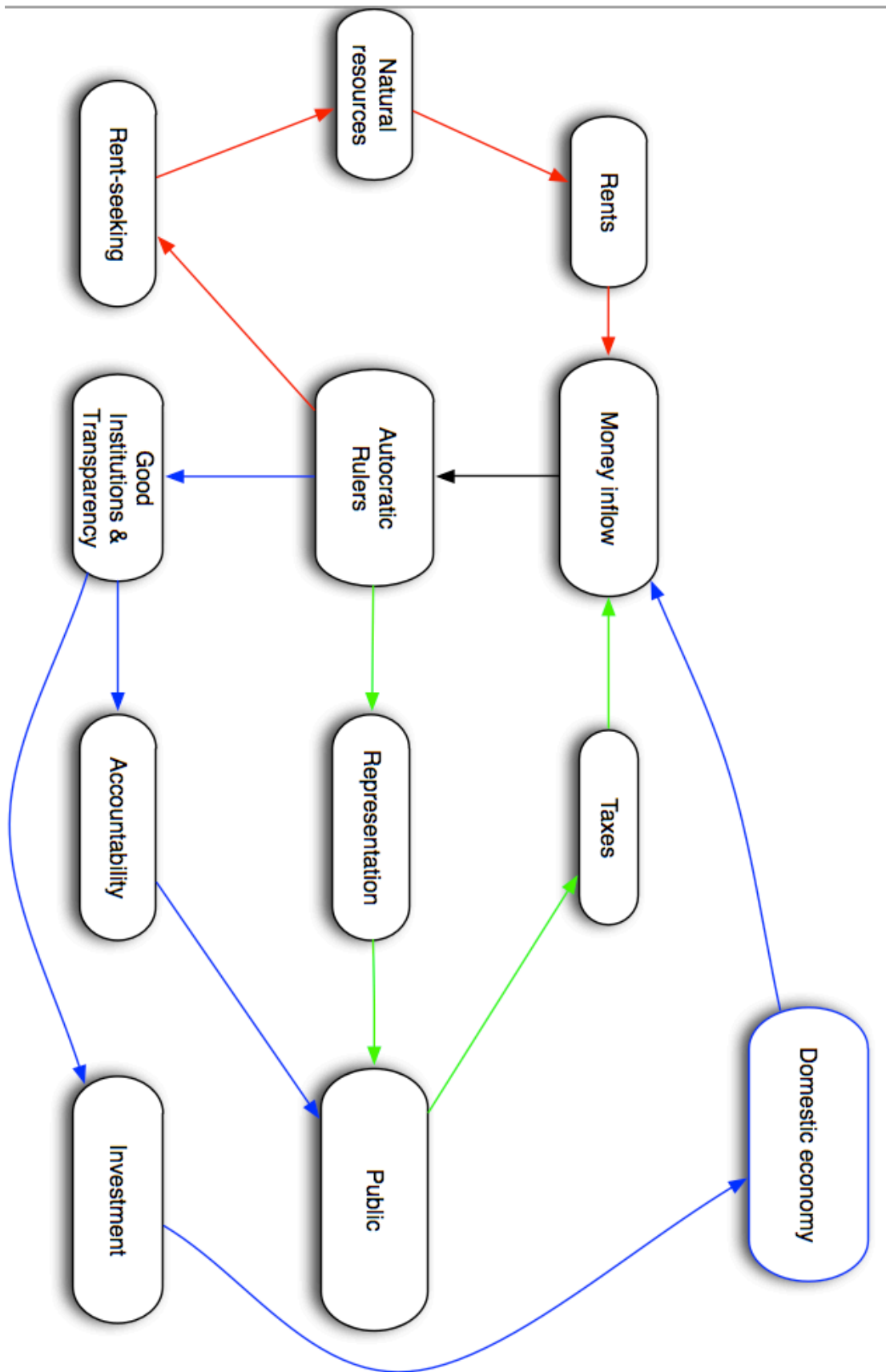
The second argument I make refers to transparency and is substantially based on Williams study “Shining a Light on the Resource Curse: An Empirical Analysis of the Relationship Between Natural Resources, Transparency, and Economic Growth”. He identifies transparency as one important channel, through which the resource curse manifests itself. The nature of the resource curse is not the topic of this paper but parts of Williams’s findings combined with mechanisms of authoritarianism can give insights into natural resource dependence. He finds that transparency has a strong effect on different parts of the economy. The absence of transparency decreases the quality of the institutional environment, like weak financial institutions and high corruption, further reduces investments in the private sector, as well as accountability of the rulers for the public. (In contrast a high level of transparency leads to increased investments) (Williams, 2011). As stated in the theoretical framework autocracies are less transparent than democracies. The combination of authoritarianism and a lack of transparency often lead to rent seeking. This will be further discussed in paragraph 3.2.

