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OVERCOMING THE "RESOURCE CURSE": WELFARE POLICY AND CIVIL
CONFLICT IN RENTIER STATES

"РЕСУРСТАР КАРҒЫСЫНАН" АЙРЫЛУ: РАНТЬЕ МЕМЛЕКЕТТЕРІНДЕГІ

ӘЛЕУМЕТТІК САЯСАТ ЖӘНЕ АЗАМАТТЫҚ ҚАҚТЫҒЫС

ПРЕОДОЛЕНИЕ «ПРОКЛЯТИЯ РЕСУРСОВ»: СОЦИАЛЬНАЯ ПОЛИТИКА И

ГРАЖДАНСКИЙ КОНФЛИКТ В ГОСУДАРСТВАХ-РАНТЬЕ

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by

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Abstract

Existing literature cannot explain why some rentier states, that is, states dependent on revenues from exports of natural resources or foreign aid, experience significantly more civil conflicts while others remain peaceful. The first part of this thesis seeks to explain this puzzle by examining the role of government policies. In particular, I argue that rentier states that invest a lot in welfare policy are better able to prevent civil conflict because high welfare spending contributes to a better institution quality, which in turn reduces uncertainty or information asymmetry between the rentier government and rebels. Using data on rentier states from 1980 to 2015, I find that higher welfare spending reduces risk of a civil conflict in rentier states.

Based on these findings, the second part of the thesis investigates why leaders in rentier states do not always choose to invest in welfare spending but instead often spend a lot on their military apparatus and heavily engage in repressive policies. Assuming that all leaders seek to stay in office, I argue that two factors are key in explaining rentier leaders' choices between repressive and welfare policies. First, I focus on the regime type of rentier states and argue that leaders of democratic rentier states invest more in welfare policies. Second, threats to leader survival are important. I argue that those leaders of rentier states whose survival is threatened will divert more of their resources into repressive policies. My statistical analysis based on panel data from 1980 to 2015 lends support for my theory regarding factors influencing leaders of rentier states to invest in welfare policies.

This study contributes to the literature about the resource curse by exploring the political processes generating higher risk of a civil conflict in rentier states. This study also has important implications for policymakers. Since volatility of free resources is associated with lower provision of welfare policies in rentier states, aid-donors and states which have deep trade ties with rentier states should be concerned if the level of aid provided to a certain country or trade ties with a rentier state suddenly drop, as this could have disastrous consequences. As for policymakers in rentier states, this research demonstrates them the need to invest in improving quality of state institutions and welfare policies.

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Chapter 1 Introduction

Recent studies in political science find that states which are dependent on foreign aid or exports of natural resources – that is, rentier states – are more likely to experience civil conflicts than non-rentier states (Collier and Hoeffler 1998, 2004; Fearon and Laitin 2003; Humphreys 2005; Lujala 2010; Nielsen, Findley, Davis, Candland, and Nielson 2011; Reynal-Querol 2002).[1] Moreover, civil conflicts in countries with vast natural resources are often bloody and long-lasting, as were conflicts in Sierra Leona, Sudan, Liberia, Republic of Congo and many more. At the same time, there are also many rentier states like United Arab Emirates, Kazakhstan, Turkmenistan, and Gabon where an abundance of natural resources or volatile aid flow has never caused a conflict. Why do some rentier states experience significantly more civil conflicts than others? Why are some governments of rentier states more efficient at preventing civil conflict than others?

The existing literature investigating the link between free resources and civil conflict is unable to answer this question, as the role of government of a rentier state in conflict onset is often overlooked in these studies. Thus, policymakers are unable to find efficient tools to reduce the risk of a civil conflict in rentier states (or at least understand why current strategies are inefficient). This is especially troubling considering that a number of rentier states which may also face a high threat of a civil conflict is only set to grow in the future. For instance, up to 2013, there were on average 400-500 discoveries of oil fields annually worldwide and total production of

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[1] In fact, most of these studies investigated the link between natural resources exports and risk of a civil conflict. Nielsen et al. (2011) studies the link between foreign aid and civil conflict and argues that shocks in foreign aid increase likelihood of a civil conflict. In this thesis, I define rentier states as those, which are dependent on exports of natural resources and foreign aid. I will explain selection of this definition in the Chapter 4.1

oil in the world steadily increased each year, allowing more countries to have larger revenues from their oil deposits (Crooks and Ward 2017). Another concern is that in rentier countries plagued with civil conflicts democratization is almost impossible (Colgan 2014), so one also needs to investigate the problem of civil conflicts in rentier states, since the latter impede democratization processes.

The first part of this research addresses an important question with regards to the resource curse literature: "Why are some rentier states more inefficient in preventing civil conflicts in comparison with other rentier states?" This question tackles the puzzle presented by the literature on "resource curse". On the one hand, the literature on political resource curse reports that a large endowment of free resources helps leaders of rentier autocracies to maintain stability of their regimes as well as to win in conflicts against rebels as they arise (Colgan 2014). At the same time, rentier states on average experience a larger number of civil conflicts than non-rentier states, according to the literature (Collier and Hoeffler 2004). So, considering that all rentier states have sufficient military capacity to win in conflicts with rebels, why are they not equally efficient at preventing civil conflicts from happening in the first place?

Answering this question, I consider conflict onset in rentier states as a problem of a failed bargaining, similar to Fearon (1995). As I argue, the key factor influencing the ability of rentier governments to prevent a conflict is the quality of their institutions. According to previous studies, rentier states in general have institutions of lower quality than non-rentier states, as they do not have to collect taxes to ensure cash inflows in their budgets (because they have revenues from free resources readily available to them) and therefore do not invest much in the quality of their own institutions (Mahdavy 1970). In turn, institutions of lower quality deepen the private

information problem in bargaining with would-be rebels because the rentier state is unable to gather reliable data on the rebels, their military potential, or their willingness to fight. This also makes it difficult to pursue a pre-war deal with the rebels. However, as I argue, some rentier states have institutions of higher quality compared with other rentier states as they develop their redistributive functions – in other words, provision of public goods. If a rentier state decides to provide more public goods – like education of higher quality, social protection, and healthcare – this state will also invest more in the quality of its institutions, as it will want to have positive outcomes from its redistributive policies. As a result, rentier states which provide more public goods to their populations can gather more reliable information on rebel elements as well as be more efficient at reaching pre-war bargain with rebels. Using panel data on rentier states from 1980 to 2015, I find empirical support for this hypothesis as well as demonstrate that the link between higher provision of public goods and risk of a civil conflict in rentier states is probably due to weak institutions mechanism rather than anything else.

In the second part of the current research, I address another important puzzle presented by the literature on rentier states. Given all advantages of higher provision of public goods why do not all rentier states invest more in provision of public goods? Even though higher welfare spending probably has a mitigating effect on risk of a civil conflict, as well as fostering the economic development in the country, many leaders of rentier states decide to engage in excessive repression and provide almost no public services to their population. To address this question, I build a theory deriving from the selectorate theory (Bueno de Mesquita, Smith, Siverson, and Morrow 2004) . In this part, I argue that leaders of democratic rentier states have an incentive to invest more in

higher provision of public goods since these leaders want to be reelected and get more votes in future elections. On the contrary, some rentier leaders may intentionally decrease governmental welfare spending if they feel that their survival in office is threatened. In particular, I operationalize threats to survival of rentier leaders in two ways: volatility of revenue from free resources and coup threats. In case if the resources available to the rentier state are volatile, then the leader will decide to increase his personal savings to survive the future period of "bad" times with revenue from the state resources.[2] Increasing the personal funds in turn drives the resources away from the public goods provision. Similarly, if the leader feels that there exists a high threat of being overthrown by military, s/he will engage in policies to prevent the coup. For instance, he or she might engage in the creation of paramilitary forces, reorganization of the army, buying-off support of military leaders and so on – any of these actions drives funds away from governmental welfare policies. My statistical analysis based on panel data of rentier countries in the period between 1980 and 2015 shows support for these hypotheses. I find that welfare spending decreases if a rentier state is non-democratic, has volatile resources, or experiences a high threat of a coup.

This thesis has fairly nuanced, but important, implications. On the one hand, I show that in rentier states higher provision of public goods may decrease risk of a civil conflict. On the other hand, I show that it is difficult to encourage leaders of rentier states to invest more in welfare spending since welfare spending decisions of rentier

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[2] In my research, I define volatility of revenues from free resources as presence of large negative shocks in revenues from free resources. These negative shocks most often happen because of volatility of prices for resources on the international market or because of changing allocation of foreign aid to certain countries. For instance, Bahrain in 1994 experienced a negative shock in free resources, according to my data. Mean revenues from free resources for Bahrain (mainly oil) in the five years up to 1994 was equal to 3.12 billion U.S.$ per year (in constant 2010 prices), and in 1994 Bahrain received only $1.24 billion. The shock from free resources for Bahrain in 1994 exceeded 60% of mean revenues in recent years.

leaders depends on factors intrinsic to each state. For instance, it is difficult to change the regime type of a rentier state. However, policymakers may still make a difference, especially in countries which provide aid to rentier states or have large trade ties to these states. I find that volatility of free resources negatively affects provision of public goods in rentier states, and decreased welfare spending in turn makes the risk of a civil conflict higher. Considering this, policymakers in countries which provide aid to rentier states dependent on aid inflows should make sure that there will not be any major negative shocks in provision of aid to these countries. Once there are large shocks in aid provision, there could be disastrous consequences for rentier states, a fact also supported by empirical evidence presented by Nielsen et al. (2011). Similarly, I argue that larger negative shocks in revenues from free resources also decrease levels of welfare spending. This means that policymakers in countries which have large trade ties with natural resources exporters should also be concerned about potential consequences (for instance, a higher risk of civil conflict) if they suddenly decrease trade with a rentier state, for instance, because of sanctions.

My research also has important implications for those aid donors who want to make sure that their aid allocation actually helps people in aid-recipient countries. As I show in this study, in those countries which have non-volatile resource revenues, and in those autocracies where leaders are newly in power, a higher part of "free revenues" tends to go towards public purposes.[3] On the contrary, allocation of aid to countries which have recently experienced coup attempt will likely be a bad decision, since in these countries the resources may be used for increasing repressive apparatuses or procuring private goods for military leaders.

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[3] I explain why this would be the case in Chapters 5 and 6.

Finally, this research has important implications for policymakers in rentier states themselves. I show that rentier states may be especially vulnerable if they have weak institutions, which in turn create an informational gap between political elites and the ordinary population in remote regions of a country. The policymakers in rentier states should ensure that these situations do not persist if they want to decrease risk of a civil conflict. For instance, rentier states should invest more in education of governmental officials, fight corruption, and ensure provision of public goods in all regions of their country. Having institutions of higher quality and creating a permanent link with the populations of remote regions of their country by ensuring higher provision of public goods may be a more efficient strategy to prevent civil conflicts than only building coercive apparatuses. After all, higher military capacity may help in case there is already a conflict with rebels, but if communication with rebels on a pre-war stage is flawed, it could be difficult to stop rebels from engaging in conflict or deter rebels from starting a conflict.

This thesis is divided into two major parts, each describing a puzzle, theory, and findings regarding to main research questions which I address. The first part of my thesis, namely, Chapters 2 to 4, addresses a puzzle of why some rentier states are more susceptible to civil conflict than others. In Chapter 2, I describe relevant literature for this issue. In Chapter 3, I present my theory regarding the link between risk of a civil conflict in rentier states and welfare spending policies, deriving testable hypotheses in the process. In Chapter 4, I present my research design for testing hypotheses and findings regarding how welfare spending policies in rentier states are linked to a risk of a civil conflict.

The second part of my thesis (Chapters 5-6) concerns the puzzle of why, given all the benefits of extended welfare spending in reducing the risk of a civil conflict in rentier states, there is a large divergence in the provision of public goods in these states. In Chapter 5, I present my review of literature, relevant to this puzzle, and describe my theory regarding factors affecting welfare spending decisions of leaders in rentier states. In Chapter 6, I present my research design and tests of my hypotheses regarding welfare spending in rentier states. Chapter 7 is a concluding chapter for the whole thesis.

Chapter 2 Literature Review: Civil Conflict in Rentier States and Welfare Spending

2.1 Resource Curse and Civil Conflict

According to a classical definition by Mahdavi (1970), rentier states are those which "receive on a regular basis substantial amounts of external rent" (428). Most often, as external rents are considered revenues from natural resources, foreign aid, remittances or loans. Natural resources themselves include such broad categories as petroleum, minerals, and agricultural goods (Ross 2015, 241). Ruling elites or governments of rentier states receive significant amounts of free resources from non-tax revenues. Therefore, their main function becomes to distribute wealth rather than to collect taxes or promote economic growth. In recent years, many studies engaged with the question of whether presence of free resources is good or bad for states.

The literature on resource curse identifies several ways in which free resources harm states. Firstly, empirical evidence indicates that abundance of natural resources impedes democratization of countries largely relying on exports of resources, especially petroleum (Bellin 2004; Egorov, Guriev, and Sonin 2009; Bueno de Mesquita and Smith 2010; Ross 2012; Ross 2001; Smith 2004). Secondly, scholars provide empirical findings that free resources negatively affect economic growth of a country via different mechanisms: "Dutch disease," expanded corruption, inefficiency of state-owned enterprises, and volatility of prices for the main resource (Losman 2010; Mehlum, Moene, and Torvik 2006; Sachs and Warner 1995). The main theoretical argument behind studies on economic resource curse is that presence of free resources generates only short-term economic growth, mostly related to the growth of production

of the main resource. In turn, development of the resource-producing sector may negatively affect other sectors of the economy, especially industry. Thus, in the long run, states with large amounts of natural resources have lower economic growth than those with similar wealth but lacking natural resources, as these states tend to rely mostly on industrial growth. Thirdly, several studies find that free resources negatively affect even seemingly unrelated phenomena like female rights or onset of international conflicts (Hertog 2010; Liou and Musgrave 2016; Ross 2008; Ross and Voeten 2015).

Perhaps one of the most important empirical findings in the literature on resource curse is that an abundance of natural resources increases risk of a civil conflict in rentier states (Collier and Hoeffler 1998, 2004; Fearon and Laitin 2003; Humphreys 2005; Lujala 2010; Nielsen et al. 2011; Reynal-Querol 2002). This finding applies to countries dependent on different types of free resources: oil and minerals (Collier and Hoeffler 2004), alluvial diamonds (Lujala 2010; Ross 2003), as well as drugs and timber (Lujala 2009; Ross 2001b). Even though many scholars agree that free resources are associated with higher risk of civil conflict, there is less understanding of the mechanisms behind this phenomenon.[4]

Most of the proposed explanations for higher risk of civil conflict in rentier states either consider how the presence of free resources could influence rebels' decision to start a conflict or the state's ability to prevent a rebellion. Seminal work by Collier and Hoeffler (1998; 2004) explains the higher risk of a conflict in rentier states from the rebels' point of view. These authors argue that civil conflicts are usually

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[4]In fact, there are also many studies which show that there is either no evidence that presence of free resources increases risk of a civil conflict or that the effect is conditional on other factors. For instance, Elbadwi and Sambanis (2002) find that free resources are not significantly related to civil conflicts. Ross (2004b) analyzes all findings from empirical cross-sectional studies on free resources and civil conflict and concludes that in general oil is positively related to the risk of a civil conflict, whereas other types of resources increase risk of some types of conflicts (for instance, ethnic).

theorized as either grievance-driven (stemming from broad disagreements in a society) or greed-driven (stemming from willingness of rebels to profit from insurgency). However, while many societies have enduring political and social grievances, only those where there exists an enduring opportunity for financing a rebellion are more likely to experience a civil conflict, and the opportunity may be effectively measured as revenues from primary commodity exports of the state. Thus, free resources increase risk of a civil conflict in rentier states because they make rebels greedy and more willing to start a conflict to get hold of revenues from free resources, according to the theoretical argument by Collier and Hoeffler.[5]

Another explanation for the link between civil conflict and resource abundance is proposed by Fearon (2005), who looks at the quality of state institutions in rentier states to explain higher risk of civil conflicts there. He argues that in oil-producing countries, quality of institutions is lower than in non-rentier countries of similar per-capita income, since oil-exporting states do not have to invest in the increasing quality of institutions to collect taxes. Thus, the ability of states to prevent insurgencies deteriorates as well. Considering that the value of maintaining state power in rentier countries is higher than in others, this makes rentier states more prone to civil conflict.

