The Determinants of Social Expenditures in the Middle East: Oil, Taxes and

Electoral Fraud

by

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A thesis submitted to the

Faculty of the Graduate School of the

University of Colorado in partial fulfillment

of the requirement for the degree of

Doctor of Philosophy

Department of Political Science

2012

This thesis entitled:

The Determinants of Social Expenditures in the Middle East: Oil, Taxes and Electoral
Fraud

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the content and the form meet acceptable presentation standards of scholarly work in the
above mentioned discipline.

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The Determinants of Social Expenditures in the Middle East: Oil, Taxes and Electoral Fraud

Thesis directed by Associate Professor Andy Baker

The ongoing revolutions in the Middle East and North Africa represent a turning point in the political systems of these predominantly Muslim countries. This dissertation argues that the variation in the type of the social movements these populaces adopted is partly a function of their social policies. I contend that the relationship between resource abundance and government tax revenues is not as straightforward as posited by the rentier state theory. Instead, social expenditures are *lower* in resource-rich countries, and different types of taxes move in opposite ways. Together with the social expenditures argument, the findings on the taxes suggest that the rentier state theory needs significant modifications of causal links. Finally, in order to explain what drives the level and the timing of social spending in the MENA region, I introduce a new concept, electoral fraud, to the equation. During and around fraudulent elections, incumbents boost social expenditures in order to circumvent the potential negative reactions from their electorate. These spikes in social expenditures tend to stick for a long time after the elections, due to the institutional arrangements established to implement them. All these above factors play a role in the initiation of the Arab Spring. The citizens who benefited from generous social programs throughout the 1980s and 90s have been frustrated with the retrenchment of their safety nets. Given the findings of this thesis, it is no surprise that the revolutions did not occur in the oil rich states of the region, with the exception of Libya. Since oil-rich countries spend *less* on social provisions and do not necessarily tax less than their oil-poor counterparts, they were not affected as much by the economic austerity measures sweeping the region, and therefore did not experience high levels of social protest. On the contrary, Tunisia and Egypt, two resource-poor countries with relatively high levels of social provisions went through significant levels of retrenchment, and therefore experienced the revolutions toppling their decades-old dictators.

Acknowledgments

I deeply thank my advisor Andy Baker for letting me follow him to Boulder, Colorado from Boston, and helping me in every step of the Ph.D., giving me invaluable support and critical feedback.

The other members of my committee, David Brown, Joe Jupille, Moonhawk Kim and Jennifer Spencer took the time to provide me with constructive criticism, and guided me in building a comprehensive argument. I thank them for their time and genuine interest they showed to my project.

Without the support of my fellow graduate students and friends, this project would have been impossible to accomplish. First and foremost, I would like to thank Gulay Ugur Goksel for her sense of humor and relentless support. In addition, I am indebted to InSeung Kay, Ana Leon, Melanie Sisson, Eamon Aloyo and Yvonne Dutton and Esril Erdogan for being there when I needed them.

Finally, the support of my family throughout my educational life is the crucial factor in the production of this dissertation. My mom, dad, second mom and dad (aunt Mutena and uncle Enver), brother, sister, nephew, and cousins all had significant contributions to this dissertation's progress. I thank them all for everything.

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Chapter I

Introduction

The Arab Spring and the Rentier State Theory

What is the real motivation behind the Arab Spring of 2011? Is it the ennui of the

Arab masses with the dictators who had been ruling them for decades? Is it foreign

intervention in the form of the United States' changing Middle Eastern policy? Or is it the

Islamists' latest attempt at achieving political power in predominantly Muslim countries?

This dissertation argues that, in addition to those factors, and more importantly, the

changing nature of social policies in the Middle East is the main agent in explaining the

Arab discontent. More specifically, I intend to show that existing research such as the

rentier state theory and the resource curse hypothesis do not hold well when scrutinized

in the developing countries, and the Middle Eastern context. Instead, I propose a more

straightforward account of social policies in the Middle East, based on the assumption

that leaders maximize their utility by finding ways to stay in power longer. Simply by

looking at when fraudulent elections occur, we can estimate the fluctuations in social

spending in developing countries. This finding casts doubt on the validity of the existing

theories in comparative politics.

The study of the Middle East in comparative politics has developed hand in hand

with the emergence of the rentier state theory in the 1970s. Mahdavi coined the term

"rentier state" in his treatise on Iran and defined it as the "countries that receive on a

regular basis substantial amounts of external rent" (1970, p. 428). Not all rentier states

are located in the Middle East and not all states in the Middle East are rentier states. Nonetheless, the rentier state theory has been largely associated with the oil rents that many Middle Eastern countries enjoy, and it is seen "one of the major contributions of Middle East regional studies to political science." (Anderson, 1987, p.9).

The rentier state theory attempts to explain the effects of resource abundance on a variety of factors such as democratization, economic development and political violence. It argues that rents are the cause of lower levels of taxation and higher levels of social spending, and these in return make citizens more complacent towards their authoritarian leaders (Ross, 2001). In addition, the theory posits that resource exports drive up the price of other exports, harm the existing domestic economy, and therefore slow down economic development (Sachs and Warner, 1995). Finally, resource rents seem to have an effect on the onset of civil wars because factions are more likely to fight over the allocation of the resource income (Collier and Hoeffler, 2005).

The rentier state theory posits that rentier states share certain characteristics. First, rents generated by resources create a certain kind of mentality dominated by inertia. Politicians do not need to work hard and grow the economy, as the extra income supposedly helps fund social safety nets, and therefore buys off the citizenry without increased production. Second, also known as the resource curse, resource abundant economies suffer from extreme vulnerability to price shocks in the commodities they export, preventing the development of other sectors in the economy. Third, rentier states develop political institutions which tend to concentrate both wealth and political power in the same hands. Rentier politicians are, according to the rentier state theory, spenders and they do not tax, disconnecting the political elites from accountability to the citizenry.

Therefore, rent economies generate and sustain authoritarian regimes through the distribution of benefits, and the removal of taxes (Yates, 1996; Mahdavi, 1970; Beblawi and Luciani, 1987).

In this dissertation, I challenge the causal mechanisms outlined by the regime type argument of the rentier state theory and show that the taxation and social spending hypotheses (i.e. rentier states do not tax their citizens and they spend more socially) do not hold up empirical scrutiny. More specifically, I first show that resource abundance *reduces* social spending in developing countries, contrary to the supposition of the rentier state theory. Then, I present further evidence that resource abundant countries do not necessarily have lower levels of taxation, again belying the rentier state theory's logic. Given these findings, it seems that the negative relationship between democracy and resource abundance is not well explained by the rentier state theory.

These findings show that we need to develop more nuanced causal stories in order to explain the social spending and taxing patterns in developing, and more specifically Middle Eastern countries. I attempt to develop a model which proposes a different causal relationship between regime type and social policies. Positing that social expenditures and taxes are contingent on the willingness of incumbents to stay in power, I test and find that social expenditures experience a spike before fraudulent elections. Finally, I compare Tunisia and Morocco in terms of their social policies and resource endowments to reveal the processes through which resource abundance affect public social expenditures.

Social Policies in the Middle East

Starting with the Jasmine Revolution taking the Tunisian dictator Ben Ali down, a series of rebellions swept through the Middle East since the beginning of 2011. Also

called the Arab Spring, the events in Egypt, Libya, Bahrain, Yemen, and Syria turned into intense revolts. Many deaths caused by state police and armies fueled the anger and reaction of the masses. These events were partly the outcome of high unemployment among the youth and the lack of social protection, leaving educated masses with little possibility of sustaining themselves.

Realizing that this was the problem, Middle Eastern governments quickly reacted with a boost in social expenditures. The food and fuel prices were already highly subsidized in the region before the events. Governments increased subsidies, tax cuts, salaries and minimum wages, unemployment benefits and welfare spending even further after the rebellions. (The Economist, 2011). These data show that there exists a connection between authoritarian governments' will to stay in power and their social expenditure patterns (see table 1), and this dissertation elucidates the association of authoritarianism to social spending through fraudulent elections.

Table 1. Subsidies Proposed by Middle East and North Africa Governments

	New Subsidies as a response to the Arab Spring (2011)
Algeria	$156 bn on new projects
Bahrain	$100m to families
Jordan	higher salaries for civil servants and military, tax cuts on fuel and food
Kuwait	$4000 for each citizen, free food for 14 months
Libya	$450 for each family, abolition of taxes on food
Oman	50000 new government jobs
Saudi Arabia	15% wage increase for public sector workers
Syria	consumption tax cut on coffee and sugar
Tunisia	additional food subsidies

Source: The Economist, 2011

These "subsidies for peace" has always been part of the Middle Eastern governments' policies regardless of political violence. However, these policies varied a great extent across the Middle Eastern and North African (MENA) countries. The aim of this dissertation, in conjunction with revealing the causal mechanisms of the rentier state theory, is to document the reasons behind the variation of social policies in the MENA region. From Morocco to Yemen, social expenditures across these countries vary from non-existent to significant social safety nets. Explaining this variance can help understand some of the political and economic problems that the region experiences chronically.

A couple of concrete examples can help illustrate the discrepancies in the rentier state theory and point to the insufficiency of the "regime type" arguments in explaining the variance across social policies throughout the MENA region. Tunisia, Morocco and Algeria share similar historical backgrounds and geographical features. However, they cannot be more different from one another in terms of their social policy choices. According to the World Bank, Tunisia has the best social conditions in the MENA region. It has one of the lowest poverty rates and the best gender equality indicators among its peers. In contrast, Morocco has one of the highest poverty and illiteracy rates in the region. How can two fairly similar countries with similar backgrounds fall this much apart in terms of social development?

The following research suggests that a combination of three factors, resources, taxation and electoral fraud, can explain the variance in social spending in the Middle East. In contradiction with the rentier state theory, resources *reduce* social spending in developing countries, because they export rent-seeking behavior and corruption to the other sectors of public finance. Again, as opposed to the rentier state theory, governments

tax their citizens at different rates in resource-rich countries, and not less overall. This allows them to use a share of their revenue on social expenditures. Finally, fraudulent elections boost social expenditures because leaders cushion the disappointment generated by stolen elections with increased spending. These factors account for the majority of fluctuations in social spending in less developed countries, and in the Maghreb more specifically.

Perhaps the most plausible alternative explanation for the divergent social policies and outcomes of the Maghrebian countries is related to the regime types these countries have had since their independence. Algeria gained its independence from France in 1962 with guerilla warfare, which cost the lives of 1.5 million people. With this nationalistic fervor, the army and its political party the National Liberation Front (FLN) controlled the politics of the country for the following 30 years. The Islamic insurgency and the civil war in the 1990s was suppressed by the army and the regime started to look more and more militaristic than a single party regime.

Tunisia, on the other hand, initiated its independence movement with political parties instead of an armed insurgency. First called the Young Tunisian Party, the Destour, and then the New Destour Party, the Tunisian independence took a form of a political movement complemented with terrorist activities. After the independence in 1956, the political nature of the movement carried on, making it a one party system ever since. At the brink of their first democratic elections after the revolution in 2011, Tunisians will, for the first time, have a choice between different parties. However, it is fair to say that up until now, Tunisia was a single party autocracy.

Morocco has had a different history from its other Maghrebian counterparts. It has always been ruled by dynasties since 1511 and by the Alaouite Dynasty since 1659. Even when it was under the rule of the Ottomans, the Spanish or the French, the dynasty reigned over the country, the king being the representative of Morocco's sovereignty at all times. Still a dynastic monarchy, Morocco has regular elections for the parliament and is categorized as "partly-free" by the Freedom House. However, no political decision can be taken without the approval, knowledge or consent of the King. Therefore, Morocco remains a traditional dynastic monarchy.

Insofar as regime types matter in determining social policies across countries, the regime characteristics of Tunisia, Morocco and Algeria may be posited to explain their divergent social spending levels. One way of comparing these regimes is to rank them in terms of their levels of democratization. Morocco is partly free, and has relatively free elections in which the opposition parties (i.e. the parties not supported by the king) can potentially win[1]. Algeria experimented with democratic elections during the 1990s and this lead to a violent civil war, more military control and authoritarianism whereas Tunisia (until the revolution) had always been authoritarian, with heavily controlled elections. Therefore, we would expect Morocco to have more extensive social policies than the other two countries. In fact, the opposite is the case. Both Tunisia and Algeria spend more on health and education, and have lower levels of people living in poverty according to the World Development Indicators. Morocco also has much higher rates of unemployment and lower levels of literacy. The level of democracy then, does not fully

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[1] After the 1998 elections, the opposition socialist party formed a coalition government in Morocco. This was the first instance of the opposition having a say in politics in the Arab world.

explain the social policies and outcomes in these three countries, and, as I will argue, in the rest of the Middle East.

An alternative explanation to the divergent paths of the MENA countries in terms of social spending is the rentier state theory's position that low taxes and higher social expenditures are maintained through resource rents. The possibility that resources fund social expenditures does not bear with the living standards and complaints of the region's societies. Besides exceptionally small oil-rich countries (i.e. Qatar, the United Arab Emirates, Bahrain, and Kuwait) and Saudi Arabia as the ultimate petro-state, most developing resource-rich countries are spending *less* on social policies than their resource-poor counterparts. The rentier state theory based its conclusions on these outlier countries which behave exactly as the theory predicts. However, resource rich countries are not limited to these high petroleum exporting economies and overall, resource rents seem to not work their way through social spending.