3.1.3 Rules of the game

The institutional framework within a country makes up the rules of the game. They place opportunities and constraints on rulers. As discussed in the theoretical framework autocracies often emerge in weakly institutionalized states. Additional feeble institutions characterize many resource rich countries. Consequently autocratic leaders are able to take advantage of natural resource abundance by means of rent seeking. In Bhattacharyya and Hodler (2010) words. If the institutional environment is weak “resource-rich countries indeed have a tendency to be corrupt because resource windfalls encourage their governments to engage in rent-seeking”. In many cases these private benefits outweigh the motivation to establish good public institutions as it is rather unlikely that a beneficiary will constrain himself from opportunities of personal gain. Bueno de Mesquitas stresses: “For autocrats what appears to be bad policy often is good politics” (Bueno de Mesquita, 2003, p. 19). Based on these findings one can identify a twisted reality. On the one side the development of the country is located opposed by the personal benefits of the leaders on the other side. This vicious cycle of low institutional quality and corresponding rent seeking is hard to brake through as long as the mechanisms of the rentier state are present.

The three prior paragraphs and the theoretical framework are the foundation for the flow chart on the following page, which combines key variables of resource rich, autocratic regimes to illustrate the present dynamics and behaviors. It is a model and therefore a simplification of reality. Many other factors unaccounted for in the model could have decisive effects on each of the variables.

Flow diagram 2



Flow diagram 2 shows three different scenarios indicated by three different colors (green, blue, red). The green scenario is the first flow diagram from section 3.1.1 integrated into this more comprehensive model. It is part of the blue scenario, which means that the green scenario can take place without the blue scenario but not the other way around. In the blue scenario the decisive variable is good institutions and transparency. These factors increase the accountability of the rulers towards the public. This means they put constraints on the behavior of the rulers by posing control mechanisms like an independent judiciary enforcing the rights of every citizen or transparency itself. This is supply driven accountability while one could argue that also in the green scenario accountability is a key variable (See 2.2). In the green scenario accountability is not supplied but demanded by the public in return for taxes. Many rulers in resource abundant countries do not depend on taxes and therefore disregard these demands of accountability. Besides accountability good institutions and transparency increase investment in the domestic economy, firstly from businesses within the country and secondly foreign direct investment. This leads to a diversification of the economy and increased returns for the government account. This is basically the scenario, which takes place if the institutional environment is of high quality leading to a strong growing economy.

The third scenario is the red scenario. The rulers make acquisitions of natural resource rents which eradicate the need for taxation and therefore for the green scenario. In this case the decisive variable of good institutions and transparency is absent and the money inflow is not controlled or supervised. A rentier state emerges in which the rulers profit through means of rent seeking from the natural resource rents, eventually establishing an almost complete dependence on natural resources as the right side of the diagram breaks off completely.