However, if one looks at another bulk of literature on political "resource curse", findings linking civil conflict and rentier states become puzzling. Literature on political

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[5] Collier and Hoeffler present empirical findings that there exists a curvilinear relationship of resource abundance and risk of a civil conflict. At low and high levels of endowment with natural resources, risk of civil conflict for rentier states is low, and at medium level of endowment with natural resources, risk of civil conflict is the highest. According to the authors, this is related to the fact that at low levels of endowment with natural resources, rebels may not be very motivated to start a conflict for a small prize, whereas at high levels of endowment with natural resources, states are less able to prevent a conflict. Similar findings about an inverted U relationship among civil conflict onset and natural resources are reported by several other studies (Basedau and Lay 2009; Bjorvatn and Naghavi 2011; Ross 2012).

resource curses finds that revenues from free resources are associated with an impeded democratization process in rentier states via making regimes in rentier states more stable (Bellin 2004; Egorov, Guriev, and Sonin 2009; Bueno de Mesquita and Smith 2010; Ross 2012; Ross 2001a; Smith 2004). Some studies also find that rentier states have a heightened ability to repress protests and be victorious in a conflict with rebels. So, Girod, Stewart, and Walters (2016) present empirical evidence that regimes in rentier states are more successful at demobilizing and repressing protests than non-rentier regimes. Similarly, Colgan (2014) finds that in rentier states, conflicts do rarely lead to regime transition, i.e. regimes sustain even in the wake of a civil conflict, and conflicts themselves have a negative impact on the democratization process of a rentier state.

Considering the findings from political resource curse literature, several questions emerge. Firstly, if rentier states have all the available resources necessary to win in a conflict with rebels or demobilize a protest, why is there a large variation in occurrence of civil conflict among rentier states? Why, while having resources to win in a conflict, repress protests, and maintain stability of a regime even during a civil conflict, are not all rentier states able to prevent civil conflict from happening in the first place? It seems paradoxical that some rentier states engage in costly conflicts with rebels or protesters rather than trying to appease them before the war starts by, for instance, buying-off the leaders of these groups.

Secondly, if all rentier states have clear military advantages over rebels, and governments of these states also have the advantage of harvesting revenues from natural resources (for instance, a higher capability of raising revenues from oil), why do rebels in some rentier states nevertheless decide to start a conflict while in others they

do not? Since there are many rentier states which experience a number of civil conflicts, it seems that either governments of these states are inefficient in preventing civil conflicts from happening (even though completely efficient at appeasing the conflict) or rebels pursue other goals rather than holding power in the state (since the latter goal is almost unachievable in rentier states). Neither accounts of Collier and Hoeffler (1998, 2004) and Fearon (2005), nor later accounts, explicitly address this puzzle. Thus, to find a solution to the given puzzle, I suggest looking at policies of the governments in rentier states, aimed at preventing civil conflicts, and their potential outcomes.

2.2 Welfare Spending and Civil Conflict in Rentier States

The literature on political resource curse in rentier states shows that rentier states try to avoid conflict by engaging in a combination of repression and population-friendly politics: high investment into security apparatuses increases costs of potential rebellion ("repression effect"), and high investment in welfare policies of a large scale decrease dissatisfaction in government policies (the "rentier effect"), according to Bellin (2004), Morrison (2009), Ross (2001a). It also seems that rentier states engage in both policies ("rentier" and "repressive") to different extents. Some, like Mobutu's Zaire, do not provide even basic goods to their populations, whereas others, like Botswana, invest a lot in welfare policies. These policies could have different outcomes for rentier states, as the emerging literature on links between welfare spending and civil conflict suggests. As empirical findings of Azam and Mesnard (2003), Singh, Bodea, and Higashijima (2014), Taydas and Peksen (2012) show, higher provision of public

goods or higher welfare spending decreases risk of a civil conflict. However, the literature about "resource curse" makes little use of any insights from these studies, and not much has been done to investigate the outcomes of either spending policy approach. Further, I discuss the literature on policies which are used by rentier states for prolonging their own political stability ("rentier" and "repression" policies), findings about how either of these policies may be related to civil conflict in rentier states, and puzzles which remain unsolved by recent literature.

The "rentier effect" explanation for enduring political stability in rentier states argues that states with free resources use available funds to lower taxes and increase welfare spending. Therefore, citizens of states engaging in provision of more public goods have less demands for political accountability, and, as a result, democratization (Ross 2001a, 347). For instance, Morrison (2009) argues that the presence of non-tax revenues increases allocation of welfare spending and facilitates lower taxes in autocracies. Consequently, both democracy and autocracy are more stable in the presence of large non-tax revenues since they get more support from the population. Similarly, Ross (2001) argues that increased oil revenues are associated with lower taxes and higher government spending.

If welfare spending and lower taxes are useful tools for governments to increase political stability and subsequently prevent a civil conflict, then it is not a surprise that so many Middle Eastern autocracies with free resources increasingly engage in higher welfare spending. For instance, many state-owned enterprises in these countries are created with declared aims of economic development and help for the population (Hertog 2010, 263). There is also qualitative evidence of how Saudi Arabia tried to buy-off opposition or responded to public demands by increasing welfare spending

(Chaudhry 1997; Okruhlik 1999). Nevertheless, there is further evidence that oil-exporting states on average spend less for education and health care than oil-free nations of similar economic status; increased welfare spending may also not be associated with improvements of quality of living (Caselli and Michaels 2013; Cockx and Francken 2016; El Anshasy and Katsaiti 2015).

Another mechanism of how rentier states may prolong their own political stability is designated as the "repression effect" (Ross 2001a, 334). This theory suggests that autocratic states with large caches of free resources have an ability to massively invest in military spending and thereby decrease the feasibility of rebellion. Therefore, these autocratic leaders survive longer, as they face a lower threat of deposition by a rebellion. Bellin (2004, 144–45) argues that stability of autocratic regimes in the Middle East is largely due to their ability to create massive "coercive apparatuses" which serve not only the goals of national defense but could also protect the ruling elites from a popular revolt. The usefulness of military forces for the survival of autocratic regimes of rentier states is supported by evidence presented by Girod, Stewart, and Walters (2016). These authors find that autocratic leaders of rentier states are more successful at deterring popular rebels than those without free resources. As they argue this is due to fact that leaders of rentier states often use their resources to invest in military forces rather than anything else and face less international criticism for violence in response to protests.

However, the "repression effect" may be not only about direct investment into the military sphere. Autocratic leaders may also "repress" the political freedoms in a country or stifle the development of an economy to maintain longevity of their own political regimes. Even if almost all autocratic countries engage in this type of

repressive policies, rentier autocracies can engage in theses repressive policies of larger scope without concern about harming their own revenues. For instance, Liou and Musgrave (2016) find that autocratic rentier states engage in policies aimed at limiting women's rights in order to get more support from their winning coalitions. Otherwise, without free resources, these countries would not engage in strict policies in regards to women, since these policies also harm their economy. Similarly, Bueno de Mesquita and Smith (2009); Bueno de Mesquita and Smith (2010) present empirical evidence and theoretical arguments that when faced with a revolutionary threat, autocrats with free resources decide to decrease the provision of "coordination goods" at the expense of their own economies; they choose repressive policies since they are less interested in development of tax revenues than other countries without free resources. Egorov, Guriev, and Sonin (2009) investigate a similar paradox: increasing media freedom may result in a larger revolutionary threat for an incumbent leader in an authoritarian state, but also contributes to economic development. Their empirical evidence suggests that autocratic leaders with free resources choose to discriminate against media freedoms as a means of maintaining their own stability.

According to the literature, autocratic rentier states may engage in either a "rentier" policy (providing more welfare spending to population in exchange for absence of revolt) or a "repressive" policy (investing into military apparatuses or limiting important freedoms, rights, and their own economic development). It seems, however, that these policies have different outcomes. For instance, larger engagement in higher welfare spending contributes to modernization and economic growth of a country, whereas repressive policies bring only fear and destruction.

Similarly, literature linking welfare spending and civil conflict presents empirical evidence that prioritization of welfare spending has a mitigating effect for states susceptible to risk of a civil conflict. Taydas and Peksen (2012) argue that governmental welfare spending (especially on education and health care) may influence both greed and opportunity for rebellion by decreasing the level of social discontent and fostering economic development of a country. They find that welfare spending is negatively associated with risk of a civil conflict, taking other covariates into account. Similarly, Azam (2001) and Azam and Mesnard (2003) find that the inability of states to provide basic public goods to their population heightens social discontent in these societies and increases risk of a civil conflict. This evidence for link between government's welfare spending and civil conflict was also found for oil-exporting states. Singh, Bodea, and Higashijima (2014) find that welfare spending in oil-exporting states is negatively associated with civil conflict risk.

The literature linking civil conflict and welfare spending gives some hint about what the outcomes of engagement in higher provision of public goods may be for rentier states. However, this literature does not address the puzzle I presented in the Chapter 2.1: why, given all military advantage the rentier states have over rebels, some of the rentier states are completely ineffective at preventing civil conflicts? In the next Chapter, I will try to add to this literature by building a theory of how governmental welfare spending in rentier states is related to risk of a civil conflict.

2.3 Summary

In this Chapter, I discuss literature on civil conflict in rentier states, as well as puzzles which remain unsolved by the resource curse literature. In the first part of this chapter, I considered literature on civil conflict in rentier states in the context of broader literature about resource curses. Here, I presented an important puzzle of this literature: on the one hand, empirical findings show that rentier states have a higher risk of a civil conflict than non-rentier states (Collier and Hoeffler 1998, 2004; Fearon and Laitin 2003; Humphreys 2005; Lujala 2010; Nielsen et al. 2011; Reynal-Querol 2002). On the other hand, another bulk of empirical studies show that the presence of free resources helps autocratic leaders to maintain stability of their regimes (Bellin 2004; Egorov, Guriev, and Sonin 2009; Bueno de Mesquita and Smith 2010; Ross 2012; Ross 2001; Smith 2004).[6] Furthermore, once a conflict starts, rentier leaders are more efficient at winning in a conflict and repressing uprisings than autocratic leaders of non-rentier states (Colgan 2014; Girod, Stewart, and Walters 2016). Considering that most rentier states have necessary capabilities to maintain the stability of their regimes and be efficient at winning in civil conflicts, why is there a large variation in civil conflict occurrence among rentier states?

In the second part of this chapter I look at the literature which describes policies used by rentier states to prevent a civil conflict and maintain stability of regimes. I show that in the literature there is a general consensus that rentier states use resources available to them in different ways, either engaging in more population-friendly policies ("rentier") or repressive policies. However, the literature does not explain what the outcomes of either of policies are, whereas literature on the welfare spending and

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[6] This puzzle is formulated in a similar way by Colgan (2014). However, his research question is "why do rentier states not democratize in the wake of civil conflict?", whereas I study why some rentier states fail to prevent civil conflicts from happening.

civil conflict link does very little to explain the exact causal mechanism behind how welfare spending affects civil conflict in rentier states, and therefore hardly helps to resolve the puzzle I stated in the Chapter 2.1. My current research aims to solve this problem by theorizing civil conflicts in rentier states as a problem of failed bargaining between states and rebels, as well as by explaining how different levels of welfare spending in rentier states may be associated with a higher chance of failed bargaining in rentier states.

Chapter 3 Theory: Civil Conflict and Welfare Spending in Rentier States

In the following chapter, I present my theoretical argument to answer the question of why some rentier states are more efficient at preventing civil conflicts than others. I build a theory deriving from the bargaining account of civil conflicts as proposed by Fearon (1995). I argue that pre-war negotiations between potential rebels and government entities could not reach a deal because of heightened private information problem in rentier states. Then, I describe how state institutions of better quality contribute solutions to this private information problem. Further, I argue that in rentier states with higher welfare spending, governments are more likely to get credible information on rebels, which in turn lowers the risk of a civil conflict. Then, I derive hypotheses which differentiate other explanations for the link between civil conflict in rentier states and welfare spending, namely, a governmental necessity to signal to their population that they are cared for.

A theory known as the bargaining account of conflicts was initially developed by a breakthrough article of Fearon (1995). Fearon considers the phenomenon of war as somewhat puzzling, because in most cases opposing sides could have reached a pre-war settlement without having to incur large costs of a war on themselves.[7] In other words, either side of a conflict has an incentive to reach some pre-war negotiated settlement without having to engage in the costly lottery of war, but often both parties still fail to reach a deal. Thus, as Fearon argues, pre-war negotiations may fail because of two main mechanisms: (1) a private information problem and (2) a commitment problem.[8]

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[7] Fearon notes that in cases of an "indivisible issue," bargaining may be destined to fail, and his theory does not apply to these issues. For instance, if there is an international dispute about the succession of throne in another country, this theory would not apply.

[8] In a commitment problem scenario, sides are perfectly informed of one another's military capabilities and willingness to fight. However, one of the sides of a conflict cannot make a credible promise about its

In the case of a private information problem, during the bargaining process, one or both sides are uninformed (or wrongly informed) about the military capabilities available to their opponents or about the bargaining range of their opponents. Thus, sides may overestimate or underestimate their chance of winning in a conflict or the willingness to fight of the other side and, thus, may fail to bargain a deal which is preferable to the war option. In the following chapter, I present a theory which describes a conflict in rentier states as a result of the private information problem.

3.1 Civil Conflict and Welfare Spending

Consider the following puzzle, presented by the literature on resource curse and civil conflict. In rentier states, rebels have a very small chance of winning a conflict and subsequently seizing control of the state. Furthermore, in the wake of conflict, rebels cannot extract large revenues from "free resources" available to the state, since extraction of resources often requires state-like capabilities. As argued by Ross (2004), rebels may engage in selling future rights on extraction of resources available to the state, i.e. "booty futures"; however, even this opportunity hardly provides the rebels as much revenue as it would the state. Thus, even if rebels control large territories of the state, they could not gain more resources than the state and win in a conflict. On the other hand, rentier states have abundant resources stemming from natural resources or foreign aid. These resources potentially could be used by these states to appease would-be rebels by, for instance, allocating governmental grants for construction to potential rebels. Nevertheless, evidence suggests that some rentier states have significantly more

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future actions since it has an incentive to renegotiate a deal in the future. This could happen if one of the sides of conflict is a growing power or has a first-strike advantage over another.

civil conflicts than others, which means that only some rentier states are efficient at reaching a pre-war bargain with rebels. Why would this be a case?

In my model of bargaining preceding civil conflict, there are two main actors: the leader of a rentier state (or the government) and the rebel. They are in negotiations over division of a certain prize – governmental revenues from free resources. The rebel is located in one of the regions of a rentier state, i.e. not in the capital city of the state.[9] The government could use buy-off strategies to prevent the rebel from starting a civil conflict. For instance, the government could offer the rebels some kind of political autonomy, direct or indirect cash transfers (e.g. via construction grants), an offer to divide available free resources in future in a certain way, and some symbolic actions like official acknowledgement of a local language spoken in the region of the rebel. Furthermore, governments may use available funds to increase their own military capabilities and deter the rebels from starting military actions. However, the government of a rentier state has a strong incentive to offer the rebel as small an offer as possible to prevent strengthening of rebels and possible increase of the threat of civil conflict in the future, when governmental revenues from free resources may suddenly decrease.[10]

Despite the fact that the government engages in pre-war negotiations with rebels and takes other actions for preventing outbreak of a civil conflict, the rebels may still be willing to start a conflict with the government if the pre-war offers of the government are insufficient and there is a chance to get a better deal after the conflict

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[9] This is a fairly plausible scenario for most of the conflicts in rentier states, which usually happen with participation of rebels from remote regions of the state rather than those in big cities.