The above discussion is not meant to discard the importance of regime types and resources in explaining social policies across developing countries. Rather, it argues that regime type and resources are not enough to explain the variation in social policies in developing countries, and in particular, in the MENA region. A more nuanced understanding of how resources affect social expenditures, and their funding (i.e. taxes), and a causal mechanism explaining how the regime types might change social policies are offered in this dissertation.

Regime types differ from one another in many ways (i.e. representativeness, competitiveness, separation of powers, veto players). It is not enough to simply claim that democracies increase social expenditures around the globe. Chapter IV attempts at

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delving more into the causal mechanisms between regimes and social policies. It specifically focuses on electoral fraud and how social expenditure spikes can be related to the desire to remain in power. In recent years, electoral monitoring and pressures on governments to implement freer and fairer elections have increased. However, there are covert ways to exert electoral fraud and incumbents are usually experts in finding ways around monitoring. In fact, Simpser (2008) argues that monitoring can have unintended consequences, pushing incumbents to use methods that are less detectable and hence making fraud more commonplace than expected.

Electoral fraud has been one of the major strategies through which many developing countries remained authoritarian, and incumbents held on to their seats. Called "stubborn authoritarianism" by Posusney and Angrist (2005) in the context of the Middle East, the persistence of authoritarian regimes has, in part, been possible through electoral fraud. The recently ousted Tunisian dictator Ben Ali remained in power for 24 years through "elections" where he supposedly received 100% of the votes in some areas of the country. Such examples abound where ballot stuffing, miscounting, preventing candidates from running, dividing the opposition and many more other creative strategies help incumbents remain in power. It is imperative to understand that electoral fraud is not just another proxy for regime type. The non-existence of fraud does not automatically qualify a country as a perfect democracy, and the existence of fraud does not make a country completely undemocratic (see Lehoucq, 2003 for cases of unsuccessful electoral rigging). Regardless of the regime outcomes generated by electoral fraud, this dissertation argues that fraud affects social spending in developing countries.

Case Evidence from Tunisia: Electoral Fraud and Social Spending

Even though there is an increasing number of academic papers examining electoral fraud, the reactions of the people against fraudulent elections have not been examined systematically. During my fieldwork in Tunisia, I encountered and interviewed several Tunisians at the countryside. The prevailing opinion was the frustration with the existing meaninglessness of the elections in the country. The interviewees felt they were tricked. They were upset that the authorities thought they won again, even though the whole process was a sham. The act of fraud does not go unnoticed. A certain level of resentment builds up, regardless of whether it turns into action or it is simply felt but not acted upon. However, incumbents are rational actors who can calculate the potential resentment on behalf of the citizens in cases of electoral fraud, and they take precautions to minimize the reactions.

There are two major ways through which incumbents like Ben Ali can work on minimizing the citizens' retort to fraudulent elections. First, they revert to oppression and violence. Several states including Tunisia, Iran and Bahrain have become police states, where there are periodic imprisonments of journalists, opposition voices and members of radical groups. An aura of fear prevails, making citizens frustrated, but incapable of acting on it. This was the situation in Tunisia during the summer of 2010, where I asked a Tunisian lady whether she wanted more freedom. Her answer represents the Arab psyche throughout the 20th century: "This is an Arab country, what do you expect?".

In addition to fear, and in conjunction with it, Ben Ali, like his counterparts around the world, attempted at looking like a benevolent dictator. The most visible and easiest way to establish this image is to boost social expenditures and lower visible taxes. The rentier state theory makes the fundamental attribution error by associating the social

expenditures and lower taxes with resource abundance. Instead, *regardless* of the level of resources countries possess, the will to remain in power makes incumbents optimize the level of taxes and social provisions they choose. Ben Ali tried to do exactly that, however he failed in maintaining the right balance between social safety nets and political oppression, a complication which led to the initiation of the revolution, and which will become clearer in the fifth chapter.

The Tunisian dictator is the quintessential example of the benevolent, yet, to-be-feared dictator. Ben Ali created a web of highly visible and advertised social support institutions in the early 1990s. This effort to bring Tunisians out of poverty was called the National Solidarity System of Tunisia and it comprised of the National Solidarity Fund, the Tunisian Solidarity Bank, The National Employment Fund and the system of microcredits. The funds were used to replace substandard housing, for electrification, schools, clean water and other social projects. More importantly, the President declared December the 8th as the Tunisian Solidarity Day, during which Tunisians are encouraged to make a donation to the Solidarity Fund to help the poor. During my interviews, the officials of the Fund claimed that the majority of the financing was coming from Tunisians themselves, and that this showed their love and support for Ben Ali's regime. However, statistics show that only 39% of the financing comes from Tunisians, and the rate is inflated due to the large contributions from families and businessmen known to be close to Ben Ali's family.

The above example is not meant to minimize the positive effects of the National Solidarity Fund on the lives of many Tunisians. The Fund and its achievements made Tunisia the country with the least poverty in the MENA region today. Yet, this is

precisely the point I am trying to make in this dissertation. The proclivity of leaders to remain in power as long as possible through fraudulent elections is the main driver of social expenditures in the MENA region, and more generally in developing countries. Therefore, the more we see instances of electoral fraud, the more we will experience spikes in social spending. It is no surprise that Ben Ali was the one who established such an extensive form of social solidarity program: he was in power the longest as a dictator, he rigged elections for five terms, changed the constitution to be able to run again and left no room for opposition voices. Social policies, and especially advertised ones, are more extensive in countries where electoral fraud creates frustration among the populace. The longer a leader stays in power *through rigged elections,* the higher the social spending levels will be in that country.

Revolutions and Social Policy

Why didn't Ben Ali's efforts to provide social safety nets to secure his hold on power work? This is the first question that comes to mind after reading the above discussion. Here, I will try to explain why the fall of some of the Arab regimes and the ongoing rebellions are, in fact, supporting the arguments outlined here. Let us review the major arguments of this dissertation. First, oil abundance, and resource abundance in general, does not lead to an increase in social expenditures, like the rentier state theory predicts. Second, resource abundance does not decrease taxes, but has a more nuanced relationship with them, again contradicting the rentier state theory. Finally, electoral fraud is one of the main drivers of social expenditures in developing countries, resulting from the desire to seem benevolent by incumbents.

Before examining the relationship of the revolutions to the above arguments, we need to establish the meaning of the revolutions and the ousting of some incumbents. It is hard to establish whether these were "failures" on behalf of the incumbents who remained in power for much longer than they were expected to. It might be the case that the social expenditures put forward by Ben Ali and Hosni Mobarak were tools that were instrumental in maintaining their long term hold to power (24 years and 30 years respectively). We do not have counterfactuals to assess whether these leaders would have fallen earlier, had they not "bought off" their populace. However, we may gather evidence showing that it was the insufficiency of the social safety nets that lead to widespread protests of the Arab Spring.

The Tunisian revolution started with a single brave college graduate's heroic act. Mohamed Bouazizi, trying to make a living by selling fruit on the streets of Sidi Bouzid, burned himself after suffering from the harassment of police forces. This event triggered a series of both non-violent and violent protests by Tunisians, which eventually led to the fleeing of Ben Ali from the country with his family members. If we examine what started the protests and who was involved the most heavily, we can see the importance of social policies in the initiation of the Arab Spring which started in Tunisia. Bouazizi was a college graduate with hopes of a middle income, white collar job, but instead ended behind a fruit cart. The support he received and the subsequent movement was fuelled mostly by Tunisians who were in the same position as his. The Jasmine Revolution happened when the Tunisian unemployment among higher education graduates was around 23% among males and 44% among females, corruption rampant and revealed by Wikileaks, The protestors were complaining about the lack of opportunities, and the discrepancy between the promises of a college education vs. the delivery of these

promises. On his television address to the people during the events, Ben Ali pretended that these protestors were radicals, fringes of the society, and claimed that the law would be implemented firmly, to prevent the events from becoming worse. What either he missed, or tried to misrepresent was clearly the fact that these protests were by no means radical, but they hit the heart of the Tunisian society, covering a wide base from housewives to mine workers.

Tunisian universities produce 80.000 graduates each year, many of them with no prospect of finding jobs pertaining to their training. The service sector in Tunisia is not growing fast enough to absorb the recent graduates. Since the main export items of the country consist of agricultural products and textiles, and some oil, these areas of production do not create jobs for college degree holders. Moreover, the private sector in the country is crowded out by the state sector, largely to accommodate the redistribution of the rents to the relatives and close acquaintances of Ben Ali, and Leila Trabelsi, the first lady accused of taking 1.5 tons of gold bars from the Central Bank of Tunisia before fleeing the country. In brief, the Tunisian economy could not accommodate its unemployed youth, did not provide enough social safety nets for this section of the society and therefore Ben Ali could not hold on to power for the next 25 years.

It can be argued that the Tunisian Solidarity Fund and the National Employment Fund could have mitigating effects. As mentioned before, the Solidarity Fund was used to bring the poor southern regions of the country closer to the more developed parts of the north. It was not geared towards helping the urban educated youth. This strategy of prioritizing the underdeveloped parts of the country can be explained by its visibility and

capacity to show the president as a benevolent dictator supporting his people. It was a cosmetic choice rather than what the country needed demographically.

Similarly, the National Employment Fund had the goal of providing basic skills and blue collar jobs to the uneducated, or undereducated parts of the society. Only 7% of the beneficiaries of the program are higher education recipients. Trainings for jobs such as pastry making and horticulture were provided to improve the overall skill level of the population. However, it is unclear whether these efforts amounted to the creation of new jobs and more income. In the end, the Employment Fund was not a successful attempt at curbing unemployment, particularly in the urban areas where the educated is incapable of making good use of their skills.

In this section, I tried to demonstrate, in the context of Tunisia, that the lack of necessary social safety nets, the misuse of the government's resources for popular projects rather than useful ones and the emergence of an educated youth with no prospect of jobs led to the revolutions that the MENA region is experiencing since the beginning of 2011. Insofar as incumbents use social policies to maintain their popularity, remain in power and seem benevolent, the strategy does not always work. However, electoral fraud as a necessity for incumbents to keep their office remains as one of the main reasons why social expenditures are periodically increased in developing countries. Next, I outline the remaining parts of the dissertation.

The Outline of the Dissertation

The argument of this dissertation is organized in a linear fashion, moving away from the rentier state theory to the survival strategies of the incumbents. Chapter II demonstrates that resources do not affect social expenditures in the way expected by the

rentier state theory. Then it explains why resources are inimical to social spending, following the resource curse logic of the relationship between democracy, economic development, and resource abundance. The causal mechanism between resources and social spending is further explained through the in depth and historical case comparison between Morocco and Tunisia in the 5th chapter. Basically, the high rents generated by resources leads to corruption and rent-seeking behavior, which spills over to the other sections of public finance and spending. A comparison of Tunisia and Morocco's phosphate industry reveals the ways in which corruption in the resource sector creeps into the social sector.

The third chapter analyzes the revenue side of government finances affecting social spending. More specifically, it looks at the taxes developing countries collect from their citizens, and directly tests the implications of the rentier state theory. The expectation that all taxes are lower in resource rich countries is not borne out with the data. Certain types of taxes (i.e. income tax) are higher in resource rich countries, a contradiction that needs to be explained. I propose a justification for this finding, suggesting that incumbents try to achieve the dual goals of appeasement and income generation. Therefore, they increase some tax rates and decrease other (i.e. consumption taxes) to balance these conflicting goals. This finding confirms that social expenditures could be funded by taxes even in resource rich countries, and not resource revenues (the finding of chapter 2). Chapters 2 and 3 together point to a need for a new way of thinking about social expenditures in developing countries.

Chapter 4 moves beyond the rentier state theory and posits a new causal story between social spending and regime type. Democracies are usually known to spend more

on social welfare than their authoritarian counterparts. However, certain types of authoritarian leaders also have strong incentives to boost social spending at times. This chapter suggests that electoral fraud is usually associated with higher levels of social spending, because incumbents try to minimize possible popular reactions to the rigging of elections. Democracies overall may have higher levels of social spending. However, electoral authoritarian countries are not immune to pressures to increase welfare expenditures. Electoral fraud, and not resources, explains better the social policies in developing countries.

The final empirical chapter compares Tunisia and Morocco in terms of their phosphate abundance and social spending. Morocco is considered as a resource rich country with one third of the world's phosphate reserves, whereas Tunisia is resource poor with some phosphates, and some oil, but not enough to affect its GDP significantly. Consistent with the theory proposed in this dissertation, Tunisia is a big social spender with an emphasis on education whereas Morocco is one of the laggards of social spending in the Middle East, with a large illiterate population under poverty. This chapter tracks the political histories of these two countries, starting with colonial times, and explains how their social institutions developed over the course of the 20th century. Among many other reasons, resources play a role in the shaping of social policies. Morocco's rents accrue primarily to the king and the Office Chérifien des Phosphates, which funds several public positions and projects in the Moroccan parliament. These rents trigger rent seeking behavior and corruption in the Moroccan parliament, which spills over to all aspects of public finance. Social spending which could reach the Moroccan citizenry is wasted away in nepotism, projects that benefit the already privileged classes and the royal family. This way, resource abundance actually lowers

social expenditures whereas countries like Tunisia with little resources do a much better job managing their scarce income and redistribute higher portions of the government revenues to the people.