3.2 Implications for the economy

The red scenario of the flow diagram 2 is a worst-case scenario and most of the time it does not occur in its entirety but manifestations in part can already have tremendous implications for the overall economy of resource abundant countries. The lack of representation, good institutions and transparency weaken the overall economy, as many businesses move to other locations where their investments are better secured. The only pillar left to bear the consequences is natural resources. In these weakly institutionalized entities the management strategy of natural resources is straightforward. The rulers benefit from the natural resource rents because no controls are set to constrain rent-seeking or

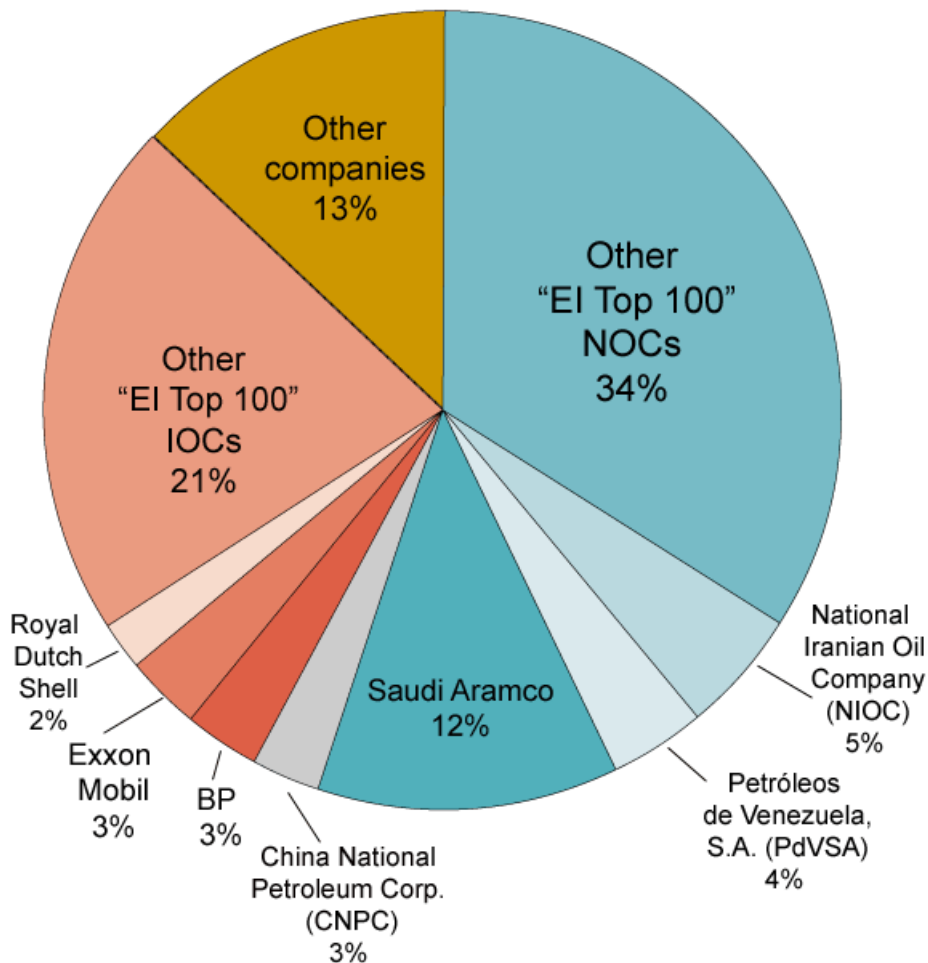
other forms of corruption. The low level of taxation reduces the incentive for the public to overpower the government to a minimum and if resistance occurs it is mostly repressed by violent military means, financed with natural resource rents. In many cases it seems to be a sort of interdependency between natural resource dependence and authoritarianism. For instance many scholars have identified a Vicious cycle of natural resource dependence and corruption- corruption triggers dependence and dependence triggers corruption. (Leite, 2002); (Isham, Woolcock, Pritchett, & Busby, 2005). This cycle poses the question of causality: What was first, the authoritarianism combined with bad institutions or the natural resources? Haber and Menaldo analyzed the longitudinal relationship (1800 – 2002) between countries’ resource dependence and their regime type. They come to the conclusion that “oil and mineral reliance does not promote dictatorship in the long run.”(Haber & Menaldo, 2011) So natural resources are not a curse but on the contrary authoritarianism might be a curse for natural resource management. Hodler (2006) shows that natural resources lead to intensive rent-seeking, poor institutions and lower incomes in ethnically fractionalized societies, but to little or no rent-seeking and higher incomes in homogeneous societies. While Acemoglu et al. (2004) claim “The success of kleptocrats rests on their ability to use a particular type of political strategy—divide-and-rule.” So in other words if an autocratic leader wants to be successful he has to divide and fractionalize his country, which in return weakens the rules of the game, forcing the regime into even higher resource dependence to maintain power.