[10] In other words, the rentier state leaders have in mind the volatility of free resources. Since free resources are usually more volatile than tax revenues, the governments relying on free resources are more aware of possible "bad" times for selling their main resource.

starts. If the government does not possess credible information about military capabilities available to the rebel (for instance, popular support in his home region, number of potential insurgents, or weapons available) or willingness of rebels to fight for the prize, it may not make a sufficient offer to the rebel. For instance, direct cash transfers of very small size in comparison with what the rebel could gain if he controls the region may result in a failed negotiation. The rebel may also start a conflict to demonstrate military capabilities available to him and his willingness to fight, thus reaching a more appropriate deal regarding division of the prize.

What could be a cause of recurring private information problems in negotiations of rebels and governments in rentier states? Both the rebels and government have an incentive to misrepresent in the bargaining process, so neither the government nor the rebel have a lot of trust in information provided by the opposition. However, this phenomenon is not new to any pre-war negotiations (Fearon 1995). What may make information asymmetry problems in negotiations in a rentier state even more troubling is the low quality of institutions in most rentier states. Literature on resource curse argues that governmental institutions in rentier states are weak because the latter states do not have to collect taxes to survive (Chaudhry 1997; Fearon 2005; Mahdavy 1970; Ross 2012). With weak state institutions, the government of a rentier state may fail to collect crucial information on the military capabilities of rebels, the level of discontent in their province, military tactics available to the rebels, and other issues. Furthermore, a state with institutions of a poor quality may also fail to credibly deter the rebel from starting a conflict by increasing its own military capabilities. With weak state institutions, communication with the rebel side may be troubled, and the state may also

fail to demonstrate available military capabilities prior to the actual outbreak of a conflict.

My proposed mechanism of conflict outbreak in rentier states at least to some degree resolves the puzzle which I presented in the beginning of Chapter 3. If private information problems take place in pre-war negotiations between the rebels and the government, it should be no surprise when the government fails to reach a pre-war deal by negating the buying-off loyalty of potential rebels. The government simply does not make sufficient offers to the rebel side because the government may underestimate military capabilities available to the rebels and be unwilling to make too big an offer. This is because, in this case, the rebels may present a larger threat in the future as the government may experience a sudden decrease in revenues from free resources. At the same time, rebels may be willing to start a conflict with the government, even if they have a very low (and almost nonexistent) chance of winning, to demonstrate their own military capabilities and motivation to fight. Since in pre-war negotiations information coming from the rebel side may seem non-credible to the government, some rebels may start a conflict with an aim to demonstrate that they are underestimated and get a better deal as a result. It is also important to mention that this mechanism of conflict occurrence is mainly related to civil conflicts of low intensity, since usually rentier states possess all necessary capabilities to prevent intensification of a civil conflict.

Another question, however, is which factors determine the quality of institutions in rentier states. It could hardly be the case that all rentier states possess equally weak state institutions, though all of them rely on revenues from free resources and not tax income. Furthermore, collecting taxes is not the only function of a state: another, equally important, is the allocation of resources, and the latter is fulfilled to different

degrees by all rentier states. If it is frequently argued that low levels of tax extraction by rentier states decrease quality of their institutions (Chaudhry 1997; Fearon 2005; Mahdavy 1970; Ross 2012), one could similarly argue that higher allocation of public goods by rentier states increases quality of their institutions, and as a result, ability to make proper deals in bargaining with the rebels.

States providing significant public goods to their populations are also interested in efficiency of their distributive policies, and because of that they also have to hire better-educated officials, design administrative institutions in remote regions in the most efficient way, and collect information on their populations. For instance, governments providing some of their citizens large disability pensions will be also interested in finding out what an appropriate amount for this pension should be, which conditions should be a pre-requisite for receiving these pensions, and how to distinguish citizens who need to get this pension. Large investment in education requires the state to do research on what subjects should be taught at schools, what assessment criteria for pupils should be, how many schools to build in which regions, and similar issues. In sum, governments, choosing to invest larger resources in welfare spending, would also be interested in spending these resources as efficiently as possible, which in turn has a positive impact on the quality of governance.

In turn, institutions of higher quality in rentier states allow the governments to get to know the military capabilities of rebels, sentiments in the local community, the willingness of local inhabitants to join an insurgency, potential ways of dealing with insurgents, and related concerns. Well-established governance institutions in regions will also help the government to communicate their policies and current financial

conditions of the state to local communities in a more understandable way by that also decreasing information asymmetry from the rebel side of a conflict.

Taking these considerations into account, I generate the following hypothesis regarding welfare spending and risk of civil conflict in rentier states.

Hypothesis (1): Higher welfare spending in rentier states is associated with lower likelihood of a civil conflict.

3.2 Civil Conflict and Welfare Spending: Temporal Domain

It is important to note that levels of welfare spending in rentier states, according to my theory, should have a gradual effect on the quality of institutions and thereby also on civil conflict. In other words, higher welfare spending contributes to better knowledge of a local population only over a course of years, rather than suddenly, since institutions usually take a long time to improve. For instance, if the government decides to increase spending for education in a given year, this measure would hardly help the state to simultaneously increase its knowledge of local context in regions, collect necessary data on population and local grievances, as well as crucial information on the military capabilities of potential rebels. Therefore, if the quality of state institution mechanism is at play, long-term and continuous provision of a large amount of welfare spending should be associated with a lower risk of civil conflict in rentier states.

Hypothesis (2). In rentier states, continuous and high welfare spending over a long period is associated with lower risk of civil conflicts.

However, previous literature (also studying occurrence of conflicts in rentier states and public goods) takes a different approach to explaining the link between free resources and conflict in rentier states. Singh, Bodea, and Higashijima (2014) offer the only article which looks specifically at how higher welfare spending is linked to a lower incidence of civil conflicts in rentier states. As they argue, higher welfare spending in rentier states may encourage support from opposition groups and elite members via allocation of state wealth (e.g. construction grants), or signal to the population that the state "cares" about them. Furthermore, since in many rentier states, potential rebels do not know exactly how large the governmental revenues from oil are, higher welfare spending in rentier states may signal to them that there is not so much revenue remaining to be seized if they win a conflict. Let us look closer at how their argument may be differentiated from weak state institution mechanisms.

If signaling governmental revenues and the intentions of the state is the main mechanism of how rentier states prevent civil conflicts via increased welfare spending, then there should be a short-term negative effect of increase in welfare spending on civil conflict occurrences in rentier states. In other words, if the signaling hypothesis as argued by Singh, Bodea, and Higashijima (2014) is correct, rentier states may prevent a civil conflict by significantly increasing welfare spending in a given year. If the state significantly increases provision of public goods, this could be seen by its population as a sign of good intentions of the state, as well as signaling to the rebels that the value of holding the state is not so high. Furthermore, consistent increases in governmental provisions of welfare spending (in other words, a gradual increase from year to year) may not be an efficient signal, since rebel populations may not notice this increase.

Hypothesis (3) – Alternative hypothesis: Large increases in governmental welfare spending in comparison with the previous year are associated with lower risks of a civil conflict.

If my second hypothesis finds more support in following statistical tests than the third hypothesis, then I argue that the presence of weak state institutions is a more likely explanation for the link between welfare spending and conflict in rentier states.

Chapter 4 Research Design and Findings: Civil Conflict and Welfare Spending in Rentier States

This chapter proceeds in three parts. In the first part, I discuss operationalization of rentier states, which constitute my main sample. Then, I describe how I test my hypotheses about outbreaks of civil conflict in rentier states and their relationship with welfare spending. In the third part of this chapter, I present findings from a statistical analysis conducted to test the proposed hypotheses.

4.1 Defining Rentier States

The following analysis focuses specifically on rentier states, or states which derive large revenues from "free resources," e.g. oil revenues or foreign aid. In the next section, I explain how I construct the sample of states with free resources.

In the literature, many ways to measure free resources were used. For instance, oil exports per capita.[11] There were also a lot of efforts made to differentiate which type of resources should be included in consideration of "free resources". For the following research, I conceptualize free resources as state revenues which could be generated without significant governmental efforts to develop them, and envision that they do not stem directly from taxes. In general, this definition highlights two important features of "free resources" which were also used in my previous theorizing. Firstly, revenues from free resources could be generated without significant investment of the government in tax-extracting mechanisms and increasing the quality of its own institutions. Secondly, these free resources are available to state entities rather than private entities within the state or for its citizens. This is also an important distinction,

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[11] Ross (2015) reports about the frequently used measures of resource dependence and resource abundance in the literature on "resource curse".

because some resources which are often hypothesized as "free" in previous articles (e.g. revenues from natural crops or foreign remittances) are rarely directly available to the state, but rather are generated and gathered by private entities within the state.[12] Therefore, these types of free resources do not fit into my theorizing, since I have argued that governments of states with "free resources" have large abundant revenues. Furthermore, revenues from natural crops could hardly be defined as "free," since one must invest a large effort and a great deal of time to generate revenues from agriculture.

Considering this, I operationalize free resources as revenues from fuels, ores, and metals, as well as foreign aid. I do not include timber, drugs, and natural crops. Data for timber is scarce, and in most countries revenues from timber are generated by private entities. Revenues from drugs are illicit and rarely acquired by the state. On the other hand, revenues from fuels, ores, and metals could be extracted mostly if one has state-like capabilities, which explains the fact that in many countries these revenues are acquired directly by the state or by large foreign companies which are taxed by the state. Foreign aid, in this case, is rather an overlooked type of "free resource," which has not been studied a lot in literature on resource curse. However, foreign aid fits in my definition of free resources: it is available directly to the state, and is in most cases generated without significant efforts by the state (for instance, requiring only votes in the United Nations Council).

I operationalize my variable on free resources *(Free Resources)* as dependence on revenues from free resources. This is a dummy variable, coded as 1 for countries, relying on either foreign aid or exports of natural resources. I define the threshold for relying on free resource arbitrarily as at least 10% of GDP, similar to research from

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[12] For instance, Collier and Hoeffler (1998) use natural crops to define free resources.

Hendrix (2015). To construct this variable, I use data on foreign aid from the updated version of the AidData dataset, which is one of the most comprehensive datasets on foreign aid provision and compiles data from different sources and agencies (Tierney et al., 2011). For exports of natural resources, I compile the data from Ross (2013) for exports of oil and gas. The data by Ross is compiled using World Bank's "Wealth of Nations" database, US Energy Information Administration website for international energy statistics, and the International Energy Agency's Natural Gas Information 2015 database, and is the most up to date and comprehensive dataset on oil and gas exports which I could find. I use the World Bank data on exports of precious elements and other metals to get information for ores and metals exports (World Bank 2017a).

Looking at Table 1, one could compare full and reduced samples (only rentier states, according to my definition) using different variables. The full and reduced samples are constructed according to the availability of the main independent variable – welfare spending per GDP, which is available from 1980 to 2015. There are up to 30 rentier states in each year in the sample.

In the robustness check, I test my hypotheses by using a variable recording free resources per capita, and a variable recording revenues from fuels per capita to differentiate oil-exporting states specifically.

Table 1 Comparison of Samples of All States and Rentier States Only, 1980-2015

Variable	Full sample		Sample of rentier states only	
	Mean	Std. Dev.	Mean	Std. Dev.
GDP per capita	10741.65	15750.48	5908.74	13450.05
Polity 2 score	3.96	6.78	-0.20	6.73
Total population, million people	51.1	164	15.5	26.0

Welfare spending, % of GDP	13.88	10.95	9.28	6.99
Free resources, % of GDP	0.08	0.12	0.23	0.16
Number of observations		3,200		846

Note: Rentier states are defined as those states which derive at least 10% of their GDP from free resources.

Sources: World Bank (2017a), International Monetary Fund (2017), IFPRI (2015), Ross (2013), AidData (Tierney et al., 2011), Polity IV (Marshall, Jaggers and Gurr 2016; Center for Systemic Peace 2017).

4.2 Research Design: Welfare Spending and Conflict Occurrence in Rentier States

In order to test my first three hypotheses, I conduct statistical tests using logit regression method and a panel dataset. I use country-year as the main unit of analysis. My sample includes only rentier states, defined as those states which derive at least 10% of their GDP from free resources. The period covered by my analysis is from 1980 to 2015, defined by the availability of my main independent variable – Welfare Spending. The section below reports my operationalization and choice of sources for dependent, independent, and control variables.

Dependent variables

My first three hypotheses focus on the link between welfare spending and conflict occurrence in rentier states either via signaling mechanisms or weak state institutions. To test these hypotheses, I construct a *Civil Conflict* variable to measure civil conflict occurrence in rentier states using the Armed Conflict Dataset from Uppsala Conflict Data Program, Version 4 (Gleditsch, Wallensteen, Eriksson, Sollenberg, and Strand 2002; Melander, Pettersson, and Themnér 2016). In Uppsala Conflict Dataset (UCDP/PRIO), the conflict is reported if there are at least 25 battle-related deaths in a year of conflict.

Another dataset which is often used to measure occurrence of civil wars is the Correlates of War dataset (Sarkees and Wayman 2010), where civil war is defined as a conflict with active participation of national governments and some internal force where there are at least 1000 battle-related deaths each year of the conflict. For my current research, I prefer to use UCDP/PRIO datasets, similar to previous authors who studied a puzzle similar to mine (Basedau and Lay 2009; Fjelde 2009; Nielsen et al. 2011; Singh, Bodea, and Higashijima 2014). Using the UCDP/PRIO dataset, which records low-intensive civil conflicts, is also in accordance with my theory. Because in rentier states the leaders usually have all military capabilities to win in a conflict with rebels and prevent the conflict from expanding to bigger territories, it is likely that most conflicts in rentier states will be of lower intensity. In a robustness check, I also use a measure of civil wars stemming from the UCDP/PRIO dataset – civil conflicts, which reached at least 1000 battle-related deaths in a given year.

As a dependent variable in the first part of the statistical analysis, I use a dummy, coded as 1 if there is a conflict in a given year according to UCDP/PRIO dataset and 0 otherwise. I code as 1 only internal conflicts according to this dataset, or conflicts, which "occur between the government of a state and one or more internal opposition group(s) without intervention from other states" (Themnér 2014, 9). I record only internal conflicts rather than internalized internal conflicts (those where the foreign actor gets involved in an internal conflict) because my theory does not make any predictions about potential participation of external actors in a conflict. However, in the robustness check section of my analysis, I also test the same model using a variable which also records internalized conflicts.

Independent variables

My first hypothesis uses welfare spending of the state as the main independent variable, whereas my second hypothesis looks at provision of welfare spending over comparatively long period, and the third at changes in welfare spending. For my further analysis, I define welfare spending as governmental expenditure for healthcare, education, and social protection. I use these types of governmental expenditure, similar to previous authors, studying a similar puzzle.[13] Furthermore, these types of expenditure are the ones, addressing needs of broad layers of state's population, in comparison with other types of governmental policies, for instance, agriculture spending, which is mostly aimed at agriculture-driven regions. Thus, states engaging in higher education, health, and social protection expenditure, will also be more likely to invest resources in remote regions and address broader population, by that increasing quality of local governing and data collection, as argued in my theory. Finally, data on these types of expenditure is available to a larger extent than other types of expenditure data, for instance, construction of roads expenditure.[14]

This independent variable (*Welfare Spending*) is operationalized as total spending of general government on healthcare, education, and social protection in ratio to GDP of the country. The variable is gathered from several sources. The main source of data on welfare spending of states is "Government Finance Statistics, Expenditure by Function of the Government (COFOG)" provided by International Monetary Fund (2017). The latter dataset includes information on how much do the general governments (that is, central government, local government, and associated with

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[13] For example, Singh, Bodea, and Higashijima (2014) and Taydas and Peksen (2012) use a similar variable (governmental expenditures for health, education, and social protection, % of GDP).