Overall, this dissertation suggests a novel way of looking at social spending in developing countries, moving away from resources and non-tax income, and focusing more on tax revenues and the needs of incumbents. It applies the existing theories on the survival strategies of politicians to the study of social spending, and confirms that leaders all around the world are motivated by their will to stay in power. Social policies complement fraudulent elections in helping them suppress the reactions of the masses.

Review of the Literature

In order to elucidate the causal connections between and within the chapters of this dissertation, the following section covers the existing political science body of research on the resource curse, taxation, and electoral fraud. First, resource abundance and its effects on social policies are reviewed in detail. Then, the determinants of taxation and different types of tax rates are related to social spending as they represent the single most important funder of welfare states. Third, the connection between electoral fraud and social spending and theories pertaining to the initiation of electoral fraud are examined. Finally, these three streams of research will be brought together to form the main theory of this dissertation: rigged elections, and not resource abundance, are the main determinants of social spending in developing countries, and taxes still consist a significant revenue generator for public spending even in resource rich countries.

Existing Research on Resource Abundance

To date, the potential effects of resource abundance on social policy in LDCs have seldom been systematically and empirically studied[2]. This dearth of analysis is surprising, given that resources have attracted significant attention in the areas of democratization and development (see Rosser 2006 for a review of the arguments). The revenue emanating from natural resource exports fund many projects in LDCs where capital is

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[2] One exception is Morrison (2009) which looks at non-tax revenues and their effects on various policies. However, Morrison's sample in the social spending regressions includes only dictatorships and his independent variable is non-tax revenue, not just resource revenues. The sample used in this paper includes all regime types from LDCs, allowing to control for a regime type variable, one of the main determinants of social policy in the literature.

especially scarce[3]. Yet, this revenue may influence social policy in two opposite ways. On the one hand, by providing extra income for the state, it can motivate leaders to designate a percentage of the revenue to a social policy that could buy support. On the other hand, abundant resources may inhibit social expenditure because they incite corruption, clientelism and a lack of taxation that breaks the link between the population and the rulers.

This dissertation agrees with the latter explanation and presents evidence supporting the negative effects of oil exports on social policy. The causal mechanism is organized into three distinct paths. First, using the "no taxation, no representation" literature, I extend this logic to the lack of social benefits and explain how low taxes combined with authoritarianism is also detrimental for social spending. Second, I introduce the rent seeking behavior and corruption generated by resource abundance, as another important causal link between resources and social expenditures. Finally, I also introduce the possibility of a tradeoff between security spending and social spending. The resource rents could be used for security purposes, reducing the available income for social security. These three causal mechanisms together can account for the negative relationship between resources and social spending.

One way of looking at this linkage is the "no taxation, no representation, no benefits" hypothesis. It follows the resource curse argument that links the lack of a need for taxation to the lack of representation in resource-rich countries. Resources generate

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[3] According to the Energy Information Administration, the top oil exporters as of 2006 were Saudi Arabia, Russia, Norway, Iran, UAE, Venezuela, Kuwait, Nigeria, Algeria, Mexico, Libya, Irak, Angola and Kazakhstan. The only industrialized country in this list is Norway. In the oil production list, the US and Canada rank 3rd and 7th respectively. However, these countries do not export their production as much and consume it domestically. My argument about oil abundance relies on the dependence on the revenues from oil exports, therefore I focus on the oil exporters, and not as much as oil producers. This also makes sense from a theoretical point of view: Only when oil is exported in large quantities does it affect the domestic economy and politics in a significant way.

rents which are immediately seized by political elites. These latter take these rents and use them to promote their own political fortunes and survival (Ross, 2001). The extra income generated by resources vanishes through a large security apparatus, rent redistribution to political supporters and, of course, themselves. This process leaves no extra revenue for the social provisions the state intends to supply. Nor is there any incentive for these leaders to redistribute the revenue to the larger population. In fact, resource exports even reduce social expenditure because once a revenue is appropriated through illegitimate means, the doors open for other types of resources to be used inefficiently. Combined with corruption then, resource revenues are appropriated by political elites, allocated to certain privileged groups, and used to buy weapons, tanks and hire large police forces. Social expenditures do not receive a share; they are simply not a political priority.

The "no taxation, no representation, no benefits" hypothesis has its roots in the early rentier state literature but it expects the converse of the rentier state theory's predictions. This theory posits that resource rents will provide funding for social redistribution, allowing leaders of these countries to remain economically detached from the masses (Mahdavy, 1970). Since citizens are not taxed, or taxed at very low levels, they often do not expect a say in political affairs, especially when resource rents are used to provide social services. In contrast, this chapter argues that while resource-rich LDCs may have the means of providing these social services, the detachment and low expectations of the citizens translates into a government that simply does not supply them. Low levels of taxation contribute to a more complacent society and fewer demands even for political representation (Huntington, 1991). Once the economic connection between the state and the citizens is disrupted through the revenues of natural resources,

both representation and public services may become obsolete (Collier, 2007). Leaders, by virtue of not demanding tax revenue, also are able to sidestep accountability, and evade offering social services to their constituents. Therefore, instead of increasing social redistribution like the rentier state theory posits, resource rents may actually reduce the demand and therefore the provision of social policies by governments.

Another way of looking at this relationship involves the possibility that resource abundance undermines governmental accountability by "eroding checks and balances" (Collier, 2007). In brief, "no taxation, no representation, no benefits" is exacerbated by the lack of separation of powers. "No taxation, no representation" is often accompanied by "no checks", when resources provide the leaders the luxury to buy off or suppress factions. These countries need more veto points, or meaningful checks on the ruler, that can stop resource rents from being appropriated. However, they usually have fewer institutions or parties which take part in decision making. Consequently, the complete lack of accountability removes the incentive to serve the citizens. Thus, citizens have no appeal mechanism to complain about the government's decision to use resource revenues. Collier summarizes this point with "no accountability without taxation". Without accountability, it is very unlikely for resource revenues to be used efficiently and reach to the totality of the population. This is endemic to resource rich countries, where the larger resource curse hypothesis suggests an erosion of accountability and checks and balances. I add to this train of thought the additional chain of social policy and claim that resources will reduce social spending due to the lack of checks and balances. So far, the causal procession of events can be summarized as follows: first, resource abundance

significantly reduces the level of taxation the citizenry has to incur[4]. Then, low levels of taxation disconnects the society from its rulers, making representation a remote possibility. Finally, the lack of institutional and societal checks and balances exacerbate the situation by removing all pressure from the leaders to act for the universal welfare of the people, reducing the level of social expenditures in these countries with respect to their resource-poor counterparts.

The second leg of the causal mechanism is the corruption/rent-seeking behavior generated by resource abundance. This phenomenon has been named the "paradox of plenty" by Karl (1997), who argues that petroleum abundance has dire consequences for the political and economic institutions of developing, as well as developed countries. Oil booms create significant levels of extra revenue to governments, who invest in developmental projects as well as corruption and patronage. From an institutional perspective, resources override established norms by providing the additional income necessary to make changes to existing systems. However, this is a double edge sword, because new institutional arrangements also give way to more opportunities for corruption. The wasteful usage of resource rents and low levels of taxation carry on even when resource revenues do not keep up with the boom levels. The end result is a system of wasteful spending funded by debt, declining production and economic crisis. The "paradox of plenty" applies to all petroleum rich countries, from Norway to Venezuela, according to Karl. This seminal work also argues that resource rents in Venezuela have subsidized jobs, services, health and especially education for the middle classes. However, as Karl acknowledges herself, Venezuela's public social expenditures have increased as a function of democratization, and not necessarily due to the resource

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[4] In the following chapters, I will qualify this statement and differentiate between the types of taxes.

revenues. The only way to disentangle the effects of regime type and resources is to run a multivariate analysis, which I take upon in this chapter.

The third and final leg of the argument relates to the opportunity costs of providing social services to appease a society. By allocating resources to social policies, governments would have to forego other types of policies or consumption items. One particular item that is dear to these leaders is repressive forces (Ross, 2001). When faced with the option of providing social benefits vs. creating a large security apparatus to suppress their citizens, the leaders may opt for the latter because this option can turn out to be cheaper and more efficient[5]. This "repression effect" can overcome the "rentier effect", and the resource rents may work in opposite directions for repression and appeasement.[6]

One possible objection to the above reasoning comes from the existing literature on the resource curse. Some believe that resource abundance can affect social expenditure simply through its impact on development and democracy. If resources hamper democratization and development, then social policy spending should follow suit, and be lower than less resource-rich countries. In fact, existing research consistently shows that higher levels of democracy and development are associated with higher levels of social expenditure (Avelino et. al, 2005; Wibbels and Ahlquist, 2007; Haggard and Kaufman,

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[5] Acemoglu and Robinson (2000)argue that repression is not always the cheapest and most efficient choice for political elites, who may opt to democratize and redistribute. This option is unlikely for resource-rich countries, however, because the extra revenue provides the income to repress and the incentive to not democratize, in order to keep taking shares from the resource rents.

[6] In this chapter, I do not provide a direct test comparing these two effects to one another. I only test the rentier effect, namely the potential effects of resource revenues on social expenditures. I include a measure of military spending as a control variable and a preliminary test for the repression effect. However, a better test of the repression effect would be the size of the police force and other repressive mechanisms. Therefore, the tradeoff between the repression and rentier effects is posited as a potential causal mechanism here, and not as a testable hypothesis.

2008). Especially if resources create the Dutch disease[7], low levels of manufacture exports can prevent export-led development (Warner & Sachs, 1995; Auty & Gelb, 2001) that several LDCs count on.

The intermediation of democracy and development can be easily controlled with a regression analysis including for these factors. Besides, historical case studies support the "no taxation, no representation, no benefits" explanation better. In the cases of Kuwait and Qatar, for instance, when oil was discovered, the extractive companies directly wrote checks into the hands of the royalty governing the country (Crystal, 1989). Today the exchange is handled by institutions established by the rulers but the logic is the same: royal families are the recipients of oil revenues and they are the only decision makers regarding their allocations. Therefore, even before we could talk about accountability, checks and balances, and any step towards democratization, the political elites in these countries received oil revenues and built a system of corruption and clientelism around it, a practice continuing since the 1940s. The lack of accountability and checks and balances may exacerbate the problem but they are not the initial cause of it. Rather, the cycle begins with the initial resource abundance, which encourages the corruption of the elite, who then are not held accountable for their actions, and neglect to provide for their constituents.

This logic goes counter to the conventional wisdom. Several studies claim that resource abundance should increase social expenditure. One of them suggests that resource abundant states in the MENA region substituted distribution with "support through taxation and representation" to generate popular support (Anderson, 1987). The

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[7] The Dutch disease refers to the appreciation of a nation's currency due to resource exports. This makes the country's manufactured goods more expensive abroad, hampering exports in particular and the economy in general.

author puts forward the examples of Kuwait and Libya as countries which are completely insulated from their society, generating and maintaining popular compliance with the means of distribution, rather than taxation and representation. This way, oil-rich countries redistribute more to suppress the political demands of their people. For Anderson, there exists a tradeoff between developmental policies (i.e. less redistribution, more investment) and social policies and she believes that oil exacerbates this by giving incentives for redistribution rather than economic development.

Similarly, Robinson and Verdier (2002) argue that one of the main reasons why resource abundance negatively affects development is the inefficient redistribution of resources. The authors suggest that political elites disperse the oil revenue to the larger population to influence the outcomes of elections. Finally, Glasser (2001) categorizes the MENA states into those who benefit from exogenous revenues and those who do not, claiming that this distinction can explain social policies as well as development patterns. The states which suffered from fiscal crises (i.e. non-oil rich ones) reformed their macroeconomic policies and financial institutions, cutting down expenditures including social ones. The oil-rich states however, did not have to take drastic economic measures because they dodged severe economic crises with their exogenous revenues. Therefore, they never modernized their economy, and did not have to lower their government expenditures including social ones.

Do some MENA states really redistribute socially more than they spend on developmental projects because they are oil abundant? This chapter agrees that states may buy off their populace through social expenditure, but it contends that they do less so if they have oil rents. Oil revenues are used as patronage towards powerful groups in the society and to build large security mechanisms; they do not reach the larger population.

Therefore, oil abundance reduces egalitarian social expenditures such as health and education. The egalitarian distribution which happens around the elections to appease the public from uprising against electoral fraud is not an outcome of oil revenues. Data utilized in this chapter supports this logic. Resource abundance leads to *lower* levels of social spending, at least to the larger population. The redistribution mainly flows towards already strong factions who are potentially able to spur opposition to the government and these factions represent only a small percent of the population.