In the following section I will try to give a better insight into the mechanisms of autocratic regimes and their effect on natural resource dependence by taking a closer look at the oil industry.

3.3 The case of oil

Oil is one of the most valuable and demanded natural resources in the world. It has been the driver for Industrialization and accounts for the largest share of energy supply around the globe. Oil has been the key element for the accumulation of wealth in many autocratic regimes, for instance in the Middle East. According to the US Energy Information Administration NOCs (National Oil Companies) held the extraction rights to 85% of the world's oil reserves in 2010. In the same year, 100 companies produced 87% of the world's oil. Of the total volume of oil produced by these 100 companies, national oil companies accounted for 55% of production.(EIA, 2012)

Shares of World Oil Production by Type of Company, 2010



Source: Energy Intelligence, "Energy Intelligence Top 100" share of world oil production (2012).

So oil is one of the fundamental natural resources for government revenues around the world. Numerous studies examined the correlation between oil abundance and the rise or duration of autocratic regimes. One of the most influential articles is “Does oil hinder democracy” by Michael Ross. In his article he claims that indeed oil hinders democracy and fuels authoritarianism (Ross, 2001). Many scholars have performed subsequent tests confirming his findings (Smith, 2004); (Ulfelder, 2007). Additionally his study has been reexamined by Oskarsson and Ottosen (2010). Interestingly their results delimit the significance of Ross’s findings using a longer time period and a different measure for democracy. They identify that Ross employs “a measure of regime type – Polity – which is heavily biased towards political rights dimension of democracy and are restricted to the time period 1970–2000.” And come to the conclusion that “Instead it seems that regional factors, income, and the religious composition of a country’s population better explain the persistence of autocracy.” Bjorvatn, Farzanegan, and Schneider (2012) examined power balances in correlation with oil abundance in the Middle East and Northern Africa, concluding their findings as follows: “when the level of fractionalization is high, indicating a weak government, oil revenues appear to be fully wasted: Above a critical level of fractionalization, there is no significant, positive effect of oil revenues on income. In contrast, when governments are less fractionalized, for instance, consisting of a single party, oil revenues have a pronounced positive effect on income.” So I want to argue further that the centralized extraction by one NOC can lead to higher revenues from oil. As stated in the theoretical framework democratic governments are often more fractionalized than autocratic ones. So autocratic regimes are simply oil dependent because it pays off, while democracies are not able to benefit from oil wealth and therefore have higher incentives to diversify their economies.

4.0 Does authoritarianism increase deforestation rates?

The last chapter analyzed the relationship between authoritarianism and natural resource dependence. The literature showed a tendency for autocratic regimes to fuel resource dependence. This chapter will deal with the second hypothesis stated above. To identify relationships of autocratic regimes and extraction rates I will use the case of deforestation as an example. The literature is mainly focused on the link between democracy and deforestation but as mentioned in the theoretical framework this can still serve as an indication. Studies on democracy often use the polity VI measure, which runs from total democracy (10) to total autocracy (-10). Therefore, even if not explicitly mentioned, these studies contain data and insights on autocratic dynamics regarding extraction rates of natural resources.

The findings on relationship of deforestation rates and political regimes have changed drastically during the past decade. In the 90's, democracy was very popular to solve environmental problems as well as deforestation. "The connection between environmental protection and civil and political rights is a close one. As a general rule, political and civil liberties are instrumentally powerful in protecting the environmental resourcebase, at least when compared with the absence of such liberties in countries run by authoritarian regimes" (Dasgupta & Mäler, 1995). This view has changed drastically in the past decade. Many studies examined the correlation between democracy and deforestation and found contradictory outcomes. One important factor, I want to highlight is that in 2000 the forest stand data collection had a break-through. Since the establishment of the Earth Observing System, satellite data has strongly improved the empirical basis for cross-country analyses (Hasenauer, Petritsch, Zhao, Boisvenue, & Running, 2012). Based on these updated forest stands and polity IV index as a measure of democracy, Shandra, Shircliff, and London (2011) find that higher levels of democracy are correlated with higher rates of deforestation. But the findings go even deeper. Buitenzorgy and P. J. Mol (2011) find an inverted U-shaped relationship between deforestation and democracy. This means that countries in democratic transition experience the highest deforestation rates compared to totally democratic or autocratic ones. Further they find that regarding deforestation, democracy has a stronger explanatory power than income. Additional to the polity IV index they find similar results for the Freedom House index and Vanhanen Index. A study