[14] Note that I do not use state's military expenditure to conceptualize for welfare spending. Even though military expenditure is aimed to bring more protection to citizens, in cases of very autocratic states, military spending also contributes to oppressing the population via violent means.

government funds) spend for goods and provision of services in the framework of function listed by COFOG, as defined by the United Nations. The data is available for about 100 states from 1990 to 2015, from which up to 21 are defined as rentier, according to my criteria (discussed above). I complement some of the missing points in this data by adding information on welfare spending from the World Bank's World Development Indicators (2017a). There, I gather information on public health expenditure to GDP (derived by the World Bank from World Health Organization Global Health Expenditure database); government expenditure on education, % of GDP (derived by the World Bank from United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics); and social protection data from the Atlas of Social Protection Indicators of Resilience and Equity (World Bank 2017b).

Since the dataset still had many missing points, I complemented data using the 2015 Statistics on Public Expenditures for Economic Development (SPEED) dataset, gathered with the assistance of International Food Policy Research Institute (Bingxin, Magalhaes, and Benin 2015; International Food Policy Research Institute (IFPRI) 2015) Authors of this dataset compiled the data from International Monetary Fund, World Bank Development Indicators, Eurostat, as well as official web-sites of national statistical agencies of countries which are not present in the previous indicators. The version used by me is the third update of the dataset published in 2015.[15] Finally, I also use the replication dataset for Burgoon (2006) to compensate for some other missing points. Burgoon (2006) gathered his data from the Politics of Fertility and Economic Development dataset (Feng, Kugler, and Zak 2000), as well as the Annual Statistical

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[15] While merging data from this dataset, I drop observations for Zimbabwe welfare spending since information on Zimbabwe is unrealistic (welfare spending above 100% of GDP). In the codebook, authors attribute this problem to hyperinflation in Zimbabwe in the late 1990s (Bingxin, Magalhaes, and Benin 2015, 34). There are no other similar flaws in the dataset that are known to me.

Yearbooks created by World Bank. Table 2 provides descriptive statistics for the independent variable in whole and reduced samples.

Table 2 Descriptive Statistics: Welfare Spending as % of GDP for Rentier States and All States, 1980-2015

Variable: Welfare spending, % of GDP	Obs	Mean	Std. Dev.	Min	Max
Rentier States	961	9.74	7.28	0	50.25
All States	3,735	13.65	10.60	0	76.58

Note: Rentier states are defined as those states which derive at least 10% of their GDP from free resources.

Sources: World Bank (2017a), International Monetary Fund (2017), IFPRI (2015), Burgoon (2006).

To test my first hypothesis, namely that higher welfare spending of a rentier states leads to lower risk of civil conflict, I use an independent variable *Welfare Spending in 2 Years*, which is measured as average previous welfare spending in last two years in ratio to GDP.

As for the second hypothesis, namely, that continuous and large provision of welfare spending by rentier states in recent years lowers risk of a civil conflict, I use a variable called *Continuous Spending*, which records mean welfare spending in the period from seven years before the current year to two years before the current year.[16] I exclude the current year and the year before it to differentiate high welfare spending over the course of years to signaling. So, if signaling takes place, spiking welfare spending in most recent years will be associated with lower risk of a civil conflict and at the same time will increase means of welfare spending over a longer period. I also do not use any longer time interval for this variable; for instance, welfare spending 10

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[16] In other words, this variable records the mean welfare spending for the period from time t-2 to t-7 or excluding t and t-1 from consideration

years prior to the given years, because in this case my sample dramatically decreases. In the Appendix, I also present several robustness checks for this variable.

As for the third hypothesis, namely that sudden increases in welfare spending provision are associated with low likelihoods of a civil conflict, I construct a dummy variable *Change in Spending*, which is coded as 1 if there is a large increase in welfare spending provision in the previous year compared to the year before.[17] I define the large increase in spending as an increase in provision of welfare spending above the 75th percentile for changes in rentier states, which is a change in welfare spending provisions of above 0.76% of GDP in comparison with the previous year.

Control variables

I include control variables which could be potential predictors of a civil conflict. Firstly, I introduce *Ethnic Fractionalization*, which could be a proxy for grievances in the society. Ethnic fractionalization was found to be a predictor of a civil conflict in previous research (Garcia-Montalvo and Reynal-Querol 2004). I use Alesina, Devleeschauwer, Easterly, Kurlat, and Wacziarg (2003) dataset to construct the variable of fractionalization. In the dataset by Alesina et al. (2003), fractionalization is defined as the probability that two randomly selected individuals from a population belong to different ethnic groups and spans from 0 (the least ethnically heterogeneous society) to 1 (the most ethnically heterogeneous society). I use this measure rather than another frequently used, by Fearon (2003), because there are less missing points.[18]

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[17] In other words, I measure a change in the year preceding the year of analysis (t-1) in comparison with the year before (t-2). I do that because I think that any signaling by larger provision of welfare spending could affect in the next year rather than in the current, because larger welfare spending in the current year may not be fully observed by the potential rebels.

[18] One of the reviewers expressed a concern regarding this variable, as it seems to not capture politically relevant heterogeneity in rentier societies. The dataset which I use addresses some of his concerns. For

As the next control variable, I use a variable *Previous Conflicts*, coding a number of previous conflict-years experienced in the past by a country, according to UCDP/PRIO dataset. I also add several variables, *logged GDP* and *logged Population*, reflecting the economic strength of the country: logged GDP size according to the World Bank (2017a), logged population size according to the World Bank (2017a). [19] Number of previous conflicts, GDP size and population size are often used as control variables in the literature studying civil conflict, for instance, by Fearon and Laitin (2003). Further, I add a mountainous terrain variable *Mountainous terrain*, compiled from Shaver, Carter, and Shawa (2016). Mountainous terrain was argued to be a powerful predictor of civil conflict (Fearon and Laitin 2003). I use the dataset provided by Shaver, Carter, and Shawa (2016), since this is the most modern dataset on mountainous terrain, which also has almost no missing points. Then, I add a variable, *Free Resources*, measuring free resources in proportion to GDP, to control for dependence of a rentier state on free resources. Finally, I add regime type variable *Regime Type*, which is a standardized Polity IV index (Marshall, Jaggers and Gurr 2016; Center for Systemic Peace 2017). This variable spins from 0 (the full autocracy) to 10 (the full democracy), and each increase in this variable is associated with a 2-point increase in the Polity IV index.

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instance, Bahrain with its Sunni and Shia minorities is treated as not fully Muslim and homogeneous but as rather divided country with score of fractionalization of 0,5. Nevertheless, I understand that the dataset used to compile Ethnic Fractionalization may be not the most perfect one, as politically salient and not very salient ethnic divisions are treated equally there. I do not use the dataset presented by Selway (2011) which includes political salience of divide in consideration, as the latter dataset is available for much smaller number of countries. Considering that I already have a very small sample, I could not reduce it further.

[19] GDP is measured in constant 2010 US dollars.

4.3 Findings: Civil Conflict and Welfare Spending in Rentier States

In the following section, I discuss the results of my statistical analysis for the first, the second, and the third hypotheses. I use logit regressions to derive the results. The Table 3 below demonstrates the statistical findings in regards with these hypotheses.

Table 3 Results of Logit Regressions for Models, Measuring Risk of Civil Conflict in Rentier States

Dependent Variable: Civil Conflict	Model (1)	Model (2)	Model (3)
Welfare Spending in 2 Years	-0.09** (0.03)		
Continuous Spending		-0.10* (0.06)	
Change in Spending			0.11 (0.34)
Ethnic Fractionalization	-1.54** (0.63)	-3.33*** (0.87)	-1.16* (0.63)
Previous Conflicts	0.24*** (0.03)	0.27*** (0.03)	0.23*** (0.03)
Logged GDP	-0.17 (0.13)	-0.30 (0.20)	-0.32** (0.14)
Logged Population	0.56** (0.20)	0.64* (0.34)	0.75*** (0.22)
Free Resources	-2.01* (1.15)	0.36 (1.10)	-1.61 (1.13)
Mountainous Terrain	-0.00** (0.00)	-0.00 (0.00)	-0.00* (0.00)
Regime Type	-0.12** (0.05)	-0.08 (0.07)	-0.10** (0.05)
Constant	-5.44** (2.68)	-3.77 (3.78)	-5.92** (2.79)
Pseudo R-squared	0.47	0.41	0.48
N	797	566	774

* p<0.1; ** p<0.05; *** p<0.01

Note: Rentier states are defined as those states which derive at least 10% of their GDP from free resources. Standard errors are given in parentheses. Model (1) tests Hypothesis 1; Model (2) – Hypothesis 2; Model (3) – Hypothesis 3.

The first hypothesis states that in rentier states with higher welfare spending, there is a lower risk of a civil conflict. The Model (1) in the table above demonstrates the results of a statistical analysis designed to test hypothesis 1, using the Welfare Spending in 2 Years as the main independent variable. As the table shows, Welfare Spending in 2 Years in rentier states is negatively and significantly linked to risk of civil conflict ($p<0.05$). The Figure 1 below demonstrates the relationship more clearly. Risk of a civil conflict is the biggest at low levels of rentier state's welfare spending, and the lowest at higher levels of welfare spending, controlling for all other covariates. For instance, mean

Figure 1 Predicted Risk of a Civil Conflict in Rentier States in Comparison with the Level of Government's Welfare Spending in Previous 2 Years
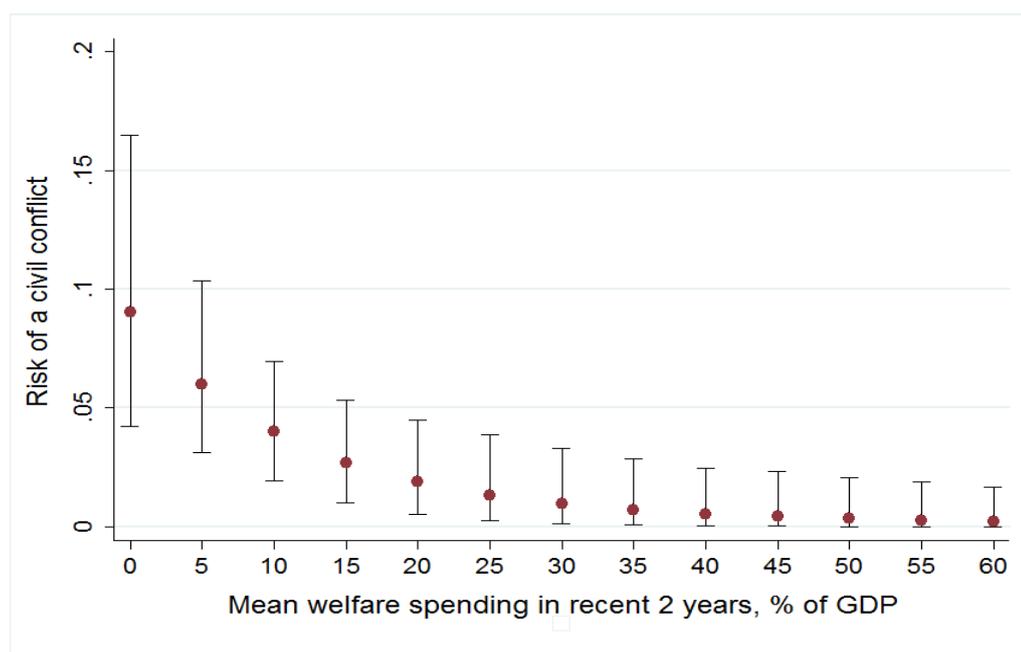
Note: Black lines represent the 95% confidence interval of predicted mean values of risk of a civil conflict. Red dots indicate the mean predicted risk of a civil conflict in a given year. As a "typical" case is used a non-democratic country (standardized Polity IV score of 0) with dependence on free resources of 0.2% of GDP which did not previously experience civil conflicts. Other variables are at means for the available sample of rentier states.

predicted risk of experiencing a civil conflict in a given year in a non-democratic rentier state which invests only 5% of its GDP in welfare policy is equal to 6%, whereas it significantly diminishes at 20% welfare spending to GDP and is equal to 1,3%. This finding supports my hypothesis 1 and the findings, reported by Singh, Bodea, and Higashijima (2014) and Taydas and Peksen (2012).

My second hypothesis derived from the weak institutions theory states that in rentier states with continuous and large welfare spending, there is a lower risk of a civil conflict. I find some evidence in support of my hypothesis since my coefficient for Continuous Spending is of border statistical significance ($p<0.1$) and negative, as hypothesized. Here, one should note that I could have got bigger standard errors because sample size for this particular statistical test decreases, since I drop years, for which mean welfare spending for previous period could not be calculated.

However, I did not find any statistically significant results while testing my hypothesis 3. My third hypothesis derives from signaling theorizing, similar to Singh, Bodea, and Higashijima (2014), and states that sudden and significant increases in state's welfare spending are negatively related to the risk of a civil conflict. In fact, my coefficient for the *Change in Spending* variable is insignificant and positive, as opposite to hypothesized. Other operationalization of the independent variable (change in comparison with recent 2 years, change in the current year, and adding regions as additional independent variables) also did not provide me any other significant results, as shown in the Appendix.

The Table 4 below presents results of the robustness tests with different samples of rentier states. To compile a different sample, I use another operationalization of

dependence on free resources: the ratio of free resources to population, which exceeds

100$ per person. I use this measure to build a sample of oil-exporting rentier states

only:

Table 4 Robustness Check (Using Free Resources to Population Rate Over US 100$ for Defining Rentier States)

	Model (1)		Model (2)		Model (3)	
Dependent Variable: Civil Conflict	**Sample of States with Fuels Only**	**Sample of States with Free Resources (All Types)**	**Sample of States with Fuels Only**	**Sample of States with Free Resources (All Types)**	**Sample of States with Fuels Only**	**Sample of States with Free Resources (All Types)**
Welfare Spending in 2 Years	-0.03 (0.06)	-0.05** (0.02)				
Continuous Spending			-0.56 (0.64)	-0.59* (0.31)		
Change in Spending					0.70 (0.45)	0.71** (0.25)
Ethnic Fractionalization	-1.24 (0.83)	-2.36*** (0.51)	-1.40 (0.86)	-1.99*** (0.57)	-0.93 (0.79)	-1.88** (0.58)
Previous Conflicts	0.29*** (0.05)	0.16*** (0.01)	0.29*** (0.05)	0.16*** (0.01)	0.29*** (0.05)	0.16*** (0.01)
Logged GDP	-1.20*** (0.34)	-0.33** (0.13)	-1.45*** (0.32)	-0.39** (0.13)	-1.71*** (0.39)	-0.47*** (0.13)
Logged Population	1.25** (0.41)	0.87*** (0.16)	1.43*** (0.35)	0.96*** (0.17)	1.74*** (0.42)	1.11*** (0.19)
Free Resources	-2.09 (1.35)	1.32* (0.76)	-2.48* (1.38)	1.63** (0.76)	-2.42* (1.44)	2.08** (0.81)
Mountainous Terrain	-0.01* (0.00)	-0.00 (0.00)	-0.01** (0.01)	-0.00 (0.00)	-0.01** (0.00)	-0.00 (0.00)
Regime Type	-0.06 (0.08)	-0.15*** (0.04)	-0.12 (0.08)	-0.17*** (0.04)	-0.06 (0.09)	-0.16*** (0.04)
Constant	7.84 (4.92)	-7.26*** (1.92)	11.67** (5.42)	-7.68*** (2.16)	11.94** (5.56)	-9.02*** (2.27)
Pseudo R-squared	0,52	0.49	0.52	1735	410	1704
N	449	1,993	427	0.50	0.55	0.52
*p<0.1; ** p<0.05; *** p<0.01*						

Note: Rentier states are defined as those states which derive at least 10% of their GDP from free resources. Sample of states with fuels only includes only states which derive revenues exceeding 100$ per person from oil and gas. Standard errors are given in parentheses. Model (1) tests Hypothesis 1; Model (2) – Hypothesis 2; Model (3) – Hypothesis 3.

a sample of states where revenues from oil and gas exceed 100$ per person, similar to Colgan (2014) and Ross (2012). I also use a similar measure to build a new sample of rentier states (i.e. states deriving revenues from all types of free resources): revenues from oil, gas, metals, and ores exports, and foreign aid exceeding 100$ per person. As one could see from the Table below, not all my findings are robust to a different operationalization of the sample. So, in the sample consisting of only oil-exporting states, the coefficient for Welfare spending becomes insignificant, whereas in the new sample for all types of rentier states (reliant on revenues from fuels, metals, ores, and foreign aid), the coefficient for Welfare Spending in 2 Years remains significant and negative, as hypothesized (Model 1). This means, my findings apply rather to a sample of all rentier states, dependent on revenues from natural resources and foreign aid, rather than only to oil-exporting countries. Similarly, coefficient for Continuous Spending is negative and of border significance in the sample of all rentier states and loses significance using the sample of oil-exporting rentier states (Model 2). Again, this means that my findings regarding the second hypothesis apply to a broader sample of all rentier states rather than only to oil-exporting countries. Finally, the coefficient for Change in Spending is positive in all new model specifications and significant ($p<0.05$) for the sample of all rentier states, as opposite to the hypothesis 3. This further supports my claim that in rentier states, sudden changes in provision of public benefits either does not affect the risk of a conflict or even increases it.