Figure 1: Oil and Social Policy
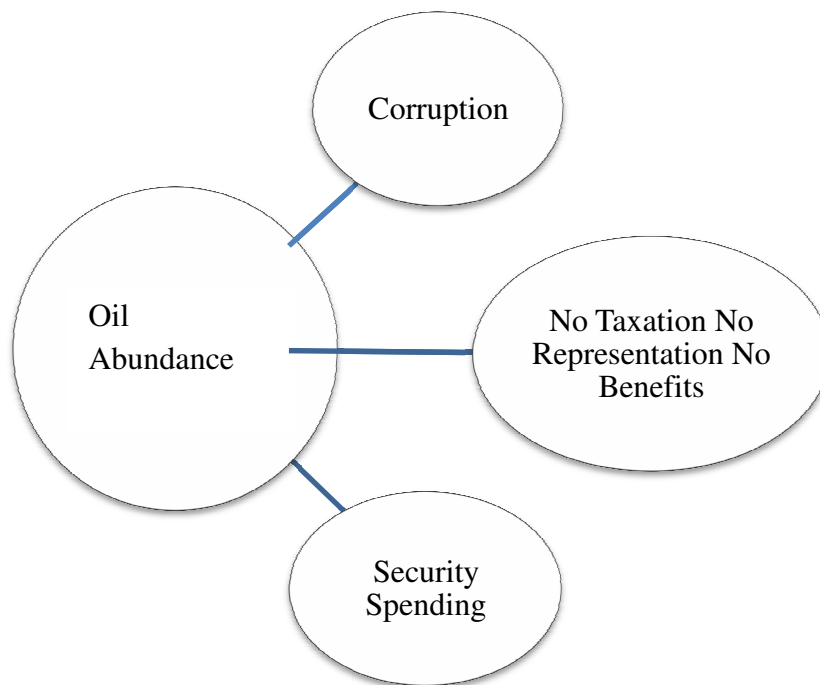
There are only a few empirical studies which directly test the links between social expenditure and resource abundance. One of them argues that dictatorships have higher levels of social spending if they have higher levels of non-tax revenue (Morrison, 2009). Morrison claims that dictatorships will increase social spending because threats to their regime will come from below. Social spending on the poorer segments of the society will

therefore reduce the likelihood of a mass insurgency. This chapter agrees that social expenditure in dictatorships is geared towards appeasing the masses from expressing themselves politically but it disagrees that non-tax revenues are necessarily the reason why social expenditure increases. Dictators use social channels to control the populace in times of elections, exhibiting clear fraudulent activities. The revenue for these social policies may come from tax as well as non-tax sources. Non-tax revenues provide more income to rulers but that does not mean they will be distributed to the poorer citizens. These revenues create all types of political consequences (i.e. corruption, lack of democratic procedures, governance failures…) that may work in the opposite direction in the context of social policy. Oil revenues may especially harm social expenditures, rather than promote them.

Unlike Anderson, Morrison presents compelling empirical evidence that supports his claims. The author shows that in dictatorships, non-tax revenue is in fact associated with higher levels of social expenditure. There are significant differences between his analysis and the one proposed here, however. First, his sample is limited to states scoring 6 or less in the Polity measure. He has a theoretical justification for this choice (i.e. only dictators are afraid of a revolution from below) but this prevents him from controlling for regime characteristics in his regression. In comparison, this chapter looks at all LDCs, democratic or not, and includes the polity variable in the regression analysis as a control variable. Moreover, Morrison's independent variable of interest is non-tax revenue and not oil or resource revenues in particular. He looks at three non-tax revenues individually: state owned enterprises (SOEs), grants and other non-tax revenues. None of these individual components look at resource abundance by itself, but it combines resource revenues with other non-tax revenues. Therefore, Morrison does not conduct a direct test

of the resources and their effects on social policy. This chapter will be the first attempt to do so.

Table 1. Hypotheses

1. Resource exports will reduce the amount of social expenditure in LDCs.
    a. Resource exports will reduce welfare expenditures in LDCs.
    b. Resource exports will reduce education expenditures in LDCs.
    c. Resource exports will reduce health expenditures in LDCs.

Table 1 summarizes the hypotheses which can be derived from the above discussion. All types of social benefits will be lower in countries which export natural resources. More specifically, health, education and welfare spending in developing countries will decrease as these countries export a bigger portion of their natural resources. To sum up the argument of this section then, I propose that corruption and rent-seeking behavior triggered by resource abundance spills over to the redistribution of social benefits. The situation is worsened by the lack of a need for tax revenues through which the citizens are completely disconnected from government finances. Consequently, government revenues are used for rent-allocation purposes and internal security; social expenditures disappear in this exchange. There are no incentives for leaders to redistribute wealth to the larger population, as long as their clientele is satisfied by business deals, public auctions and high-ranked positions in government. A combination of the oppression of the general public and the appeasement of potentially regime threatening factions allows these corrupt leaders to maintain low levels of social expenditure.

However, the fact that the government needs less tax revenues than its resource-poor counterparts does not mean it will completely forego its tax revenue base. In the next section, I discuss the determinants of tax revenues and more specifically, the effects of resource abundance on different types of taxes. Just like resources affect social

spending in developing countries, though in an unexpected way, they also affect taxes, again in unexpected ways. Contrary to the rentier state theory, incumbents in resource rich countries lower some taxes whereas they increase others in order to still collect some revenues to fund public operations, including social policies.

Determinants of Tax Revenue

There is surprisingly little research on the variation of tax revenues across countries in the political science field. One of the major hypotheses has been concerned with the effects of globalization on taxes. Contrary to the conventional wisdom, some researchers have found that corporate tax revenues were positively correlated with economic liberalization (Garrett, 1998; Hallerberg & Basinger, 1998; Swank, 1998). Other studies disconfirmed this finding, demonstrating a negative relationship between effective tax rates on capital and trade openness (Rodrik, 1997). These mixed findings have left the study of globalization as a determinant of tax rates inconclusive.

The above studies focused on globalization as the main variable of interest for their purposes. Only a few studies look at the determinants of tax revenues from both a domestic and an international point of view. Slemrod (2004) analyzes statutory and average corporate tax rates as dependent variables. His models show that other tax rates (i.e. the top individual tax rate and capital gains tax rate) significantly affect corporate tax rates whereas the expenditure to GDP ratio has no effect on these latter. The significance of this study for the purposes of this chapter comes from the author's inclusion of oil reserves in the regression. His aim in doing this is to test whether the existence of oil companies in a country makes it easier for the government to collect corporate taxes from these companies, therefore increasing the overall tax revenues. However he finds no conclusive evidence on the effect of oil reserves on taxes. More specifically, statutory

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corporate tax rates increase whereas average corporate tax rates decrease with oil reserves when his model is fully specified.

Slemrod's research is an important contribution to the literature on the determinants of tax rates across countries. Nonetheless, it is not a direct test of the rentier state theory's assertion on taxes. When Ross talks about rents, he defines them as "largely captured by states via export taxes, corporate taxes, and state-owned enterprises" (p. 331). Looking at corporate taxes will not reveal whether oil reduces tax rates that the larger population, and not the corporations, have to pay. The rentier state theory means taxes on citizens when it refers to "no taxation, no representation", because the people, and not the corporations, may demand political freedom. For this reason, Ross uses the "percentage of government revenue collected through taxes on goods, services, income, profits, and capital gains" (p. 347) as his measure of taxes: it does not include the taxes paid by oil companies.

However, this measure aggregates different types of tax revenue together, leading us to lose the nuances between taxes on consumption and on income. I differ from Ross in three major ways. First, I directly test the effects of oil on taxes by using this latter as the dependent variable. Second, I limit the analysis to developing countries, based on research showing that developed and developing countries behave differently when it comes to resource wealth (see Ulfelder, 2007 for a detailed discussion of the vices of all-countries, all-years samples). Third, I use various measures of taxes, disaggregating taxes on consumption (i.e. goods and services) from taxes on income (i.e. income, profits, capital gains), in addition to the all-inclusive variable of "tax revenues as a percentage of GDP".

Disaggregating Taxes

The World Bank and the International Monetary Fund go to great lengths to collect data on different types of taxes from around the world. The underlying rationale behind the disaggregation of taxes is the possibility that the causes and consequences of different types of tax vary considerably. The main distinction that the political economy research uses for taxation is between corporate vs. personal taxes (Taggart, 1989; Djankov et al., 2008). For the purposes of testing the rentier state theory, however, this distinction is rather irrelevant. We are interested in the effects of low taxation on the larger citizenry, and not on corporations, because the rentier argument suggests a link between the taxes on people and demands for representation. In other words, when the rentier state theory talks about taxes, it refers to the taxes incurred by the whole population.[8]

However, even the taxes imposed on the citizenry as a whole may differ from one another quite significantly. For instance, Johansson et al. (2008) analyze the effects of personal income taxes and consumption taxes on growth separately in the context of OECD countries and find that the former is more harmful to economic development than the latter. In addition, consumption taxes tend to be less progressive than personal income taxes: they apply to every taxpayer with a fixed rate whereas income taxes are progressive in the sense that the tax rate increases with higher levels of income.

Even though income taxes are more progressive, the evidence as to whether this progressiveness contributes to redistribution is scant. In fact, many studies show that income taxes do not increase redistribution or decrease inequality in developing countries (Bird & Zolt, 2005; Altig et al., 2001). Therefore, we have to be careful in making

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[8] In developing countries, taxes, and especially income taxes are relatively low. However even though they do not represent a significant stream of revenue, the income tax in developing countries has been considered as a redistributive mechanism by governments. See Bird and Zolt (2005) for a discussion of the efficiency of this method.

inferences of redistribution from a variation in these tax rates. Rather, this paper considers another difference between these taxes as critical for the purposes of the rentier argument. The main difference between consumption and income taxes is explained succinctly by Mankiw in his blog: "Both consumption taxes and income taxes discourage work, but income taxes discourage saving as well." (2006). He mathematically shows that an income tax has a larger negative effect on future consumption than a consumption tax. Given this difference, policy makers may take divergent decisions in determining the tax rates they will apply to the income and consumption of their citizenry.

The RST regards all taxes as equals, without considering their different characteristics. It assumes that resource-rich countries will have lower taxes across the board, for all tax types, than resource-poor countries. This may not be the case because rational incumbents not only want to buy off the support of their citizens, but also balance budgets, and experience high levels of economic development. In other words, they have conflicting goals of low taxation and sufficient income generation. Therefore, policy makers can opt to differentiate their strategies with respect to different taxes in order to achieve both goals. This dissertation hypothesizes that resource abundance will lead to a decrease in consumption taxes because citizens can easily decrease consumption if it is heavily taxed, and lowering taxes on consumption can be instrumental in buying popular support. However, personal income taxes may not be affected by resource rents as much because they are fairly low in less developed countries to begin with, leading to not much revenue generation, and lowering them would not generate as much popular support as consumption taxes. In brief, the state will try to optimize by reducing one type of taxes to please the citizenry and it will keep another tax intact because it still wants to raise revenue (see table 2 for a comparison of the rentier state theory to this logic).

Table 2. Comparison of the hypotheses of the rentier state theory and the disaggregated taxes logic

	Rentier State Theory	Disaggregated taxes logic
Consumption Tax	Resource abundance will decrease consumption taxes.	Resource abundance will decrease consumption taxes.
Personal Income Tax	Resource abundance will decrease personal income taxes.	Resource abundance will not have an effect on personal income taxes.

In brief, nor taxes neither social spending are collected and distributed according to the RST's predictions. According to the proposed theory above, resource rich countries should have lower levels of social spending and they should decrease some taxes whereas increase others to balance their budgets and fund public spending. So far then, I criticized the existing research body explaining social spending and its funding in developing countries. Now, I offer an alternative explanation as the main driver of social spending in developing countries: fraudulent elections.

Causes of Electoral Fraud

When do political elites revert to electoral fraud? Magaloni (2010) emphasizes that fraud is an outcome of vulnerability on the part of leaders. When the economy goes through a recession, or the populace is organized around a particular focal point and demonstrations attract large numbers, fraud may appear as an easy solution to the uncertainty created by upcoming elections. Diamond (2002) points out that "when longtime authoritarian rulers face serious challenges (as in Malaysia and Zimbabwe recently), they may turn to their nastiest levels of repression" (p. 33). Insofar as electoral outcomes bear the risk of losing for the incumbents, rigging the elections presents a viable and less costly alternative than other forms of repression.

A comparison between two otherwise similar, but electorally divergent countries will help illustrate the argument. According to the electoral authoritarianism literature, Tunisia has been a "hegemonic regime" since its independence, due to the completely uncompetitive nature of its elections (Schedler, 2002; Levitsky & Way, 2002). First, Habib Bourguiba, and then his successor, Zine el Abidine Ben Ali, created a system under which a single party ruled for over 50 years using completely controlled elections. Perhaps the party would have won the first few elections after independence, since its leader and the party itself were important actors in the revolution. However, it would be naïve to believe that the party would have survived potential free and fair elections since the 1970s and onwards. By using methods such as dividing the opposition, ballot stuffing, and vote buying, the Socialist Destourian Party (before 1987) and the Constitutional Democratic Rally (RCD) after 1987 dominated Tunisian politics. Electoral fraud in Tunisia was so prevalent that many precincts were reported to have voted 100% for the party. This level of control and suppression signals the insecurity of the RCD in its ability to win a free election and remain in power.