conducted by Neumayer (2002) on the link between democracy and environmental commitment reveals a plausible explanation: “The strong evidence in favour of a positive link between democracy and environmental commitment stands in contrast to the somewhat weak evidence on such a link between democracy and environmental outcomes. The explanation presumably is that theory predicts a stronger positive link of democracy with environmental commitment than with environmental outcomes. “ Autocracy or democracy does not cause unsustainable deforestation rates. If an autocratic government is strong it can easily constrain any activities effecting deforestation. On the opposite side of the spectrum, a democracy has to be mature to manage deforestation rates sustainable. That means it needs a strong civil society, which balances the weakened state. In these two cases deforestation rates are the lowest or most sustainable. Countries in a transition phase from autocracy towards democracy tend to have moderate means to enforce regulations and the civil society is immature. The lack of counter-veiling power (mature civil society) is decisive in balancing the weakened government. Therefore these countries show the highest relative deforestation rates. So the consulted literature shows no evidence for increasing extraction rates in autocratic regimes compared to democracies. The sustainability of renewable resources therefore does not depend on the form of government but on the strength of a government to control the usage.

5.0 Discussion and Conclusion

Based on the analyses of chapter 3 and 4 I will draw two separate conclusions respectively for each hypothesis. The first hypothesis was: “Authoritarianism fuels resource dependence.” The literature examined provides empirical evidence in favor of the hypothesis, resulting in two major findings. First the properties of an autocratic regime lead to higher natural resource dependence. Second, autocracies are more likely to benefit from oil wealth than democracies. So in the case of oil it is an efficient strategy for autocratic regimes to center the economy on oil exploitation. While democracies show lower benefits and therefore need to diversify their economies to be efficient. Bjorvatn and Naghavi (2011) find evidence that rents from natural resources contribute to regime stability in rentier states by increasing the cost of conflict. The increasing rents from natural resources attract more rent seekers, which in return weaken the monopolistic position of the state. The new emerging market structure often promotes institutional change resulting in higher regime stability. The second hypothesis: “Autocratic regimes increase the extraction rates of natural resources” turned out to be false for deforestation. The consulted literature clearly showed no empirical evidence for higher deforestation rates in autocratic countries. Some scholars claim the contrary to be true. They associate higher levels of democracy with higher rates of deforestation. The most convincing and detailed examination of deforestation and autocracy by Buitenzorgy and P. J. Mol (2011) found that countries in a transition phase from autocracy towards democracy show the highest rates of deforestation. To draw an explicit conclusion is outside the limited scope of this literature study. The resource curse literature is so contradictory that any statement made by one author is probably disproved by or antithetic to another’s opinion or finding. Still I believe that this paper has put together enough theoretical evidence, to suggest an empirical analysis of the effect autocratic regimes have on natural resources dependence. Making causal claims goes beyond this paper, but placing the findings in the broader context of the resource curse, I can draw the inference that many scholars tend to underestimate the explanatory power of form of government. For future resource curse research I suggest to draw more attention to this variable rather than economic growth. Correspondingly it might be more effective to center policies on the mechanisms of authoritarianism,

promoting a better institutional quality and higher transparency to support a diversification of the economy and reestablish the interdependency between the rulers and the public. The resource curse might not always be at the heart of the problem and control of symptoms will not help the affected. Rather scholars should investigate the problem from a more holistic point of view considering the entire economic, political and social context. Within this approach, the before mentioned variable, form of government is very decisive for the future of natural resources.

6.0 Bibliography

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