I also conducted several robustness checks which are only available in the Appendix to this thesis. There, I report findings of statistical tests, using civil war as the main dependent variable, using internalized and internal conflicts as the main dependent variable, as well as tests which control for regions of the countries studied. I

also include tests which slightly change operationalization of independent variables for the second and the third hypotheses. Welfare spending is most robustly linked to risk of a civil conflict, being significant in most of robustness checks. On contrary, Continuous Spending variable is insignificant in most of robustness checks. The results in regards with the main independent variable for the third hypothesis, Change in Spending do not change significantly.

In general, I find strong support for my first hypothesis (relationship of welfare spending and civil conflict occurrence). I find no evidence in support of the third hypothesis (signaling). In the best case, sudden changes in provision of public goods do not have any effect on risk of a civil conflict, in the worst case – sudden changes in welfare spending are even associated with increases in risk of a civil conflict. I think that this could be the case if the state increases provision of public goods to diminish the level of discontent in the society and fails to do so. I find some support for the second hypothesis (coefficient for Continuous Spending in the main model specification and some of the robustness checks is of border significance). Since the sample size for the second hypothesis is much smaller than for other tests, one needs more data on welfare spending to present more elaborate results on this topic.

More substantively speaking, the presented statistical analysis shows support for my theory that weak institutions mechanism is a key to understanding variation in conflict occurrence in rentier states. Higher welfare spending is not only negatively related to risk of a civil conflict, but the effect is gradual, affecting risk of a civil conflict over the course of several years, as my theory suggests. For policymakers in rentier states, this finding emphasizes necessity to invest in quality of own institutions and higher provision of public goods. As for the literature investigating civil conflict in

rentier states, my theoretical argument and statistical findings help to explain the puzzle of why do some rentier states have more civil conflicts than others given that all rentier states have necessary military capabilities to win in conflicts with rebel or repress protests.

Chapter 5 Welfare Spending in Rentier States: Literature Review and Theory

In the previous chapters, I find that higher welfare spending in rentier states decreases the risk of a civil conflict. I hypothesize that welfare spending affects conflict occurrence in rentier states via higher quality of institutions' mechanism, as supported by the empirical evidence that higher welfare spending decreases the risk of a conflict gradually over a long period. Other studies also found support for a hypothesis that higher welfare spending decreases the risk of a civil conflict, both in rentier and in non-rentier states (Azam 2001; Azam and Mesnard 2003; Singh, Bodea, and Higashijima 2014; Taydas and Peksen 2012). However, conflict-mitigating effect of welfare spending is not the only benefit it brings to rentier states. Higher welfare spending may also contribute to higher levels of economic development, better quality of institutions, higher levels of trust in the society and positive sentiments towards the leader in general, as well as a lower revolutionary threat. Highly-educated, healthy, and happy individuals will devote more time for work or at least be more productive in their economic activity, by that fostering economic development of a country. Furthermore, probably every leader wants to be loved and respected, and higher welfare spending shows that the leader cares about his fellow citizens, and by that increases his positive image in his country. In short, spending more money for the government's welfare policies is a beneficial decision for every leader of a rentier state.

Considering all benefits which higher investment in welfare policies bring, a question arises. Why do not all rentier states invest a significant amount of their resources in higher welfare spending? Some states, like Botswana, provide large public goods to their population and invest a lot of resources in providing their citizens with

an education and social protection of decent quality, whereas others, like Mobutu's Zaire, do not provide even basic public benefits to their citizens. In fact, as statistics shows, there is a large divergence of investment in welfare spending among rentier states, which could not be fully attributed to such factors as population size or GDP level. The Figures 2 and 3 show the relationship between the government's welfare spending in rentier states, GDP per capita size (Figure 2) and total population size (Figure 3) for the year 2009. Even though there is a clear trend that rentier states with higher levels of GDP per capita invest more in welfare spending, and those with bigger populations – less, there is still a big divergence in welfare spending levels at medium and low levels of GDP per capita and population size. Some states with relatively low GDP per capita size invest as much as 50% of their GDP in welfare spending, but there are many states that invest almost nothing. A similar trend is noticeable in states with lower population size.

Figure 2 Welfare Spending in Rentier States in Comparison with GDP per Capita Level
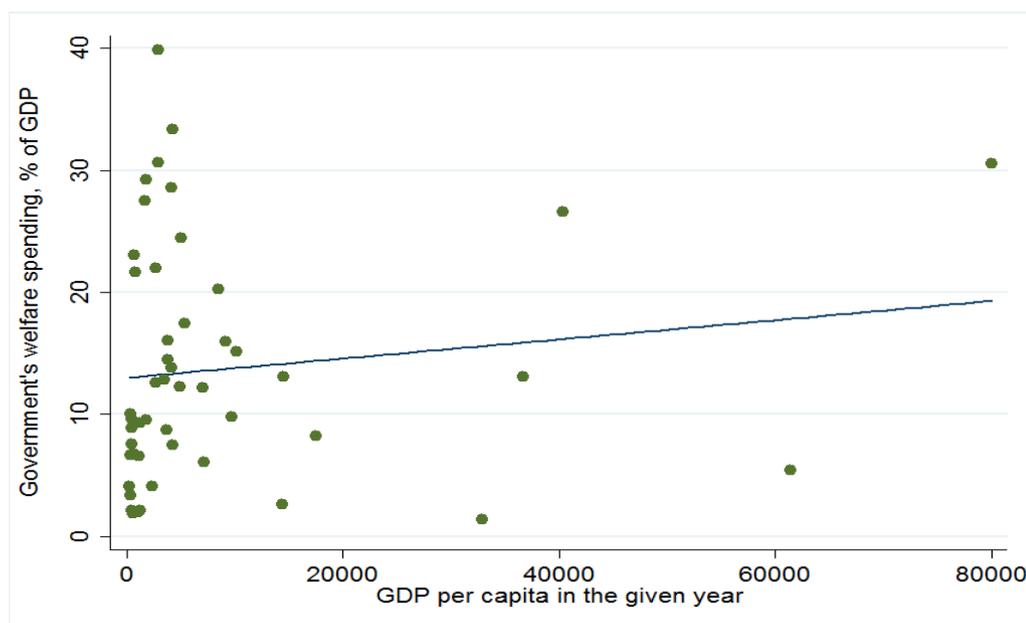
Note: A straight line represents the linear trend of relationship between the government's welfare spending and population size or GDP per capita. Welfare spending is defined as general government expenditure for health, education and social protection, % of GDP. Dots represent welfare spending values for the rentier states in the year 2009 (defined as a state receiving over 10% of GDP from free resources). GDP is measured in current U.S. $.

Source: World Bank (2017a; 2017b), International Monetary Fund (2017), IFPRI (2015), Burgoon (2006).

Figure 3 Welfare Spending in Rentier States in Comparison with Size of Population
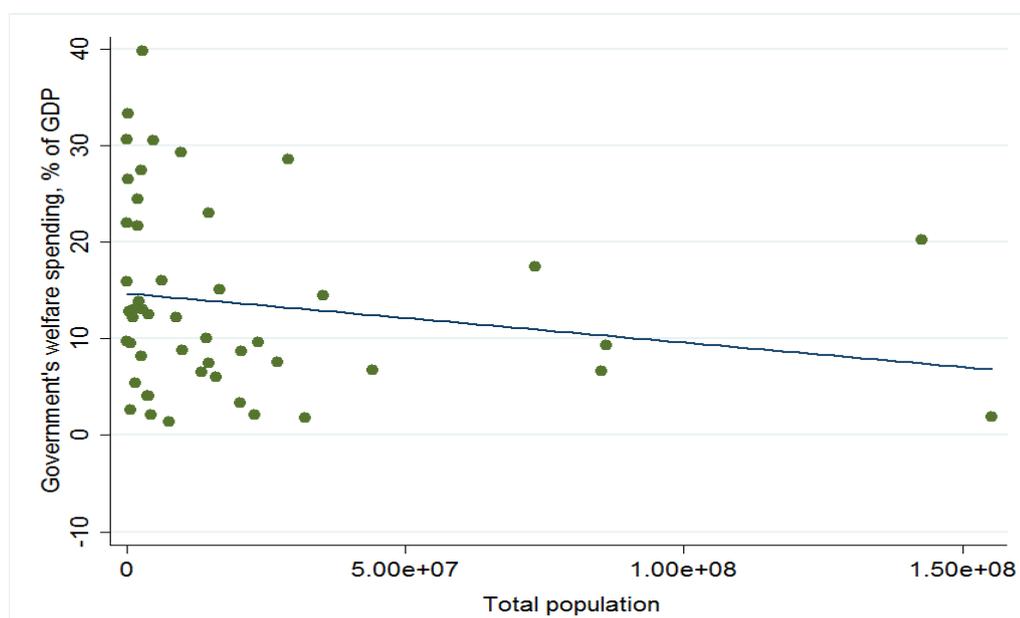
Note: A straight line represents the linear trend of relationship between the government's welfare spending and population size or GDP per capita. Welfare spending is defined as general government expenditure for health, education and social protection, % of GDP. Dots represent welfare spending values for the rentier states in the year 2009 (defined as a state receiving over 10% of GDP from free resources). GDP is measured in current U.S. $.

Source: World Bank (2017a; 2017b), International Monetary Fund (2017), IFPRI (2015), Burgoon (2006).

In sum, there is a large variation in the government's welfare spending among rentier states, despite all benefits which higher investment in welfare spending brings,

and this variation could not be fully attributed to the factors like population size or GDP level. Why would this be a case? This is not only puzzling but has a real-world significance. If higher welfare spending in rentier states brings many palpable benefits – lower risk of a civil conflict, increased quality of life, more economic prosperity, better quality of institutions, and a positive public image of rentier leaders, then there should be important reasons of why all rentier states do not invest a large amount of resources into their welfare policies. This means, one could not simply decrease the number of civil conflicts in rentier states by encouraging leaders of rentier states to spend more on welfare policies: one should also know reasons of why do leaders in rentier states engage in either type of spending policy. The literature on rentier states and welfare spending does not provide a sufficient explanation for this question.

In the second part of my thesis, I present my theory and statistical analysis to explain the question as to why all rentier states do not engage in higher welfare spending, given all of its benefits. In Section 5.1, I discuss the literature relevant to this topic and the gaps in the existing academic literature. In Section 5.2, I present the theory derived from the selectorate model to explain welfare spending decisions in a rentier state. In Chapter 6, I present the research design and empirical analysis aimed to test the proposed hypotheses.

5.1 Literature Review: Welfare Spending in Rentier States

In the following section, I look at the literature that explains the determining factors, affecting welfare spending decisions of leaders in rentier and non-rentier states.

In general, the existing literature is unable to explain why some leaders of rentier states invest significantly more in welfare spending than others.

According to the literature (literature review, chapter 2.2), autocratic rentier states may engage in either "rentier" policy (providing more welfare spending to the population in exchange for the absence of revolt) or "repressive" (investing into military apparatuses or limiting important freedoms, rights and their own economic development). However, higher welfare spending contributes to the modernization and economic growth of a country, whereas repressive policies bring only fear and destruction. Furthermore, literature which links welfare spending and civil conflict as well as this thesis present the empirical evidence that larger welfare spending could have a mitigating effect for states that are susceptible to the risk of a civil conflict (Azam 2001; Azam and Mesnard 2003; Singh, Bodea, and Higashijima 2014; Taydas and Peksen 2012).

If higher welfare spending in rentier states may be a very efficient way to prevent conflict then why do not all rentier states spend more for welfare policies given how it is important for bringing peace and economic modernization? Both the literature on rentier states and welfare spending largely overlooked this important puzzle of the resource curse phenomenon. Literature on welfare spending in general does not specifically address rentier states' decisions on welfare spending. This literature shows that welfare spending decisions are dependent on regime type of the state, ethnic fractionalization, and GDP level (Alesina, Baqir, and Easterly 1997; Bueno de Mesquita and Smith 2009; Deacon 2009; Habyarimana, Humphreys, Posner, and Weinstein 2007; Bueno de Mesquita and Smith 2010; Stasavage 2005; Thachil and Teitelbaum 2015).

An only account, attempting to explain welfare spending decisions in rentier states is presented by Dunning (2005). He argues that when choosing either growth-promoting (i.e. "rentier") or growth-impeding (i.e. "repressive") policy, leaders of autocratic rentier states face an important trade-off of "rentier" policies – possible strengthening of their political opposition. Thus, if the leader is faced with an elevated level of opposition in the society, he or she will be unlikely to engage in repressive policies. In turn, the "volatility of resource revenues" and "prior development of the nonresource sector" create incentives for investment in diversification of the economy, i.e. in the absence of a strong opposition and the presence of these factors (more volatile resources and a better prior development of the non-resource sector), the leader invests more in the diversification of the economy. Dunning's argument would be an interesting contribution to my theory because he looks at a likeminded puzzle. However, my argument is distinct from Dunning's in the way that I look at "rentier" policies as also decreasing the threat to leader's survival via lowering the risk of a conflict and inducing the growth of a non-resource economy, raising the leader's revenue chances in the future.

In rentier states, engagement in higher welfare spending is an efficient tool for preventing a civil conflict and fostering economic development of a country, yet many of the rentier states choose to engage in mostly repressive policies without providing their citizens with even basic public goods. My research is aimed at resolving this puzzle. Further, I will construct a theory and test my theoretical predictions regarding why do some rentier states not use higher welfare spending to prevent conflicts.

5.2 Selectorate Model and Revolutionary Threat

In order to understand why leaders engage in either "rentier" or "repressive" policies, I develop a theory from the selectorate model (Bueno de Mesquita, Smith, Siverson, and Morrow 2004). According to this model, the leader's primary interest is to stay in power, and staying in power depends on the "winning coalition". Members of the winning coalition are driven from the selectorate which is the part of the population that has a right to select the legislative body or the leader. However, not all members of the selectorate become part of the winning coalition. In autocratic countries, most likely, only a small number of people has a say in selecting a leader. Even in most broad democracies, the winning coalition is only half of the selectorate, since the leader needs not all votes to stay in power. Further, to stay in power, the leader allocates several types of goods, dependent on the size of the winning coalition in comparison with the size of the selectorate. Members of small winning coalitions receive private goods as rewards for supporting the leader, i.e. exclusive goods. Members of big winning coalitions receive benefits from a large allocation of public goods since it would be inefficient for leaders to provide with private goods every member of a large winning coalition.