In contrast, Morocco has maintained a relatively more open, freer electoral system in which many parties run and have equal probability to win the elections ex ante. By no means is Morocco a completely democratic country, and there is still widespread electoral misconduct around the voting period. However, Morocco is classified as a "competitive authoritarian" regime where there is at least some level of uncertainty concerning the outcome of elections (Schedler, 2006). Here, the political dynamics are fairly different than the Tunisian case. Morocco is a dynastic monarchy, in which the King successfully managed to insulate himself from the uncertainties created by political elections, but still controls the reigns of the political decision making. In fact, one

scholar describes this political situation as the "marginalization of questions of legitimacy or sovereignty and—in the Moroccan case especially—the concomitant political primacy given to economic issues" (Maghraoui, 2002, p. 24). In other words, the king delegates social and economic policy to the fairly-elected legislature; creating a scapegoat for economic downturns. All the while, he controls the political arena behind the curtains. For instance, in 1998, the Socialist Party came to power in Morocco, the first opposition government since independence. This event, nearly unthinkable, in the context of Tunisia was not groundbreaking in Morocco, where the system allows the autocrat to maintain full power without necessarily rigging the elections. Insofar as the ruling elites feel secure about their prospects of controlling politics, they do not revert to electoral fraud even if it may mean a temporary change in the government.

These two cases illustrate the main argument of this dissertation well. The more apprehensive leaders are the ones who use electoral fraud as a tool to maintain their political status[9]. Freedom House ranks Tunisia as "not free" throughout the second part of the 20th century, except during 1979-1993, when the country exhibited small constitutional openings. Conversely, Morocco has been "partly free" throughout independence. The levels of electoral openness in these countries may signal the degree of confidence their political elites feel in remaining in office. Morocco's king was relatively more certain than the Tunisian president that his position was intact, and therefore needed less electoral manipulation. Perhaps the Jasmine revolution that started

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[9]Of course leaders' apprehension may not the only possible explanation for the prevalence of electoral fraud in developing countries. In fact, several leaders conduct elections knowing they will not lose, therefore electoral fraud can also mean extreme confidence as opposed to apprehension. I argue for the latter and show empirical evidence to support that thesis. However, regardless of what one believes about the main determinants of electoral fraud, the main argument of this chapter, namely the positive relationship between fraud and social spending is unaffected. Whether fraud is the outcome of apprehension, or confidence, it goes hand in hand with social spending. In either case, incumbents are trying to consolidate their grip on power by both "winning" the elections and redistributing to the citizenry.

in Tunisia and swept the Middle East is the best proof of the confidence level of incumbents: the more a leader is scared of losing office, the more he will attempt to control the electoral process.

Certainly, this assessment seems *ex post* and cannot be taken as evidence supporting the argument of this chapter, considering that the Tunisian revolution was affected by many other factors, including popular organizations and the military. Consequently, this chapter proposes a statistical test to assess the causes of electoral fraud. A cross-sectional time-series test of the determinants of electoral fraud has not been conducted to this date. T his chapter will be the first attempt at understanding these relationships empirically.

The lack of substantive empirical research on the causes of fraud notwithstanding, many studies have speculated about the potential determinants of fraudulent activities (Lehoucq, 2003). Typically, the odds of electoral fraud increase when the cost of losing is unbearably high or the benefits of winning are too good to risk. The economic and political powers attained by governing a country are advantages that some cannot risk losing. Empirical evidence supports this logic by showing that fraud is more common when economic interests are threatened by the uncertainty generated by elections (Anderson, 2000; Ziblatt, 2009)[10]. Przeworski (1991) argues that electoral competition allows socio-economic inequalities being proportionally and directly projected to the political realm. However, Ziblatt (2009) contends that even with the introduction of electoral competition, socio-economic interests can manipulate results to replicate the existing power relationships in a society. He finds evidence in 19th century Germany that

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[10] Here, uncertainty refers to Przeworski's understanding of democratic elections. He calls democracy "institutionalized uncertainty" where no group or individual can be absolutely certain of the electoral outcomes (1991 p. 10-14). All free and fair elections involve some level of uncertainty by definition. Fraud comes into play when leaders want to diminish this uncertainty and replace it with guaranteed electoral outcomes.

"the character of social structure shapes the fairness of elections" (p. 18): the more unequal a society (landholding inequality, in the German case), the more likely electoral fraud[11].

In addition to socio-economic interest, political actors themselves, and in particular, the incumbents, have much at stake if they lose a competitive electoral race. The more the dominant party is threatened by upcoming opposition parties, the more it will be inclined to revert to fraudulent activities. In other words, political competition pressures incumbents to the point of considering and implementing ballot rigging (Eisenstadt, 1998). An increase in the projected votes of the opposition is enough to push incumbents over the edge.

In addition to the benefits of winning, the cost of losing may be an important stimulant for rigging elections. This cost may include factors such as the ethnicity, religion, and socio-economic background of the challenging party. For example, incumbents feel more secure if another political party from their socio-economic background is their main competitor. Losing elections to a similar party would be less than ideal, but not unbearable. However, losing elections to the party of another ethnicity or religious background may be perceived as too high of a cost for incumbents (Trejo & Aguilar-Rivera, 2002). Therefore, ethnic diversity may be an indicator of higher levels of fraud because it increases the stakes of elections.

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[11] Here, Ziblatt suggests that electoral fraud is an outcome of the distribution of land. One might argue that this does not reflect the apprehension of leaders in losing office. However, on a closer look, the big landowners in 19th century Germany were the main constituencies of the German politicians, and their apprehension for losing their social status meant the politicians would also lose their support and potentially their posts. Therefore, Ziblatt's story fits into the claims of this chapter that it is incumbents' apprehension that leads to electoral fraud in developing countries.

One clarification is necessary for the point made in the above paragraph. This paper does not consider the will to stay in power as a variable. It assumes that every incumbent wants to stay in power to the utmost degree. In fact, what defines an incumbent in this paper and in most models in political science is his utility function which he is trying to maximize *by* remaining in power (Bueno de Mesquita et al., 2003 among others). Instead, the variable of interest is the "security in office", triggering both electoral fraud and social spending when it is low enough. To make the point clearer, all incumbents want badly to stay in power but some have a better shot at it than others. This "better shot" is determined by structural, economic and political factors discussed in this chapter.

Some institutional arrangements and economic indicators can predict the occurrence of electoral fraud. Certain institutions in a polity may make fraud easier to implement, or simply more attractive. One of these arrangements, elections using single-member districts (SMD) are statistically more likely to be subject to electoral misconduct in post-communist countries (Birch, 2007). One reason for this institutional effect is generated by the very nature of SMDs: "the number of votes that must be altered to change the outcome of the election is typically smaller under SMD than under PR" (Birch, 2007, p. 1540)[12].

SMDs are not the only institutional arrangements that might have an effect on the likelihood of fraud. Parliamentary vs. presidential systems may differ in the opportunities and stakes they offer to the incumbents (Linz, 1990). In the context of electoral fraud, Lehoucq (2002) argues that "The oscillation between violence, fraud, and

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[12] Although in a different context, Rogowski and Kayser (2002) show that SMD systems exhibit pro-consumer biases which lead to lower price levels overall. The idea that the greater the seat-vote elasticity, the more consumers will benefit from lower prices is consistent with Birch's idea that SMD systems are more prone to electoral fraud: more is at stake for the incumbents.

stability also characterizes the politics of many presidential systems" (p. 38). In presidential systems, the concentration of power in the institution of the presidency itself makes the stakes of losing elections relatively high. In addition, presidents may have more resources in their hands to execute more successful electoral rigging than, say, a coalition government with many parties and alternating prime ministers. Therefore, it is reasonable to expect more occurrences of electoral fraud in presidential systems than parliamentary ones.

Similarly, limited terms for presidents can change the rules of the game and make electoral manipulation less viable. Term limits serve as one of the constitutional features of a democracy, limiting the menu of choice for the incumbents, constraining their power and leading to party alteration (Maltz, 2007). These features of term limits may work against the ability of incumbents to implement and benefit from electoral fraud. First, by limiting the presidential powers substantially, term limits make incumbents less able to abuse state institutions in order to conduct electoral rigging. The mere fact that the president will have to leave office in a couple of years makes party officials and bureaucrats less intimidated, and therefore less likely to be involved in ballot stuffing. Without power and without help, the incumbent simply cannot implement fraud, even if he is interested in it. Second, if term limits really work in a certain context, i.e. if they the incumbent is not able to change the constitution and has made his peace with leaving after a certain number of terms, then he has no incentives to rig the elections. In other words, term limits applied properly remove the motivation for electoral fraud from the incumbents.

The final institutional variable included in the analysis is essentially a control variable for the type of incumbent. Military regimes, as opposed to single party or

personalistic regimes may be less inclined to rig elections. Geddes (1999) shows that there are significant differences between military vs. other types of authoritarian regimes, including their inclination to leave office willingly, and earlier than others. Based on this finding, there might be some systematic differences between the heads of state in their willingness to rig elections. More specifically, military leaders would revert less to fraud than their counterparts because they are willing to cede power to civilian authorities sooner than other types of leadership.

In addition to institutional factors affecting fraud, there are also economic indicators which could increase the incentives of incumbents to revert to cheating. High levels of inflation and low levels of economic growth may contribute to an increase the apprehension of incumbents. A rise in prices is perhaps the most visible indicator of a bad economy. With rising prices, the citizens are reminded everyday of their declining living standards and they tend to identify the government as the culprit for their misfortune. Moreover, the citizens punish incumbents when inflation is high, voting for the opposition in the next elections (Lewis-Beck and Stegmaier, 2000). Due to these concerns, incumbents will be more worried about losing elections when inflation is high, and growth rates are lower.

Finally, incumbents will be more apprehensive when citizens riot and demonstrate against the government in the streets. Citizen protests are even further evidence that the upcoming elections will be highly competitive. These public movements increase the apprehension of incumbents, and therefore they make electoral fraud more attractive. In many instances, public demonstrations lead to the overthrow of the incumbents, and potentially transitions to democracy (Magaloni, 2010). However, most of these movements end up being dismissed either by violent means or simply by ignoring the

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events until they fade out. In this last case, incumbents will not risk losing the elections. Their resolve for enduring public demonstrations signals that they are willing to do anything to remain in power, including electoral rigging.

All these factors discussed above are essentially pointing to one overarching hypothesis: the more a political leader is worried about and the costlier it is to lose office, the more he will be tempted to engineer electoral fraud (see Table 1). However, there are also complementary strategies to electoral fraud that leaders can implement both to mitigate the popular reaction to outright electoral misconduct, and to collect more support for themselves: namely coercion and patronage. The next section discusses a type of patronage, the social policies that concern the larger populace, with respect to electoral fraud.

Table 3. Hypotheses
H1: Electoral fraud will be more likely when certain institutions are in place.
H1a: Term limits will reduce the likelihood of electoral fraud.
H1b: An increase in the vote stare of the opposition will increase electoral fraud.
H1c: A plurality electoral system (SMD) will increase electoral fraud.
H1d: Presidential systems will be more prone to electoral fraud.
H1e: Military heads of state will use electoral fraud less often than their counterparts.
H2: Electoral fraud will be more likely when certain economic conditions are observed.
H2a: High inflation will increase the likelihood of electoral fraud.
H2b: Higher levels of GDP per capita will decrease the likelihood of electoral fraud.
H2c: Higher levels of economic growth will decrease the likelihood of electoral fraud.
H3: Electoral fraud will be more likely when citizens show higher levels of social unrest.
H3a: Riots will increase the likelihood of electoral fraud.
H3b: Anti-government demonstrations will increase the likelihood of electoral fraud.
H3c: A mixture of different conflicts will increase the likelihood of electoral fraud.

Fraud and Social Expenditures

The increasing interest in the study of electoral fraud has sidestepped a potentially constructive discussion of its relationship with other forms of political survival strategies. A few studies mention the complementarity between public social expenditures and electoral manipulation, but none conducts a thorough analysis of this relationship (Levitsky & Way, 2002; Diamond, 2002; Schedler, 2006). I expect electoral fraud to trigger higher levels of public spending in developing countries because these two strategies accompany one another in helping the incumbents retain power and inhibit public scrutiny.

Both fraud and social policy are important in reassuring incumbents because rigged elections create focal points, which reduce the cost of collective action and trigger public unrest (Tucker, 2007). For that matter, fraud alone does not guarantee a successful reelection. Political elites need to ensure that winning elections will not prompt a strong reaction from the citizens. There are two ways of ensuring that: coercion or patronage. Since coercion would undermine the purpose of having some sort of elections in the first place, patronage complements electoral misconduct well.

Figure 2. The Causal Flow of the Relationship between Fraud and Social Spending
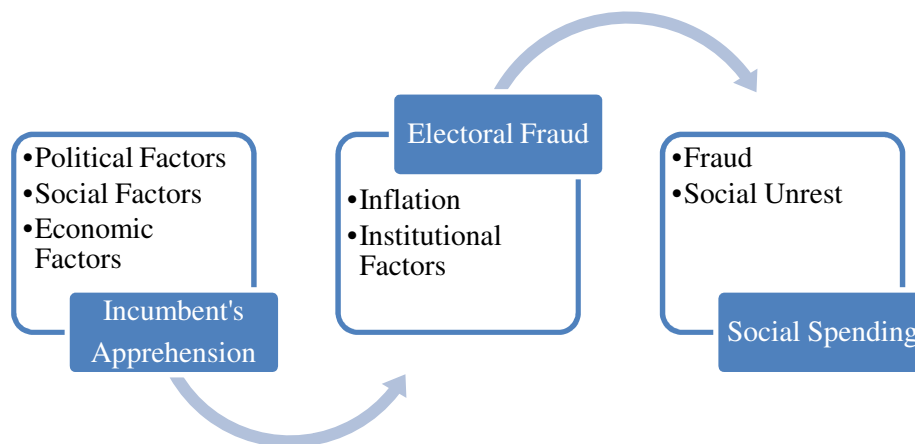
Patronage, used interchangeably with social expenditures or redistribution, works to appease the society in two basic ways. First, it directly transmits the message of a "benevolent dictator". The ruler publicizes every aspect of social policy to the point where it becomes common knowledge to the large majority of the citizens. For instance, before his fall on the 14th of January 2011, the Tunisian dictator Ben Ali expended prodigious amounts of time and energy trying to seem as a caring, concerned father figure for Tunisians. He created a National Solidarity Fund and declared December the 8th of every year the "National Solidarity Day", during which Tunisians contributed from their bank accounts to the Fund to help the poor and the needy. A close look at the revenue scheme of the Fund however, reveals that most of the income was generated through presidential allocations of certain taxes (the most important being tobacco tax)[13]. Similarly, the Moroccan King Mohammed VI promoted himself as the "king of the poor" when he first came into power. Regardless of the truthfulness of these self-made images, dictators believe that seeming like a politician serving the people will help mitigate the reactions to the violation of electoral rules.