One modification of the selectorate theory deals with the question of how do leaders prevent revolutions (Bueno de Mesquita and Smith 2009; Bueno de Mesquita and Smith 2010). According to this model, leaders address a high-level of revolutionary threat by either allocating more public goods to the population or reducing "coordination" goods: political rights and freedoms. The latter may negatively influence the economic development of a country. Therefore, only states with free resources engage in reducing coordination goods, according to the authors. Deriving

from this version of the selectorate model, I construct my theory to address the variance in welfare spending in rentier states.

Basic Model

Consider the following model. There are three players: *incumbent leader*, whose main motivation is to stay in power; incumbent leader's *winning coalition* members, who want to get as much private benefits as possible, and *rebel*, who is interested in getting as much revenues as possible or seizing the control over the state. Dependent on threats to his or her survival, the leader takes decisions regarding the allocation of resources. There are four ways to allocate resources: invest in public goods, private goods, the military sector, or increase the size of the leader's discretionary funds. Public goods include all goods, which are meant to contribute to the welfare of the population, for instance, education, health, and social welfare spending. Private goods are any benefits which are available only to members of the winning coalition.

Threat of a civil conflict and dilemma of the leader

As I discuss in the Chapters 3-4, rentier states in general are susceptible to civil conflict because of weak institutions and the subsequent failure to overcome the bargaining problem. As I argue, higher investment in welfare spending increases the quality of state institutions and helps the state to solve the information asymmetry problem in negotiations with rebels. On the other hand, higher investment in welfare spending increases the economic development of the country. More educated and healthier people could devote more time to labor and be more efficient. Furthermore, increased welfare spending reduces grievances in the society and increases trust in the

government. In sum, it is in the best interests of the leader to invest more resources into welfare spending.

However, if the leader is unable to invest large resources into welfare spending, he or she may engage in repressive policies by increasing the military apparatus. While investing more in the military sector, the leader does not necessarily prevent low-scale civil conflicts from happening, because a large military apparatus in the presence of low-quality governmental institutions and limited information about rebel military capabilities and the regional context in rebellious regions may be inefficient in preventing a conflict from happening. Furthermore, investment in higher military spending does not bring as many benefits as higher welfare spending. Neither does it help to produce larger economic growth, nor reduce grievances in the societies. However, investment in military spending may be efficient in some cases, since it does not require as much resources as the provision of large public goods. Therefore, this option could be preferred by the leader, if he or she decides to invest their resources in other expenditure types rather than higher provision of public goods. The latter could happen is the leader feels that his survival in office is threatened. The following sections discuss the conditions under which the leader chooses to invest in other spending types than public goods.

Affinity of the winning coalition and welfare spending

The winning coalition is a group whose support is vital for the leader's survival. If they defect, i.e. cease to support the leader, the leader is replaced with another person. Dependent on the size of the winning coalition, the leader provides them either

private goods (for small winning coalition members) or public goods (if the winning coalition is relatively big). Therefore, in the basic model, the leader provides larger public goods to the population if the winning coalition is large in comparison with the selectorate.

In other words, if public expenditure is used by the leader to buy-off support for him in the next elections (besides from just increasing positive sentiment in the society, investing into higher quality of institutions and preventing civil conflict, etc.), he or she will be more likely to invest larger resources into higher welfare spending. Leaders of democratic rentier states – for instance, Mongolia and Chile – will spend more for welfare policies than, let's say, Iran, simply because leaders of more democratic states could not buy-off support of their population in different ways, by, for instance, providing private goods only. Furthermore, non-democratic leaders in general may be unwilling to invest too much in welfare spending because of their fear of modernization – growth of private sector, middle class, a change in political values, and subsequent higher willingness of the population to have a democratic government.[20]

Hypothesis (4). Rentier states with larger winning coalitions (more democratic) have larger welfare spending than those with smaller winning coalitions controlling for the budget available to leaders and population of the country.

However, there is also a variation in welfare spending in autocratic states only. In non-democratic states, members of the leader's winning coalition, or political elites, are always in fear of being replaced by another person and losing privilege to receive private goods from the leader. However, if the incumbent leader is longer in power,

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[20] Relationship between economic modernization, education, and more liberal political values to be responsible for democratic changes – is a common argument in modernization literature, e.g. Lijphart (1977).

members of his winning coalition, who already received some private goods before, have the greatest loyalty to their leader. This is related to the fact that if they already received copious amounts of private goods from the leader before, they are more likely to receive these private goods in the future. They are also more likely not to be replaced by other people, since they were in the winning coalition for a longer time. As a result, incumbent leaders who rule longer could buy-off support of their winning coalition with lower amounts of private goods, since leaders who are longer in office are also surer in loyalty of their winning coalition members. On the contrary, non-democratic leaders, which are new to power, have to provide larger private goods to the members of their winning coalition. This most likely drives funds from new leader's provision of public goods to the population.

On the other hand, new leaders may be willing to also invest in welfare spending to get some legitimacy from the broader public, and subsequently support, because new leaders may be forced to resign due to defection of the winning coalition members. This could be seen as a kind of safety net for a leader of a non-democratic state who still does not enjoy high loyalty from members of his winning coalition.

Hypothesis (5). Incumbent leaders of autocratic rentier states which are new in power, have lower welfare spending as those which are in power longer, controlling for the budget available to leaders and population size.

Threat of a coup and welfare spending

Another threat for survival of the leader is a coup attempt by military leaders, especially, if an autocrat engages in repressive policies in regard to population. If an autocratic leader anticipates high threat of a coup, there could be two potential ways to

increase his or her survival chances. One way would be to try to decrease the military capabilities of the army so the coup would be less successful, by, for instance, creating a paramilitary group for monitoring the army. Another way would be to increase the provision of private goods to military leaders, so the latter would find it disadvantageous to engage in a coup attempt.[21] Both measures deflect resources from welfare spending into extended repressive policies. Here, an important question arises. How could leaders predict a coup beforehand and take preventive action? In the research design part of the current thesis, I define threat of a coup as attempts of a coup at least 10 years prior in the same country. If coups already happened in a country and military forces still enjoy high support from the population, then the leader will most likely engage in some policies aimed to prevent another coup.

Hypothesis (6). Autocratic rentier states will decrease welfare spending if the threat of a coup is high, ceteris paribus.

Volatility of the resources and welfare spending

If the volatility of the main government's revenue source is high, leaders would spend a lot of resources on discretionary funds. By volatility, I mean frequent and large negative changes in revenues from free resources available to the state. The leaders with volatile resources may be more willing to keep large funds. If there are "bad" times, they must survive by further diminishing the threat of turnover or civil conflict and buying off support of any potential rebels, deflecting elite members, or military leaders. Since most leaders who rely on volatile resources understand that resources are not infinite (in other words, that there could be a major decrease in prices on oil in the

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[21] For instance, Powell (2012, 236) finds that well-funded military have less incentive to plot a coup, since members of military are afraid of losing governmentally provided revenues. I thank one of the reviewers for pointing this out.

international market), they will take measures to have at least some savings at times of low revenues.

Hypothesis (7). Rentier states with more volatile resources have lower welfare spending than those with less volatile resources, ceteris paribus.

Chapter 6 Welfare Spending in Rentier States: Research Design and

Findings

In the following section, I present my research design, aimed to test my hypotheses regarding factors determining welfare spending in rentier states. These are hypotheses from 4 to 7. Then, I present findings regarding each hypothesis in section 6.2.

6.1 Decisions on Welfare Spending in Rentier States

In order to test the hypotheses regarding factors determining welfare spending decisions in the rentier states, I conduct statistical tests using ordinary least squares regressions and a panel dataset. I use country-year as the main unit of analysis. My sample includes only rentier states, defined as those states which derive at least 10% of their GDP from free resources. The period covered by my analysis is from 1980 to 2015, defined by the availability of my main dependent variable – Welfare Spending. The section below reports my operationalization and choice of sources for dependent, independent, and control variables.

The dependent variable (*Welfare Spending*) is operationalized as total spending of the government on healthcare, education, and social protection in ratio to the GDP of the country. In general, this variable is operationalized in the same way as the independent variable, Welfare Spending in the Chapter 4.2. Here, I use the annual data on welfare spending.

To test the fourth hypothesis (more democratic rentier states engage in higher welfare spending) I add a variable, measuring regime type *(Regime type)*. I use Polity2 variable from the PolityIV dataset (Marshall, Jaggers and Gurr 2016; Center for

Systemic Peace 2017), which is constructed by subtracting the democracy score from autocracy score. The resulting measure is from -10 (the most autocratic) to +10 (the most democratic). I standardize this measure, so it is in range from 0 to 10. In the standardized measure, a 2-point increase in Polity2 score corresponds with 1-point increase in the Regime type score.

For the fifth hypothesis (new leaders engage into lower welfare spending), I add a variable indicating if the current leader is new in office (*New in office*) with the help of the Archigos 4.1 dataset, which reports the dates when the leaders came into office and left (Goemans, Gleditsch, and Chiozza 2009). I use a dummy variable, coded as 1 if this is the first 2 years in office for a non-democratic leader (Polity2 scores below 6). I make distinction among autocracies and democracies in this case, since my theorizing behind the fifth hypothesis was mostly about the non-democratic leaders.

To test the sixth hypothesis (there is a lower welfare spending in rentier states with the high risk of a coup), I include a variable, which reports if a country experienced attempts of coup at least 10 years prior *(Coup attempts)*, according to the dataset by Powell and Thyne (2011). With each year passing since the last attempt of the coup, the recorded value in the variable decreases from 1 (coup attempt in the current year) to 0.1 (coup attempt 10 years before).[22]

To test the last hypothesis (lower welfare spending in rentier states with more volatile resources), I include a variable of volatility of the main resources *(Volatility of free resources)*, according to the hypothesis 7. To measure for volatility, I include a dummy which is coded as 1 if there were shocks in governmental revenues from free

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[22] I do not include successful attempts of coups while constructing this variable, since if a military leader is in office, he may invest more in military sector not because of the factors which I discussed (threats to survival) but rather because of wanting to benefit the military sector.

resources in recent 10 years. I measure the shock as a drop in governmental revenues from free resources for at least 50% in comparison with the mean of the previous 5 years.

I also include several control variables. Firstly, information on population size from the World Bank (2017a) database *(logged Population Size)*. Secondly, measures for the GDP from the World Bank (2017a) database (*logged GDP*), and measures for the annual GDP growth (*GDP growth*) from World Bank (2017a). Thirdly, I include measures for the life expectancy at birth according to the World Bank (2017a) to access the need for extended governmental spending in each country *(Life Expectancy)*. I also include measures of ethnic fractionalization *(Ethnic Fractionalization)* according to Alesina et al. (2003), since ethnic diversity was reported as one of the strong determinants of welfare spending (Alesina, Baqir, and Easterly 1997; Habyarimana et al. 2007). I also include a variable reporting percentage of the Muslim population *(Muslim population)* in the country according to the World Religion Dataset (v1.1) from the Correlates of War to exclude the possibility that oil-exporting Muslim countries significantly affect the results. Then, I include a variable coding presence of a protest campaign in the country *(Protest)*, according to the NAVCO v2.0 dataset (Chenoweth and Lewis 2013), since a heightened protest may also be a powerful predictor of governmental welfare spending. Finally, I add a variable *Free Resources*, measuring free resource rents' proportion to the GDP, in order to control for the dependence on free resources of a rentier state.[23]

In my dataset, all independent variables which are sensitive to time are lagged backward by one year, since I assume that governmental decisions on budget allocation

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[23] I describe how this variable is constructed in Chapter 4.1.

are mostly formed in the beginning of the year, i.e. these decisions consider only what happened in the previous year.

6.2 Determinants of Welfare Spending in Rentier States: Results of Statistical Tests

The following section presents results of statistical analysis of what the factors are influencing the decisions of leaders in rentier states to invest in welfare spending. Table 5 below contains findings from the statistical tests with *Welfare spending* variable as the main dependent variable. I present results for four models, including a separate set of independent variables. So, the Model (1) reports the results with only control variables; the Model (2) uses only free resources as the main independent variable and all control variables. Then, I include the Model (3) which uses all independent variables and control variables, and the Model (4) with all independent and control variables, as well as dummies for each region.

In general, the presence of free resources decreases investment in welfare spending (the coefficient is negative and significant in models which control for the regime type). This is not a surprise, since as I argued in the theoretical part, resource-abundant countries have less incentive to engage in enlarged welfare spending than those countries whose main revenue source are taxes. Furthermore, my hypotheses regarding regime type, resource volatility, and the threat of a coup find support. Let us look at results for each specific hypothesis closer.

Table 5 Results of the OLS Regression Analysis with Welfare Spending as the Dependent Variable Using Sample of Rentier States

Dependent Variable: Welfare Spending	Model (1): Only Control Variables	Model (2): Regime Type as Main Independent Variable	Model (3): All Independent Variables	Model (4): All Independent Variables and Controlling for Region
Regime Type		0.35***	0.37***	0.25**
		(0.07)	(0.07)	(0.08)
New in Office			0.43	1.15*
			(0.70)	(0.69)
Coup Attempts			-3.55***	-3.76***
			(1.02)	(0.99)
Volatility of Free Resources			-2.12***	-2.25***
			(0.53)	(0.51)
Logged Population	-0.30	-0.49*	-0.76**	-0.71**
	(0.23)	(0.27)	(0.27)	(0.27)
GDP Growth	-0.07**	-0.05*	-0.06**	-0.06*
	(0.03)	(0.03)	(0.03)	(0.03)
Logged GDP	0.39*	0.48**	0.55**	0.26
	(0.21)	(0.22)	(0.22)	(0.23)
Life Expectancy	0.20***	0.15***	0.12***	0.14***
	(0.03)	(0.04)	(0.04)	(0.04)
Ethnic Fractionalization	-4.86***	-5.81***	-4.66***	-3.88***
	(0.93)	(0.97)	(0.97)	(1.02)
Muslim Population	-4.13***	-2.55***	-2.31***	-0.86
	(0.57)	(0.69)	(0.68)	(0.96)
Protest	-0.84	-0.82	-0.40	-0.31
	(0.64)	(0.64)	(0.64)	(0.63)
Free Resources	-0.97	-3.47**	-4.98***	-4.52***
	(1.31)	(1.35)	(1.37)	(1.32)
Region Dummy: Africa				0.03
				(0.86)
Region Dummy: Asia				-2.53**
				(0.91)
Region Dummy: Europe				4.97***
				(1.05)
Region Dummy: Middle East				-1.93
				(1.23)
Constant	-3.02	0.36	4.65	9.18**
	(2.95)	(3.38)	(3.48)	(4.06)
N	930	838	838	838
R-squared	0.25	0.2767	0.30	0.35

* p<0.1; ** p<0.05; *** p<0.01

Note: Rentier states are defined as those states which derive at least 10% of their GDP from free resources. Standard errors are given in parentheses. Model (1) provides findings of the statistical tests including control variables only; Model (2) – including Regime type variable only; Model (3) – using all independent variables; Model (4) – using all independent variables and the region dummies.