The second way with which social redistribution facilitates fraud go unnoticed is the tacit pact between receiving and the sending side. Even if the society does not necessarily associate the social benefits they receive with the dictator, they know that the government is providing better policies. This alone may give them a feeling of satisfaction with the current regime, or simply a sense of mutually beneficial understanding. Therefore, by simply providing decent services to the citizenry, a dictator

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[13] The Tunisian regime fell unexpectedly in January 2011 and Ben Ali left the country even though the Tunisian government had one of the best social systems in the MENA region. However, this should not infringe upon the argument put forward here. Even though fraud can be complemented with social policies in order to suppress popular uprisings, there is no guarantee that these strategies will work by themselves, as the Libyan case has shown.

may partly insulate himself from societal protests for democratization and electoral transparency.

Another example illuminating the connection between social policies and fraud come from The Economist dated March 12th, 2011. The magazine displays an article which gives compelling evidence on Middle Eastern governments' efforts to "buy off trouble". Not only do they subsidize basic food and fuel prices, which make the cost of living in many of these countries fairly low, as compared to other developing parts of the world, but also they are offering rises in salaries and social welfare expenditures. Perhaps the most striking example of these subsidies is the free food for 14 months program implemented in Kuwait. All these measures are introduced in the aftermath of the riots that swept the region in the last few months. Clearly, a link between incumbents' apprehension and social expenditures exist, probably because "most Arab regimes are fighting for their lives, in some cases literally"[14].

The above logic is similar to the one outlined by Acemoglu and Robinson (A&R) (2006) in their treatise of democratization. According to A&R, political elites redistribute more, instead of democratizing, when the threat of revolution is high enough and repression is not too costly. This happens because they can credibly commit to continue redistribution in future periods, since the revolutionaries are strong enough to sustain their threat. In other words, if the citizens are committed enough to sustain the revolutionary pressure over time, the elite's commitment to redistribution becomes more

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[14] Most of the Middle Eastern regimes are non-democracies but most of them (the exception is Saudi Arabia) have institutionalized and regular elections, and some of these are fairly competitive. Even if they might not challenge the ultimate decision makers, they can successfully change the government. In many cases, winning those elections are very important for the ruling elites, as a government supporting them may be crucial for their survival.

credible. This amounts to a sustained dictatorship, combined with high levels of

redistribution, instead of a full blown democratization.

The A&R thinking goes hand in hand with the argument proposed above in the

sense that both believe redistribution can stall a revolution and democratization. What

A&R omits from the analysis is the other strategy used by incumbents: the effort to seem

democratic with regular elections. For A&R, the choice is between democracy or non-

democracy, whereas reality suggests otherwise. There is a large number of countries

where dictators create the semi-illusion of democracy through institutions, voting and a

multi-party political realm. These "pseudo-democracies", Diamond's terminology,

develop new mechanisms to thwart the threat of revolution. In this light, I argue that the

combination of both electoral fraud and redistribution as strategies of survival for the

incumbents will increase with the revolutionary pressures of the masses. In other words,

contra to A&R, democratization or redistribution are not the only options facing

incumbents in many countries today. Rather, electoral fraud and social spending work as

a successful policy to keep political power concentrated.

To support the argument outlined above, this chapter will test the hypotheses in

Table 1. These hypotheses were derived from previous research, as well as the intuition

proposed in this chapter. The institutional hypotheses provide the general framework in

which the fraud decision is made. The economic hypotheses outline the factors that

could threaten the incumbent's seat and make him more disposed to use fraud as a last

resort. To recapitulate, if the incumbent is bound by term limits in the constitution, fraud

will not help him in getting reelected; he cannot run again[15]. Conversely, if the

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[15] Autocrats are usually thought to be immune to term limits. However, even in dictatorships, term limits
may exist and affect the incumbent's strategy to remain in power. Term limits are sometimes used to signal

incumbent feels threatened by increases in the opposition's vote share, he will be more inclined to rig the elections. Plurality systems are expected to increase the incidence of fraud, similar to Birch's (2007) results. Presidential systems may increase electoral fraud because they tend to concentrate power and make it more costly to lose elections. Military heads of state may decrease the instances of fraud because they value being military officers more than holding public office.

Hypothesis two and its sub-hypotheses are the economic indicators of the citizens' well-being. High levels of inflation, slow or negative growth rates, and low levels of GDP per capita may signal frustration on behalf of the people and make the incumbents less certain of being reelected. If some institutional factors create the environment facilitating electoral fraud, some economic indicators create the apprehension incentivizing it. These two categories of factors combined determine when a leader will revert to rigging elections.

Tying it All Together

This chapter intended at outlining the theoretical framework of the main arguments of the dissertation as a whole. It brought together three distinct streams of research in order to explain social policies in developing countries, and more specifically in the Middle East. These streams are the resource curse hypothesis, the rentier state theory, the research on taxation and the study of electoral fraud and competitive authoritarianism. Figure 3 shows the causal connections between these variables and summarizes the argument of this dissertation.

that the new president will abide by the existing democratic institutions. However, in many instances, these leaders override the term limits to run again, either by extending them or by removing them from the constitution. Nonetheless, term limits may work and the incumbents may have to resign or leave office. Therefore, term limits may actually prevent electoral fraud by removing the possibility of running for incumbents, who are most likely to use fraud as a strategy.

Figure 3. Causal Mechanisms across Variables
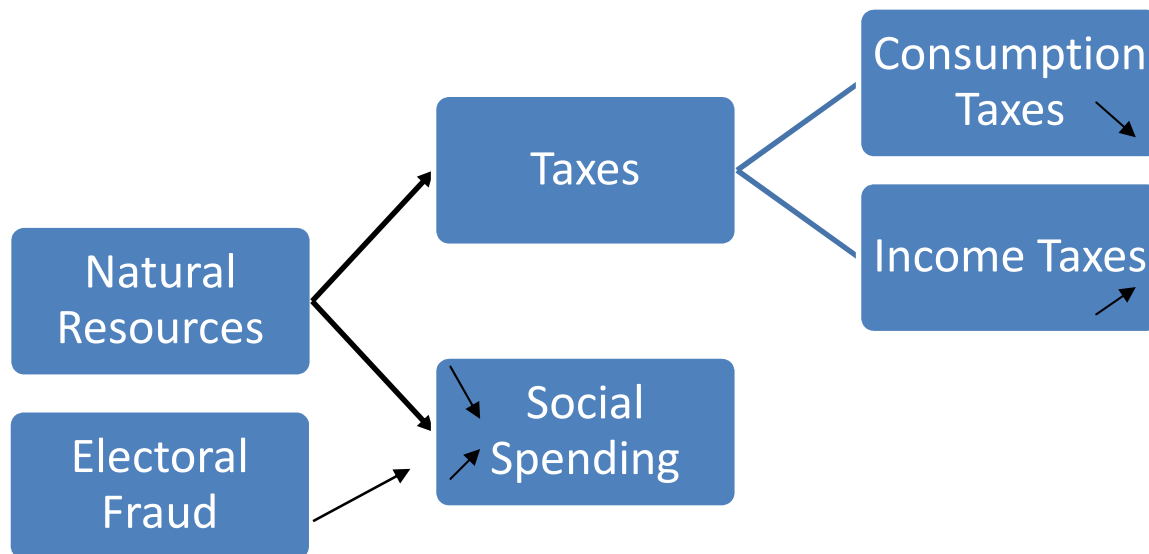
The above figure represents both the connections between the variables and the direction of the correlations presented in the following chapters. Social spending in developing countries has traditionally been explained by either resource abundance (the rentier state theory) or globalization (the compensation vs. efficiency hypotheses). Here, I first demonstrate that natural resources *reduce* social spending, contrary to conventional wisdom, even after controlling for openness. I add an additional criticism to the logic of the rentier state theory by showing that resource abundance does not lower all taxes; in fact it *increases* certain types of taxes (i.e. income taxes). This finding is important for social spending because it complements the negative effects of resources on spending by pointing out that incumbents still need other revenues to fund public expenses, including social ones. Then, I develop a simpler theory of social spending in developing countries involving the self-interested behavior of incumbents. Basically, the simple act of rigging elections, widely common in developing countries and definitely in the Middle East is

one of the major outlets of social redistribution. This is not an argument about regime type, or the selectorate theory. It is simply a statement about the effects of electoral fraud on social expenditures. Regardless of the regime type (and after controlling for it), the mere existence of electoral fraud increases social spending as a precaution against social unrest. Concerned that the masses could react to the inconsequential elections, education, health and welfare spending are increased and the difficulty of retrenchment makes these expenditures stick over time.

Based on this theoretical framework, the following chapters conduct the empirical analysis, which supports the logic outlined above. Chapter III regresses social spending on natural resources to find a negative correlation. Chapter IV takes a quick look at taxes in developing countries and resources' ambiguous effects on different types of tax revenues. Chapter V introduces electoral fraud as an independent variable and shows a positive and significant correlation between fraud and social spending. Chapter VI qualitatively compares and analyzes Morocco and Tunisia in terms of their social spending and resource abundance. Chapter VII concludes with future research directions.

Does the resource curse have an effect on social policy? Empirical evidence from less developed countries.

Introduction

In the previous chapter, I outlined the discrepancies of the rentier state theory and emphasized that its propositions about social spending were never fully tested using statistics. This chapter takes on the task of testing the relationship between resource abundance and social expenditures in developing countries, and if finds the opposite of the rentier state theory's expectation: resources reduce the level of social spending.

Do resource-rich countries really provide more public services to their people than their counterparts in order to maintain total political control? The customary expectation of the rentier state theory posits that countries with high resource revenues do not need to tax their citizens to supply social benefits, and hence they are insulated from societal pressures for democratization. In addition, the extra revenues are presumed to be used to buy off influential sectors of the society as well as the larger population through redistribution and social provisions. This logic presumes that resource rich countries will have higher public social expenditures than resource-poor ones.

Current day events cast doubt on the premises of the above reasoning. The Egyptian, Tunisian and the Libyan societies removed their leaders and asking for more freedom, but also for more economic opportunities. Had their leaders provided a social safety net protecting them from economic shocks, we may have seen very different outcomes[16]. These anecdotal cases suggest a closer look to the relationship between

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[16] Of course social provisions are not the only reason why we have seen the Arab Spring in 2011. It is probably not even the main reason. However, given the economic hardships the average Arab suffers from, a social safety net could have prevented the sustained reaction of the masses. In fact, most Middle Eastern

resources and their effects on social policies. A theory explaining the converse situation, namely resource-rich countries spending less on social policies, has yet to be developed and empirically tested.

Despite the contradiction between the experience of some resource-rich countries and existing theory, the comparative and international political economy fields have not been considering the relationship between resources and social policies with more scrutiny. In this chapter, I propose a different logic that can conjecture a negative relationship between public social spending and resource abundance. The rentier theory may be correct in thinking that resource-abundant countries do not tax their citizens as much as other states. However, it does not automatically follow that social services are provided by resource revenues (see Ross,1999; Mehlum, Moene and Torvik, 2006; and Sala-i-Martin and Subramanian, 2003, for the proponents of this argument). This second step should be empirically tested because there are good reasons to believe that resources can harm social policies, just like they impede democratization and economic development.

In this chapter, I focus on the opportunity costs of spending resource rents on social policies. These latter are one way to appease the population away from revolutionary impulses. Another way is to suppress them with a large security apparatus, namely police forces and secret services. This option is cheaper than universal health, education and welfare expenditures, leaving extra revenue to be distributed to the regime supporters as well as leaders themselves. It has also been very efficient in suppressing social unrest until recently in the MENA region. This alternative explanation generates the testable hypothesis that resource abundance inhibits social expenditures in less developed

countries started to announce spikes in their social subsidies when they realized the revolts were contagious, but some of them were too late to deter the frustrated citizens.

countries (LDCs)[17]. This chapter argues that resource rents are not spent on social provisions, and that resource abundance even reduces social spending. It proposes two causal mechanisms to explain this anomaly: corruption and rent-seeking behavior created by resource abundance spills over to other government outlays such as social spending, and resource-rich countries tend to fund extensive police forces and repress their citizens instead of appeasing them with social benefits.