Hypothesis 4

The results of the statistical analysis fully support my fourth hypothesis that more democratic rentier countries engage in larger welfare spending than less democratic rentier countries, ceteris paribus. The coefficient for regime type is positive and significant in all model specifications which include the Regime Type variable. The Figure 4 below shows how welfare spending in rentier states is related to regime type of

Figure 4 Expected Welfare Spending in Rentier States with Different Regime Types, While Other Variables at Their Means for Rentier States
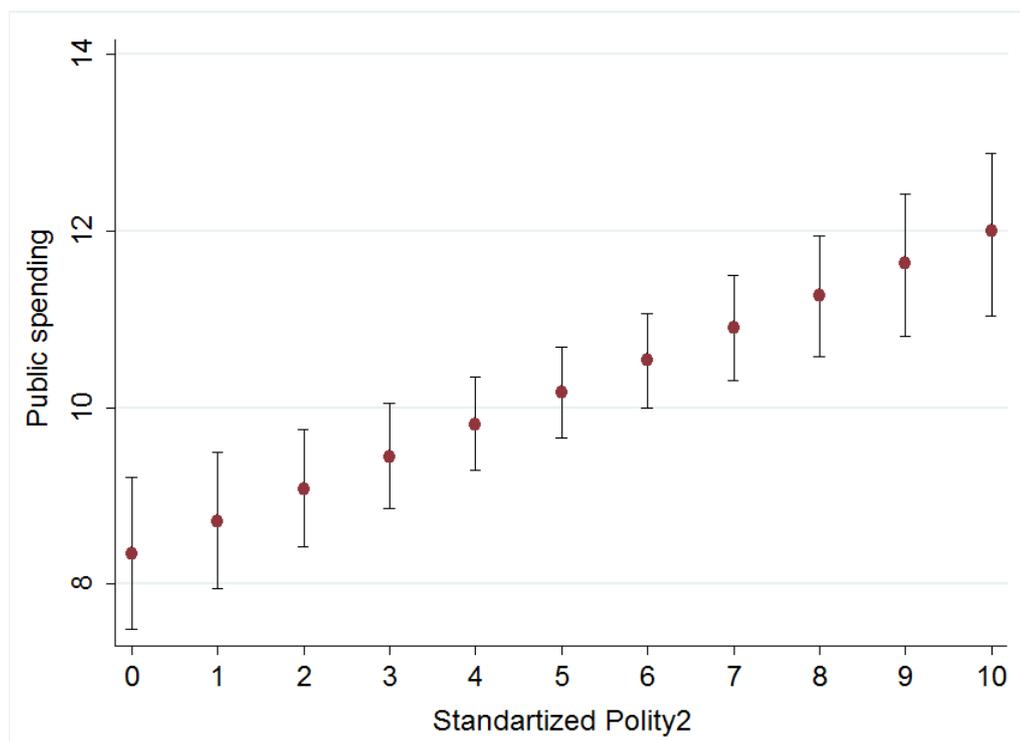
Note: Regime types are in the range between 0 and 10 (0-full autocracy, 10-full democracy). I used the specifications of the Model (3) to build this figure. Lines show the 95% confidence interval of predicted mean values of welfare spending as the % of GDP. Red dots show mean predicted values of welfare spending as the % of GDP. As a "typical" case is used a rentier state without a new leader, threat of a coup, with non-volatile resources, and no current protest. Other variables are at their means for the available sample of rentier states. Increasing the standardized Polity score is associated with more democratic regimes (0 – most autocratic regime, 10 – most democratic regime).

a rentier state. One could see a clear positive trend: with the increasing score in Polity2, expected welfare spending in the state also increases. So, full democracies' (standardized Polity2 of 10) spending on average is 12% of their GDP for providing public goods of education, healthcare, and social protection to their populations, whereas fully autocratic countries (standardized Polity2 of 0) spend only about 9% of their GDP, controlling for other covariates.

Hypothesis 5

In regards with the hypothesis 5 that autocratic leaders, who are new in office decrease spending for public purposes, I find no statistically meaningful results in most model specifications. However, if we control for region, the coefficient for New in Office is significant (p <0.05) and positive as opposite to what I expected.

What could explain this finding? Probably, my theorizing did not consider crucial factors, for instance, the wishes of an autocratic leader to be legitimate and "loved".[24] Maybe, all autocratic leaders, which are new in office, want to have more legitimacy in the eyes of their followers and because of that, they are willing to engage into more welfare spending, as opposite to what I hypothesized.

Hypothesis 6

As predicted by hypothesis 6, the coefficient for *Coup attempts* is significant and negative, which means that countries where there was an attempt of a coup at least 10 years before, tend to invest significantly less into welfare spending. The Figure 5 below demonstrates how welfare spending provisions in rentier states change as more years pass since the last coup attempt. As the figure suggests, on average, rentier states

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[24] I would like to thanks one of the reviewer for pointing this out.

with recent coup attempts invest significantly less in welfare spending. For instance, mean expected welfare spending for an autocratic rentier state with the most recent coup attempt (in the previous year) is around 4% of the GDP, whereas a country, which did not experience any recent coup attempts or experienced a coup attempt 9 and more years ago has a welfare spending of about 8% of the GDP.

Figure 5 Predicted Welfare Spending of the State as Time Passes since the Last Coup Attempt
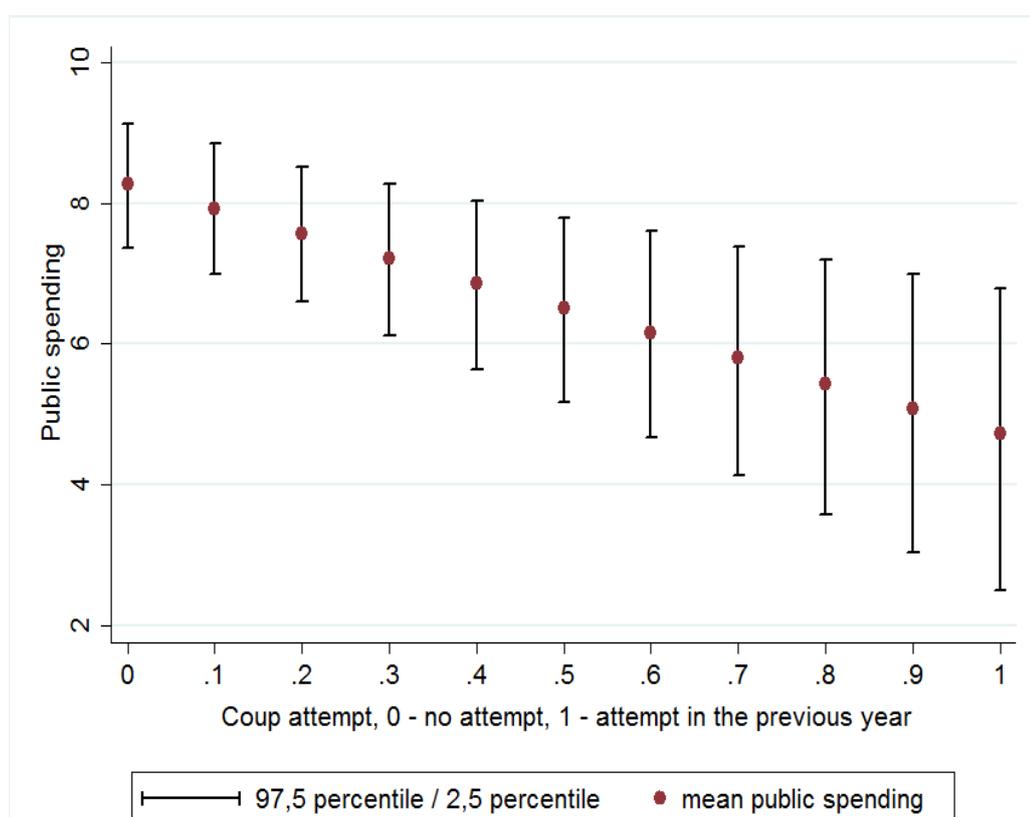
Note: I used the specifications of Model (3) to build this figure. Lines show a 95% confidence interval of predicted mean values of welfare spending as the % of GDP. Red dots show the mean predicted values of welfare spending as the % of the GDP. As a "typical" case is used a non-democratic rentier state (standardized Polity IV score of 0) without new leader, with non-volatile resources, and no current protest. Other variables are at their means for the available sample of rentier states. The coup attempt variable has a temporal domain. In the year of a coup, it is coded as 1, in the year after coup as 0.9, and as 0 if 10 years pass since the last coup or there was no coup attempt at all.

Hypothesis 7

The coefficient for the volatility of free resources is negative and significant, as predicted by the hypothesis 7 that in presence of volatile free resources leaders choose to engage into lower welfare spending. As Figure 6 suggests, countries with volatile resources engage in less population-friendly politics. For instance, a non-democratic rentier state with volatile resources invests 6% of its GDP in welfare spending, whereas a non-democratic state with non-volatile resources invests above 8% of its GDP in welfare spending.

Figure 6 Predicted Welfare Spending in Rentier Autocracies with Volatile (1) and Non-Volatile (0) Resources
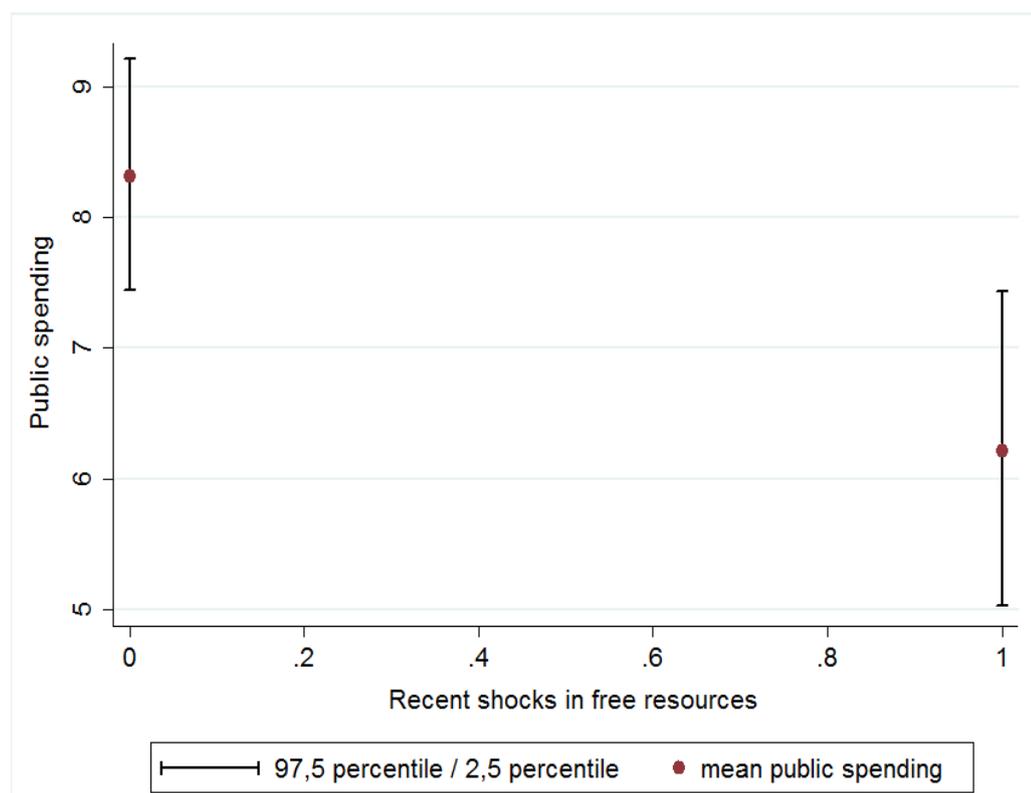

Note: I used the specifications of the Model (3) to build this figure. Lines indicate a 95% confidence interval of predicted mean values of welfare spending as the % of the GDP. Red dots show the mean predicted values of welfare spending as the % of the GDP. As a "typical" case used a non-democratic rentier state (standardized Polity IV

score of 0) without new leader or threat of a coup, and no current protest. Other variables are at their means for the available sample of rentier states.

In the Appendix to this thesis, I present a robustness check for hypotheses 4-7, where I use another sample of rentier states, defined using a measure of free resources per capita and fuels per capita. In general, variables on regime type and coup attempt remain as significant as in the current tests, which suggests that I have the most robust findings on hypotheses 4 and 6. However, the coefficient for volatility of resources gets less significant in robustness checks using a fuels only sample and loses significance in a sample, using per capita values for all types of resources.

In sum, most of my hypotheses regarding welfare spending find support in the statistical tests. It appears that leaders of states with free resources may decide to distract funds from welfare spending because of important threats to their survival. If their resources are volatile, and if they have to invest a lot into private goods provision, and there is a high threat of a coup, the rentier leaders will invest significantly less into welfare spending.

Substantively speaking, these findings support my theorizing about welfare spending decisions of the rentier leaders. As I hypothesized, leaders of rentier states start to invest less in welfare spending if they feel that their survival is threatened. In this research, I investigated such threats to the leader's survival as a threat of a coup and volatile revenues from free resources. Of course, there could be more – external military threats, protest campaigns in the country, economic sanctions from other countries, and many others. The leaders may understand how much harm lower investment in welfare policies bring: lower economic development, more discontent in

the society, and similar, but at the same time they are also itching to minimize the most immediate threat to their survival. However, the leaders of rentier states also do not worry too much about decreasing the public goods provision: they do not need to invest in their economy to ensure flow of free revenues, which makes them less willing to invest in welfare policies than their non-rentier counterparts. This is how a new type of a resource curse appears: rentier leaders may easily distort funds from welfare spending to minimize the threat which they face, however, in the long run, institutions of their states become weaker and there is a higher risk of a civil conflict.

Chapter 7 Conclusion

In this research, I investigated two important puzzles which remain unsolved in the literature linking free resources, civil conflict, and regime stability. The first puzzle is broad variation in conflict occurrence among rentier states given that abundant resources give the leaders of rentier states excessive military capabilities to win in a fight with any potential rebels. Why would not some leaders of rentier states use the same resources to prevent a conflict, and why would rebels in some rentier states start a conflict with very low chances of winning or raising significant revenues? The second puzzle is about the variation in policies used by rentier leaders to maintain stability of their regimes. Some rentier leaders prefer to invest more in welfare policies, whereas others use resources available to them only to build excessive repressive apparatuses. Higher welfare spending benefits the leaders by helping to prevent conflicts, fostering the economic development, reinforce positive sentiments in the society, but repressive policies do not. Why, nevertheless, do some rentier leaders decide to not invest much in higher welfare spending? I build theories and find empirical evidence to address both puzzles.

While studying how the risk of a civil conflict could be mitigated via increased welfare spending, I present a theory of civil conflict onset in rentier states, which stems from the bargaining account. Like Fearon (1995), I argue that civil conflicts in rentier states happen because of failed bargaining, and if a state has a low quality of institutions, there is a higher chance of bargaining failure, and thus conflict onset. Further, I argue that a higher allocation of welfare spending helps the state both to increase the quality of its own institutions and overcome the private information problem in negotiations with rebels. Using panel data on rentier states from 1980 to

2015, I find that higher welfare spending in rentier states is associated with a lower risk of a civil conflict. Furthermore, I find some evidence in support of a weak institutions mechanism: in rentier states, higher welfare spending over a 5-year period prior to the given year lowers the risk of a civil conflict. This means that higher welfare spending affects the risk of a civil conflict gradually, as would happen in a weak state institutions scenario.

I also address the second puzzle, namely, why, given all the advantages that welfare spending brings to rentier states, there is a large discrepancy in bringing public goods to the population among rentier states. Here, as benefits I mean the advantages of welfare spending in decreasing the risk of a civil conflict as well as fostering the economic development of a country. I build a theory, deriving from the selectorate account (Bueno de Mesquita and Smith 2009; Bueno de Mesquita and Smith 2010). My theory suggests that for some rentier leaders it is dangerous to engage in larger welfare spending in terms of securing their leadership position in the country. I hypothesize that if survival in office of a leader in a rentier state is threatened, this leader will invest funds in other types of spending than welfare policy in order to diminish the most direct threat to his survival. I operationalize threats to leader's survival as a coup threat and volatility of revenues from free resources. On the other hand, leaders of more democratic rentier states invest more in welfare spending to increase his or her chances of being reelected for the next term. I find support for these hypotheses in my further statistical analysis which uses sample of rentier states from 1980 to 2015.