Using data from 55 LDCs for the period of 1972 to 1996, I show that the rentier state theory's position on social policy is unjustified. Particularly, resource exports have a negative effect on welfare and education expenditures of governments. If the rentier state theory was correct, we would expect a spike mostly in welfare expenditures with an increase in resource exports, because the most revolutionary crowds are the ones in most need. Instead, the more a country exports primary resources, the less it engages in welfare type redistribution. This finding qualifies the "rentier effect" that Ross emphasizes in his analysis of the resource curse. Namely, the rents emanating from resources do not trickle down to the larger population, but instead, they are distributed to the constituencies of the dictators.

The second major contribution of the chapter is its proposition of a new measure for social expenditures. When referring to resource exports reducing social expenditures, we actually mean they do so *with respect to* other public outlays. Yet, the variable we use to measure social expenditures is expressed as a percentage of the GDP, which is silent on

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[17] This is not to say that social spending and police are mutually exclusive or interchangeable. Some countries strike a balance between police repression and social spending, making them less vulnerable to societal demands for equality and democracy. An example is Ben Ali's Tunisia in the 1990s. Inheriting the generous social policies of Bourguiba, Ben Ali established a police state, with secret police patrolling the streets of Tunis on a regular basis. However, with a growing debt crisis, Ben Ali took upon structural adjustment programs imposed by the IMF and decreased social expenditures significantly throughout the 2000s, keeping the police force intact. Countries can opt for any combination of these two strategies, but usually one is emphasized at the expense of the other.

the other expenses of the governments. If we are interested in the priorities of government budgets, we need to compare social expenditures to government expenditures. In other words, to assess how much weight governments give to social policy as opposed to other policies, we need to analyze social expenditures as a fraction of total government expenditures. I use this new measure and ascertain a comparison of social expenditures to other public outlays[18].

Finally, this chapter takes the position that social policies respond to resource abundance through different ways in LDCs than developed countries. It limits its sample to developing countries because by focusing only on them, we can learn more about the specific constraints which uniquely apply to them. Many developed countries have well-established, institutionalized, and expansive welfare states. Their social policies are highly embedded in their political system and change at a slower rate than developing countries, if ever (Pierson 1996, Ruggie 1982). For instance, it took the US the control of both houses, the presidency and an African American president to propose a new health care bill. Yet, even after its signature, the bill is still under the threat of being repealed. Similarly, social protests in France in October 2010 could not prevent the retirement age from being increased from 60 to 62 but the socialists promised they will repeal it in the next term.

In contrast, LDCs are more prone to external shocks such as raw material price fluctuations or monetary crises that can affect their social policy. In addition, their social policies are not as institutionalized, meaning that they are more vulnerable to changes in political and economic environment: several developing countries depend on resource

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[18] In the robustness checks section of this chapter, I use the conventional measure for social spending (i.e. as a percentage of GDP and not total government expenditures) and confirm the findings. Therefore, regardless of the measurement of the dependent variable, the results do not change, but I still contend that social spending deflated by total government spending is the better measure.

revenues to sustain their debt at a reasonable level. Therefore, the way resources affect social expenditures in LDCs significantly differs from developed countries. By studying developing countries as a separate category than developed countries, I attempt to reveal important clues about the specific nature of their social policies.

The remaining parts of the chapter are organized as follows. First, I briefly outline the causal mechanisms behind the posited relationships in the literature review section[19]. Then, I describe the variables and the method used to analyze them. The third section conducts a time-series cross-sectional analysis of the dataset and reports the results. I also estimate an alternative model to conduct a robustness check. Finally, I conclude with the potential paths for future research.

Brief Overview of the Literature

Current scholarship in the political economy field argues that non-tax revenues have a tendency to increase redistributive tendencies in autocracies (Morrison, 2009). This is largely due to the purported vulnerability of autocracies to pressures of revolution from below. According to this line of thinking, non-tax revenues can prevent dictatorships from collapsing, by providing the extra push income to appease the citizenry[20].

Considering non-tax revenues, and therefore natural resource rents as enablers for rulers to remain in power through redistribution is not a new concept. In the development literature, the resource curse on economic development is perceived as the outcome resource revenues being used as patronage as opposed to public investment (Robinson and Verdier, 2002; Collier and Hoeffler, 2005). The major difference between this

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[19] A more detailed theoretical background can be found in chapter II.
[20] This argument has a counterpart for democracies: Morrison suggests that the same revolutionary pressure in democracies comes from the elites who find tax rates too high. Therefore, non-tax revenues should lower tax rates in democracies.

"conventional wisdom" and Morrison's account is the conceptualization of variables. In the former, the independent variable is limited to resource revenues whereas in the latter, it is all non-tax revenues lump-summed together. Similarly, the development literature does not differentiate between autocracies or democracies in proposing this positive relationship between resource rents and redistribution. In fact, Collier and Hoeffler (2005) find that " normally democracies in developing countries are even worse than autocracies at harnessing resource rents for growth", suggesting that democracies can and do fall into the patronage/redistribution trap. Therefore, Morrison's division of countries into democratic and autocratic samples when examining social spending seems artificial and unnecessary.

This chapter contends both approaches to social spending and takes the side of the "resource curse" hypothesis, but in the completely opposite sense of the developmental economics literature. Basically, as opposed to Morrison, I argue that all regime types should be studied in one sample, allowing the use of a control variable in the regression analysis for regime types, a major determinant of social spending. Also unlike Morrison, I focus on resource rents instead of all non-tax revenue, because there is reason to believe that foreign aid and resource revenues have different effects on social spending (see unpublished manuscript by Bearce and Altincekic, 2012). Specifically, resource rents create the "curse" of rent-seeking behavior and corruption unlike foreign aid, which usually comes with certain conditionalities and is monitored by the donors. Finally, contrary to the development literature, I argue that the real curse is not the *increase* but it is the *decrease* in redistribution due to resources. I call this the "social curse" because resource abundant countries spend less on education, health and welfare, putting the lower and middle classes at a disadvantage and disrupting social justice.

Source of Data and Methods

This chapter will use regression analysis to reveal the relationships between the variables of interest and test the hypotheses outlined above. Using panel data, the analysis will have a cross-sectional and a time dimension for achieving validity across countries as well as over time. In order to analyze statistically the determinants of social spending in LDCs, a cross-sectional time series dataset covering 59 countries and 25 years (1972-1996) is used[21]. It is difficult to find reliable measures of welfare expenditures for LDCs. The IMF introduced the Government Finance Statistics (GFS) program to fill this gap. GFS collects three types of social expenditure data: welfare expenditure, health expenditure and education expenditure. These and their summation, "total social expenditure" will be used as the dependent variables.

The biggest advantage that the GFS data provides is the availability of social expenditure measurements in different categories. It is important to distinguish between human capital enhancing vs. purely redistributing social expenditure (i.e. welfare expenditure in the dataset). The former is universal and invests in education and health. The latter is targeted, only reaching the lower strata of the society which is in immediate need. This distinction is maintained in the measurement provided by GFS. Rudra (2002) defines the measurement of "welfare expenditure" as follows: ""Social security" consists of income transfers and providing benefits in cash or in kind for old age, invalidity, or death, and for survivors, sickness and maternity, work injury, unemployment, family allowance, and health care. "Welfare affairs and services" is defined as assistance

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[21] This dataset is largely based on the dataset compiled by Rudra (2002). I augmented this dataset by merging it with the Database of Political Institutions (2009). Detailed information about the variables can be found in Table 2.

delivered to clients or groups of clients with special needs, such as the young, the old, or the disabled." Clearly, "welfare expenditure" is not the universal, human capital enhancing type of expenditure; it merely refers to redistributive measures for the needy. In contrast, "health expenditure" and education expenditure" universally cover the whole population, providing to everyone a basic level of education and health benefits regardless of income, ethnicity or region. This distinction between the two types of social expenditure allows us to test the effects of globalization, resource abundance and regime type on *different* types of social policy.

The dependent variables used in this analysis have several important characteristics. First, all the social expenditures are calculated as percentages of GDP. This way I create a standardized measure that can be compared cross-sectionally. Second, social expenditures are compared to the total government expenditures as a percentage of the GDP through division. This is important because we are interested in the *public* social expenditures, i.e. what the government spends on social policies. Comparing social expenditures to the GDP only will not give a complete picture of how *public* social policy works. This measure does not give any information about what happens to government expenditures in general.

For instance, let us imagine a scenario where all government expenditures go up even though GDP remains stagnant. If we only use the GDP as the denominator, we will see an increase in social expenditure with respect to GDP. However, this does not mean that the government started to prioritize social policies over others. It just means that public expenditure went up all together, including military expenditures and government consumption. The problem with the old and conventional measure is the lack of comparison with other government policies. Only when we compare social expenditures

to all government expenditures, can we assess the changing priorities of a government. For this reason, I compare public social expenditure to other public expenditures. This way, the dependent variables in this analysis get at the comparative importance of social policy with respect to other public policies.

The independent variables are calculated more straightforwardly. Trade, FDI, portfolio investment, resource exports and polity come from World Development Indicators (collected by the World Bank) and Polity IV (compiled by Gurr and Jaggers (1994)) respectively. The model also controls for other variables such as GDP per capita and the percentage of the population over 65 years of age (See table 1 for details and sources). The model can be seen as an augmented version of the benchmark social expenditure models including GDP, polity and trade.

Given that the data is time-series cross sectional, one of the appropriate estimation methods is OLS (Ordinary Least Squares) with the addition of a lagged dependent variable, unit and time fixed effects on the right hand side, with "panel-corrected standard errors" (PCSE) (Beck & Katz 1995, 1996; Beck 2001). This is by far the most commonly used estimation method for pooled data, largely because it has two major advantages compared to other methods (i.e. only cross-sectional or only time-series). First, it removes serial correlation and corrects standard errors by using the information hidden in the residuals. Second, it eliminates the omitted variable bias by controlling for unit level variation through fixed effects. Pooled data prevents country-specific effects from influencing the results.

However, PCSE is more appropriate when we have panel-level heteroskedasticity and contemporaneous spatial correlation, and no temporal autocorrelation. When these conditions are not met by the data, PCSE is not the right estimation method. The

temporal autocorrelation problem can be fixed with first differencing the estimators

(Anderson and Hsiao 1981). But the first differences still restrict our models if we do not

include the lags of our independent variables in the model. To address all these issues, I

difference the dependent variable and the independent variables and I add the lag of every

variable in the estimation. I use a fixed effects model and restrict the model as little as

possible, as recommended by De Boef and Keele (2008). I only include the first lags of

the variables, thereby still restricting the model AR(1). However, this is a reasonable

assumption, given that changes in social expenditure can be influenced by the short term

fluctuations in economic variables. Fraud is special in the sense that it remains unchanged

over the years until there are free elections again, allowing testing its long term effects on

social expenditure. The model was also estimated with additional lags for both the

dependent and the independent variables, but they remained insignificant and were

dropped.

Table 1. Data Information

Variables	Description	Sources
Welfare spending	Government social security and welfare spending as a % of GDP over government expenditures as a % of GDP	Government Finance Statistics (GFS)
Education spending	Government education spending as a % of GDP over government expenditures as a % of GDP	GFS
Health spending	Government health spending as a % of GDP over government expenditures as a % of GDP	GFS
Trade openness	(Imports+Exports)/GDP	World Development

		Indicators (WDI)
FDI	Gross Foreign Direct Investment, (% of GDP)	WDI
Portfolio Investment	Bonds+Equity (% of GDP)	WDI
Regime Type	0-10 ranking of authoritarianism/ democracy	Polity IV
Urbanization	Urban population (% of total population)	WDI
Fraud	extra-constitutional irregularities	Database of Political Institutions (DPI)
Defense Expenditure	Defense expenditures as a % of GDP	GFS
GDP per capita	Gross Domestic Product/population	
Growth	% change in GDP in a year	WDI
Age >64	Percentage of the population 65 years of age and above	WDI / WDI
Fuel Exports	fuel exports as a % of merchandise exports. Fuels comprise SITC section 3 (mineral fuels).	WDI
Resource Exports	Fuel exports+ores and metal exports+Agricultural raw materials exports (all as a % of merchandise exports)	WDI

The sources of data and their measurements are outlined in table 1. Some measures need further clarification. First, the measure used to capture resource abundance is "resource exports". Fuel is a specific type of commodity that has significant effects on a country's institutions, governance and economy. It is not a stretch to expect that fuel will also affect the social policies of a state. However, assuming that fuel can represent all resources, and it can be a good test for resource abundance in general, may seem problematic. Common measures of resource abundance include resource-based exports (agriculture, minerals and fuels) as a percentage of GDP, share of mineral production in

GDP, share of primary exports in total exports and the land area per person (Sachs and Warner 1995). Given its similarity to these common measures, "resource exports" comprising a bundle of fuel, ores and metals, and agricultural raw material exports seems to be a good alternative for the quantification of resource abundance.

To sum up then, resource exports can affect different types of social expenditures in LDCs and these potential effects have not been systematically explored before. I build a linear error correction model which controls for the commonly used as well as the new variables proposed in this research. The following section looks at these links statistically and reports the short-run and the long-run results.

Results

As proposed above, I estimate an error correction model (ECM) as proposed by DeBoef and Keele (2008). Table 2 summarizes these results. The following section is organized with respect to the main findings: resource exports, fuel exports and defense expenditures. I also discuss the effects of the benchmark variables as they display significant changes from previous research. Overall, the results support the hypotheses outlined above. Namely, resource and fuel abundance lower the levels of social expenditure and the more a country focuses on defense, the less it provides social benefits to its citizens.