I believe that my study, despite all its limitations, contributes to a broad range of academic literature. This research adds to the literature about civil conflict in rentier

states by exploring the underlying mechanism of, firstly, why rentier states in general are more conflict-prone than non-rentier states, and, secondly, why are some rentier states more efficient at preventing civil conflicts than others. Furthermore, my research helps to overcome the gap which exists among distinct types of the literature on the resource curse: political resource curse literature or the literature on how free resources affect democratization prospects of a country, and civil conflict literature on resource curse. Previously, the civil conflict literature rarely addressed the puzzle of why are there more conflicts in rentier states given that free resources also give the leaders a tool to maintain stability of their regimes. I propose a theory based on the bargaining account which helps to explain this disparity. Thirdly, my research contributes to the literature linking welfare spending and civil conflict. In general, this literature also did not propose a bargaining-type theory to explain the link between higher welfare spending and civil conflict. I also present empirical evidence in support of the weak states institutions mechanism proposed which helps to differentiate from what was proposed by other studies. Finally, the current research may also contribute to the literature explaining factors that affect provision of public goods. This literature, to my knowledge, does not consider threats to survival of the leader as an important explanatory factor. Yet I build a theory and provide statistical evidence that the threat to leader's survival should be considered as an important factor in the literature about factors influencing the decisions of leaders to invest more or less in welfare spending.

My main contribution to the current research agenda on "resource curse" is that my study shows that free resources may be a "curse" not only for countries with abundant revenues from free resources and their populations, but also leaders of rentier states. In general, literature on resource curse finds that resources mostly harm the

population by decreasing economic development or impeding democratization process. Yet leaders of rentier states may feel that free resources only benefit them: they make them less dependent on tax revenues, economic modernization as well as give funds to remain in office longer. However, this is not always the case. If the leader feels that his survival in office is threatened, for instance, because of volatile resources or a potential coup, he or she may decide to invest his or her resources in that way that this diminishes the level of threat faced by the leader. This decision also drives the funds away from the welfare spending which in turn decreases quality of governmental institutions, impedes the economic modernization process, and increases risk of a civil conflict. By trying to secure own office, rentier leaders may eventually direct their country to a potentially violent future. In other words, resources are not always a "blessing" even for leaders of the rentier states.

There are also a lot of unanswered questions left by the current research, which could be addressed by more extensive quantitative studies and qualitative case-studies. One of the questions which needs further addressing is the underlying mechanism of how welfare spending is related to a lower risk of a civil conflict. I present some evidence that higher levels of welfare spending lower the risk of a conflict gradually, over the course of years. I suggest that this is due to a weak institutions mechanism. Further studies may find more evidence for this hypothesis or evidence against it. For instance, qualitative case-studies of rentier states which engage in higher welfare spending over an extended period of time may show that in these states there is a higher level of trust in governmental institutions, lower corruption, or the government has effective mechanisms for monitoring its population. Quantitative studies may use a

larger sample to check whether this relationship holds over even a longer period of higher welfare spending.

My research was limited by the size of my sample, because of which I was unable to use a longer period for operationalization of the Continuous Spending variable. However, further research may overcome this problem, by, for instance, using instrumental variables instead of Welfare spending. Another question, which needs further addressing is somewhat surprising finding that rentier leaders, which are new at power, invest more in welfare spending, opposed to what I hypothesized. I present some explanations for that finding in my research; however, qualitative accounts studying new leaders in power in rentier states may present further explanations for this phenomenon.

Appendix

Table 6 Sample of Rentier States Studied and Frequency of Their Appearance in the Dataset

State	Years the State in the Dataset	State	Years the State in the Dataset
Albania	5	Malawi	31
Algeria	18	Malaysia	2
Angola	22	Mali	1
Argentina	2	Mauritania	1
Armenia	5	Mauritius	3
Azerbaijan	6	Moldova	5
Bahrain	26	Mongolia	17
Bangladesh	5	Morocco	5
Benin	1	Mozambique	7
Bhutan	27	Namibia	9
Bolivia	31	Nepal	10
Botswana	10	Nicaragua	5
Burundi	9	Niger	1
Cabo Verde	6	Nigeria	13
Cameroon	14	Norway	20
Central African Rep.	5	Oman	25
Chile	23	Panama	1
Congo, Rep.	10	Papua New Guinea	27
Cote d'Ivoire	1	Peru	9
Ecuador	9	Qatar	7
Egypt	9	Russian Federation	11
El Salvador	1	Rwanda	7
Equatorial Guinea	3	Senegal	5
Ethiopia	8	Sierra Leone	7
Fiji	1	Solomon Islands	3
Gambia	10	Sri Lanka	3
Georgia	5	Sudan	1
Ghana	14	Swaziland	1
Guinea-Bissau	5	Tanzania	19
Iran	13	Trinidad and Tobago	16
Jordan	27	Tunisia	11
Kazakhstan	16	Uganda	25
Kenya	8	United Arab Emirates	26
Kuwait	18	Uruguay	1
Kyrgyz Republic	12	Venezuela	5
Lesotho	23	Yemen, Rep.	21
Liberia	22	Zambia	29
Madagascar	16	Zimbabwe	10

Note: Here, only observations for those states were recorded, where at least once during the period from 1980 to 2015 revenues from free resources constituted at least 10 % of GDP. Free resources are defined as revenues from fuels, minerals, metals, and foreign

aid. My sample includes only those rentier states for which the data for the main independent variable is available: Welfare Spending. For some states, there are missing points due to absence of data on some important independent or dependent variables, for instance, welfare spending or regime type score.

Table 7 Robustness Check for Hypotheses 1-3, Using Civil War as the Main Dependent Variable

Dependent Variable: Civil War	Model (1)	Model (2)	Model (3)
Welfare Spending in 2 Years	0.00		
	(0.05)		
Continuous Spending		-1.63	
		(1.12)	
Change in Spending			-0.60
			(0.78)
Ethnic Fractionalization	-0.08	-3.79**	-0.68
	(1.04)	(1.86)	(1.08)
Previous Conflicts	0.08**	0.08**	0.09**
	(0.03)	(0.03)	(0.03)
Logged GDP	-0.41*	-0.92*	-0.65**
	(0.23)	(0.48)	(0.25)
Logged Population	0.72*	1.51**	0.72*
	(0.37)	(0.58)	(0.39)
Free Resources	-5.43	-12.07*	-5.73
	(3.59)	(6.91)	(3.94)
Mountainous Terrain	-0.01	-0.03**	-0.01
	(0.01)	(0.01)	(0.01)
Regime Type	-0.04	-0.36*	-0.05
	(0.09)	(0.20)	(0.09)
Constant	-4.33	1.92	1.55
	(4.83)	(9.75)	(5.44)
N	797	427	774
Pseudo R-squared	0.22	0.38	0.25

*   **p<0.1; ** p<0.05; *** p<0.01**

Note: Civil war is defined as a conflict according to UCDP – PRIO dataset, in which there is at least 1000 battle-related deaths in a given year. Rentier states are defined as those states which derive at least 10% of their GDP from free resources. Standard errors are given in parentheses. Model (1) tests Hypothesis 1; Model (2) – Hypothesis 2; Model (3) – Hypothesis 3.

Table 8 Robustness Check for Hypotheses 1-3, Which Controls for Regions of Countries Studied

Dependent Variable: Civil Conflict	Model (1)	Model (2)	Model (3)
Welfare Spending In 2 Years	-0.08** (0.03)		
Continuous Spending		-0.36 (0.47)	
Change In Spending			0.24 (0.35)
Ethnic Fractionalization	-0.23 (0.84)	-1.21 (0.94)	0.08 (0.83)
Previous Conflicts	0.26*** (0.03)	0.23*** (0.03)	0.25*** (0.03)
Logged GDP	-0.38** (0.19)	-0.19 (0.19)	-0.49** (0.20)
Logged Population	0.71** (0.25)	0.48* (0.25)	0.86** (0.28)
Free Resources	-2.34* (1.22)	-2.73** (1.25)	-2.14* (1.22)
Mountainous Terrain	-0.01** (0.00)	-0.01** (0.00)	-0.01** (0.00)
Regime Type	-0.09 (0.06)	-0.08 (0.07)	-0.05 (0.06)
Region Dummy: Africa	0.08 (0.79)	0.85 (0.83)	0.65 (0.86)
Region Dummy: Asia	1.86** (0.79)	2.19** (0.81)	2.63** (0.85)
Region Dummy: Europe	1.97* (1.04)	1.56 (1.02)	1.86* (1.07)
Region Dummy: Middle East	1.13 (0.79)	1.08 (0.82)	1.73** (0.85)
Constant	-4.05 (2.93)	-4.91 (3.04)	-5.76* (3.01)
N	797	678	774
Pseudo R-squared	0.48	0.42	0.50

* $p<0.1$; ** $p<0.05$; *** $p<0.01$

Note: I use region dummies for Africa, Asia, Europe, Middle East, and Americas, where dummy for Americas is represented by constant term. Rentier states are defined as those states which derive at least 10% of their GDP from free resources. Standard errors are given in parentheses. Model (1) tests Hypothesis 1; Model (2) – Hypothesis 2; Model (3) – Hypothesis 3.

Table 9 Robustness Check for Hypotheses 1-3, Using Internal and Internalized Civil Conflicts as the Main Dependent Variable

Dependent Variable: Internal and Internalized Civil Conflict	Model (1)	Model (2)	Model (3)
Welfare Spending In 2 Years	-0.12*** (0.03)		
Continuous Spending		-0.29 (0.44)	
Change In Spending			-0.16 (0.34)
Ethnic Fractionalization	-1.38** (0.63)	-1.24* (0.67)	-0.81 (0.64)
Previous Conflicts	0.32*** (0.03)	0.26*** (0.03)	0.30*** (0.03)
Logged GDP	-0.23* (0.13)	-0.25** (0.12)	-0.41** (0.14)
Logged Population	0.44** (0.19)	0.50** (0.19)	0.68** (0.22)
Free Resources	-2.23** (1.05)	-1.84* (1.03)	-1.83* (1.07)
Mountainous Terrain	-0.00* (0.00)	-0.00 (0.00)	-0.00 (0.00)
Regime Type	-0.15** (0.05)	-0.20*** (0.05)	-0.15** (0.05)
Constant	-1.74 (2.64)	-2.76 (2.71)	-2.71 (2.73)
N	797	678	774
Pseudo R-Squared	0.51	0.45	0.52

$p<0.1$; ** $p<0.05$; *** $p<0.01$

Note: According to UCDP/PRIO dataset, "Internal armed conflict occurs between the government of a state and one or more internal opposition group(s) without intervention from other states" and "Internationalized internal armed conflict occurs between the government of a state and one or more internal opposition group(s) with intervention from other states (secondary parties) on one or both sides" (Themnér 2014, p. 9). In the main statistical analyses for thesis, I use only internal conflicts as main dependent variable, since my theory does not mention external actors. Standard errors are given in parentheses. Model (1) tests Hypothesis 1; Model (2) – Hypothesis 2; Model (3) – Hypothesis 3.

Table 10 Robustness Tests for Hypothesis 2, Which Uses Different Operationalization for the Main Independent Variable (Continuous Spending)

Dependent Variable: Civil Conflict	Model 1	Model 2	Model 3
Continuous Public Spending Over 50% Percentile 10 Years Before	-0.67		
	(0.56)		
Continuous Public Spending Over 75% Percentile 10 Years Before		0.00	
		(.)	
Mean Public Spending 10 Years Before			-0.11*
			(0.07)
Ethnic Fractionalization	-1.47*	-1.18*	-2.81**
	(0.76)	(0.72)	(1.03)
Previous Conflicts	0.22***	0.22***	0.28***
	(0.02)	(0.02)	(0.04)
Logged GDP	0.00	0.00	-0.00
	(0.00)	(0.00)	(0.00)
Logged Population	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)
Free Resources	-2.37** (1.11)	-2.43**	0.18
		(1.12)	(1.14)
Mountainous Terrain	-0.01** (0.00)	-0.01**	-0.00
		(0.00)	(0.00)
Regime Type	-0.10** (0.05)	-0.10**	0.00
		(0.05)	(0.08)
Constant	-0.71	-0.88	-1.71
	(0.65)	(0.61)	(1.04)
N	678	629	475
Pseudo R-Squared	0.40	0.38	0.53

*p<0.1; ** p<0.05; *** p<0.01

Note: Model 1 uses a dummy variable, which is coded as 1 if a rentier state engages in continuous and large public spending (over 50% percentile of public spending in rentier states) over 10 year period prior to given year. Model 2 uses a dummy variable, which is coded as 1 if a rentier state engages in continuous and large public spending (over 75 % percentile of public spending in rentier states) over 10 year period prior to given year. Model 3 uses a variable, which reports mean public spending in recent 10 years. Standard errors are given in parentheses.

Table 11 Robustness Tests for Hypothesis 3, Which Uses Different Operationalization for Main Independent Variable (Change in Public Spending).

Dependent Variable: Civil Conflict	Model 1	Model 2
Absolute Values Of Change	-0.06	
	(0.05)	
Change In Comparison With Mean Of 5 Years		-1.49**
		(0.55)
Ethnic Fractionalization	-0.81	-1.80**
	(0.64)	(0.85)
Previous Conflicts	0.30***	0.39***
	(0.03)	(0.05)
Logged GDP	-0.41**	-0.56**
	(0.14)	(0.21)
Logged Population	0.68**	0.60*
	(0.22)	(0.33)
Free Resources	-1.87*	-1.20
	(1.07)	(1.18)
Mountainous Terrain	-0.00	-0.00
	(0.00)	(0.00)
Regime Type	-0.14**	-0.07
	(0.05)	(0.07)
Constant	-2.74	1.50
	(2.73)	(3.83)
N	774	588
Pseudo R-Squared	0.53	0.62
*p<0.1; ** p<0.05; *** p<0.01		

Note: The first model uses absolute values of change in public spending in current year compared to the previous year. The second model uses a dummy variable, which is coded as 1 if there was an above 75%-tile increase in public spending (i.e. 75%-tile among changes in public spending in rentier states sample) in comparison with mean of previous 5 years. Standard errors are given in parentheses.

Table 12 Robustness Checks for Hypotheses 4-7 (Using Free Resources to Population Rate over US100$ for Defining Rentier States)

Dependent Variable: Welfare Spending	Fuels Sample	Free Resources, Revenues Per Capita Sample
Regime Type	0.60***	0.43***
	(0.15)	(0.07)
New in Office	-0.28	0.68
	(1.03)	(0.79)
Coup Attempts	-6.59***	-4.05**
	(1.53)	(1.25)
Volatility of Free Resources	-1.89*	-0.74
	(1.05)	(0.71)
Logged Population	-0.05	-0.72**
	(0.46)	(0.26)
GDP Growth	-0.11**	-0.13***
	(0.05)	(0.04)
Logged GDP	-1.10**	1.56***
	(0.48)	(0.22)
Life Expectancy	0.31***	-0.08*
	(0.09)	(0.04)
Ethnic Fractionalization	-0.95	-8.80***
	(1.87)	(0.89)
Muslim Population	-2.25	-3.85***
	(1.58)	(0.93)
Protest	-0.33	-3.90***
	(0.83)	(0.61)
Free Resources	-4.52**	-2.13
	(2.27)	(1.44)
Region Dummy: Africa	4.68**	1.68**
	(2.01)	(0.76)
Region Dummy: Asia	0.83	-0.08
	(1.16)	(0.61)
Region Dummy: Europe	14.04***	9.50***
	(1.41)	(0.56)
Region Dummy: Middle East	4.20**	3.58***
	(1.74)	(0.98)
Constant	14.46**	-7.89**
	(6.40)	(3.14)
N	462	2056
R-Squared	0.63	0.56

* p<0.1; ** p<0.05; *** p<0.01

Note: Comparison of the sample with states with only fuels and states with all types of free resources. Here, I use definition of free resources as total revenues from free resources divided on population size. Then, countries with free resources are theorized as those which receive at least 100$ per capita from some type of free resources. Standard errors are given in parentheses.

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