Table 2. Social Expenditure in LDCs (as a share of Total Government Expenditure)				
	(1)	(2)	(3)	(4)
Variables	ΔTotal	ΔWelfare	ΔHealth	ΔEducation
ΔResource Exports	-0.000783**	-0.000501**	8.91e-06	-0.000337**
	(0.000324)	(0.000234)	(0.000131)	(0.000155)
Resource Exports$_{t-1}$	-0.000619***	-0.000295***	-3.33e-05	-0.000252***
	(0.000148)	(0.000106)	(5.75e-05)	(6.89e-05)
Total$_{t-1}$	-0.253***			
	(0.0301)			
Δln(gdp)	-0.0446	-0.0151	-0.0118	-0.0184
	(0.0330)	(0.0239)	(0.0134)	(0.0158)
Ln(gdp)$_{t-1}$	-0.00302	-0.00367	0.00189	-0.00247

	(0.00722)	(0.00521)	(0.00291)	(0.00343)
ΔTrade	-0.000176	-0.000107	5.39e-05	-0.000123
	(0.000158)	(0.000114)	(6.57e-05)	(7.74e-05)
Trade$_{t-1}$	-0.000216*	-0.000136	-4.38e-05	-2.05e-05
	(0.000122)	(8.73e-05)	(4.96e-05)	(5.93e-05)
ΔPolity	0.00173**	0.000888	0.000161	0.000644
	(0.000860)	(0.000622)	(0.000357)	(0.000420)
Polity$_{t-1}$	0.00143***	0.000509	0.000317*	0.000529**
	(0.000485)	(0.000343)	(0.000189)	(0.000220)
ΔDefense	-0.00437***	-0.00198***	-0.000721*	-0.00165***
	(0.000987)	(0.000713)	(0.000410)	(0.000483)
Defense$_{t-1}$	-0.000706	0.000233	-0.000272	-0.000721*
	(0.000804)	(0.000577)	(0.000332)	(0.000394)
ΔAge>65	-0.0376	-0.0452**	-0.00108	0.0120
	(0.0314)	(0.0227)	(0.0129)	(0.0152)
Age>65$_{t-1}$	0.00236	0.00614*	-0.000394	-0.00362*
	(0.00444)	(0.00322)	(0.00183)	(0.00216)
Welfare$_{t-1}$		-0.226***		
		(0.0275)		
Health$_{t-1}$			-0.246***	
			(0.0271)	
Education $_{t-1}$				-0.290***
				(0.0298)
Constant	0.188	0.111	-0.0234	0.129
	(0.165)	(0.118)	(0.0664)	(0.0785)
Observations	546	546	577	577
R-squared	0.206	0.170	0.146	0.203
Number of countries	40	40	40	40

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Resource Exports

Both the first difference and the lag of the resource exports variable are
significantly negative throughout the regressions with the exception of health
expenditures[22]. We can calculate the short run and the long run effects of resource
exports on total social expenditure following Deboef and Keele (2008). In the short run, a
5% change in resource exports will decrease total social expenditure by 0.004 percent (as
compared to the total government expenditures) immediately. In addition, due to the
equilibrium relationship between resource exports and social expenditure (captured by
the lag structure), total expenditures will go down further by 0.005. This latter effect will

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[22] In Table 2 and 3, Δ refers to the difference of a variable and t indicates the lag structure. "Total" is the
total social expenditure as a percent of GDP over total government expenditures.

be distributed over time, however, with a rate of 0.25, the coefficient of the lag of total social expenditure.

However, as DeBoef and Keele, explain, we need to estimate the standard errors for these long-run effects to assess their significance separately. A convenient way of doing this is to employ the Bewley transformation proposed by Bewley (1979) (see Deboef and Keele for the details of this transformation). Estimating the instrumental model of Bewley, not only do we get the long-run effects as the coefficients, but also the correct standard errors associated with those. Table 3 reports these results for total social expenditures.

Table 3. The Bewley Transformation (Long-run effects)

VARIABLES	(1) totsocg
ΔTotal	-2.955***
	(0.471)
ΔPolity	0.00117
	(0.00335)
Polity	0.00566***
	(0.00187)
ΔTrade	0.000159
	(0.000643)
Trade	-0.000855*
	(0.000476)
Δln(gdp)	-0.164
	(0.131)
Ln(gdp)	-0.0119
	(0.0285)
ΔResource Exports	-0.000651
	(0.00132)
Resource Exports	-0.00245***
	(0.000588)
ΔDefense	-0.0145***
	(0.00313)
Defense	-0.00279
	(0.00316)
ΔAge>65	-0.158
	(0.124)
ΔAge>65	0.00931

	(0.0175)
Constant	0.743
	(0.646)
Observations	546
Number of ccode	40

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

The long-run (overall) effect of resource abundance on total social spending is significantly negative, meaning increases in resource exports reduce the social spending levels in developing countries. The difference of resource exports drops out of significance but the contemporaneous resource exports variable remains significant at 1% level. This finding suggests that resource abundance is detrimental to social policy not only in the short term, but also in the long-run, creating what I call the "social resource curse".

Overall, the evidence suggests that resource abundance in LDCs has a negative impact on social expenditure. This finding extends the resource curse hypothesis to the realm of social policy. Resource abundance leads to lower levels of democratization and development, higher levels of civil war and lower levels of social expenditures in developing countries. Especially fuel abundance lends itself easily to corruption, mismanagement of resources and redistribution of benefits to political allies. This type of corruption spills over to the overall government budget, leaving no room for extended welfare coverage. Table 4 replicates the results of Table 2, using only fuel exports as the measure of resource abundance. The results remain largely unchanged, for the lag of fuel exports negatively affects social expenditures except health.[23]

This finding may seem counterintuitive, given that small oil-rich countries like Qatar, Bahrain and United Arab Emirates are famous for their generous welfare states.

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[23] The long-run effects of fuel exports are reported in the appendix.

The key to understanding this pattern lies in comparing their social expenditure to the general government expenditures. Their social expenditure may be high with respect to their GDP. However, when we compare this to other types of public expenditures, we see that they do not necessarily prioritize social policies. These small countries are richer and have big governments. That does not mean they have big welfare states given their high levels of overall government expenditure. When we use a dependent variable which compares social policies to other government policies,

Table 4. Social Expenditure in LDCs (as a share of Total Government Expenditure)				
	(1)	(2)	(3)	(4)
Variables	ΔTotal	ΔWelfare	ΔHealth	ΔEducation
ΔFuel Exports	-0.000527	-0.000316	-1.80e-05	-0.000191
	(0.000362)	(0.000261)	(0.000142)	(0.000167)
Fuel Exports$_{t-1}$	-0.000605***	-0.000273**	-2.81e-05	-0.000258***
	(0.000157)	(0.000112)	(5.92e-05)	(7.12e-05)
Total$_{t-1}$	-0.250***			
	(0.0301)			
Δln(gdp)	-0.0437	-0.0144	-0.0112	-0.0193
	(0.0330)	(0.0240)	(0.0134)	(0.0158)
Ln(gdp)$_{t-1}$	0.00637	0.000858	0.00235	0.00129
	(0.00709)	(0.00512)	(0.00280)	(0.00331)
ΔTrade	-0.000151	-9.70e-05	5.53e-05	-0.000115
	(0.000158)	(0.000114)	(6.53e-05)	(7.73e-05)
Trade$_{t-1}$	-0.000140	-9.85e-05	-4.05e-05	1.06e-05
	(0.000121)	(8.70e-05)	(4.95e-05)	(5.92e-05)
ΔPolity	0.00187**	0.000954	0.000162	0.000739*
	(0.000859)	(0.000621)	(0.000355)	(0.000419)
Polity$_{t-1}$	0.00149***	0.000527	0.000318*	0.000598***
	(0.000482)	(0.000341)	(0.000187)	(0.000219)
ΔDefense	-0.00438***	-0.00198***	-0.000723*	-0.00167***
	(0.000990)	(0.000715)	(0.000409)	(0.000484)
Defense$_{t-1}$	-0.000697	0.000232	-0.000274	-0.000726*
	(0.000806)	(0.000579)	(0.000331)	(0.000395)
ΔAge>65	-0.0297	-0.0406*	-0.00103	0.0153
	(0.0313)	(0.0226)	(0.0128)	(0.0152)
Age>65$_{t-1}$	6.46e-05	0.00503	-0.000460	-0.00475**
	(0.00443)	(0.00322)	(0.00183)	(0.00216)
Welfare$_{t-1}$		-0.223***		
		(0.0274)		
Health$_{t-1}$			-0.246***	
			(0.0271)	
Education$_{t-1}$				-0.293***
				(0.0299)
Constant	-0.0431	-8.34e-05	-0.0349	0.0378
	(0.159)	(0.114)	(0.0628)	(0.0742)
Observations	549	549	580	580

R-squared	0.199	0.164	0.146	0.199
Number of countries	40	40	40	40

the misleading picture of "the big welfare states of the Gulf" disappears. Overall, resource abundant countries spend *less* than resource-poor countries on social policy.

In brief, resource abundance lowers the levels of social expenditure with the exception of health expenditure. The reason behind this perhaps counterintuitive finding is the corruption generated by the extra revenue and its spillovers to social policy.

Defense Expenditures

In both tables 2 and 4, defense expenditures exert a dampening effect on social expenditures of all types. The first difference of defense expenditures is significant throughout the regressions, whereas the lag of defense expenditures is only, and barely, significant for education expenditures. This finding indicates that it is not the level of overall defense expenditures but the change in the level of expenditures from one year to another, which makes a difference in the social policies of governments. This makes sense, as budgets are made yearly, and without a significant national income rise, governments allocate resources from one expense to another.

I ran the same regressions for the MENA region as well as non-MENA countries, to control for the possibility that this region is driving both the resource and defense expenditure effects. The results did not change as for the non-MENA countries, both defense and resource abundance still decrease social expenditures, a finding robust across regions. Therefore, we can conclude that there is nothing inherently "Middle Eastern" about the resource curse on social policy.

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We can also calculate the short and long term effects of defense expenditures on social policy. In the short run, a 5% increase in defense expenditures immediately decrease total social expenditures by 2%. In the long run, defense expenditures decrease social expenditures by an additional 2%. Overall, then, a state focusing on defense is also a state which neglects social policy. Governments seem to favor defense at the expense of social provisions.

Other Variables

Throughout the regressions, both the lag and the first difference of GDP remain insignificant. Similarly, the percentage of the population over the age of 65 is insignificant except for welfare and education expenditures. This variable decreases both social policies (although not at a high significance level) as expected, given that the elderly are not likely to consume educational and welfare funds.

The polity variable behaves in compliance with the existing research. The first difference and the lag of polity are significant and positive for total social expenditures and especially educational expenditures. The connection between education outcomes and democratization was already established by Lake and Baum (2001). Here, I replicate the results related to the effects of democratization on public education expenditures and confirm the relatively robust finding that democracies educate their citizens more (Avelino et al. 2005, Rudra 2002).

Finally, trade openness is not significant in all regressions but the first one in Table 2. Even then, only its lag is significant, and only at the 10% level. Moreover, its sign is negative throughout the regressions, giving credence to the efficiency hypothesis in the context of LDCs. This finding generates suspicions about the effects of trade openness on social policy overall. After the inclusion of fuel or resource exports in the regression

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analysis, trade's effects disappear. This could mean that what really drives the so-called effects of economic liberalization is in fact important resource exports. Before jumping to encompassing conclusions however, further research is necessary to untangle the relationship between trade openness and primary resources.

Robustness Checks

The results reported above may be an artifact of the particular estimation method used. In this section, I re-estimate the model using the Arellano-Bond GMM estimator. This estimator is appropriate for panels with small T and large N, a linear functional equation, and for some independent variables that may or may not be exogenous. It also takes into account heteroskedasticity and autocorrelation within panels. Arellano-Bond estimator takes the first difference of all regressors to remove the country-specific effects from the analysis. In addition, it creates instruments to account for the correlation between the lagged dependent variable on the right hand side and the error term. These characteristics make the Arellano-Bond estimator a good candidate for a robustness check.

The results from the GMM estimation are reported in Table 6. The variables of interest are still significant with the correct signs. Both resource and fuel exports reduce total social expenditure. Similarly, the change in defense expenditures has a dampening impact on social policy. The only other significant variable is polity, only at the 10% level. These results increase our confidence in the robustness of the findings and support the hypothesis outlined above.

Table 5. Alternative Estimation: GMM with the Arellano-Bond Estimator

Variables	(1) ΔTotal	(2) ΔTotal
ΔResource Exports	-0.00103**	
	(0.000415)	
Resource Exports$_{t-1}$	-0.000522*	
	(0.000314)	
ΔTotal$_{t-1}$	-0.172***	-0.178***
	(0.0432)	(0.0428)
Δln(gdp)	-0.0546	-0.0529
	(0.0409)	(0.0406)
ln(gdp)$_{t-1}$	0.00225	0.0156
	(0.0168)	(0.0160)
ΔTrade	-0.000166	-0.000180
	(0.000179)	(0.000178)
Trade$_{t-1}$	-0.000141	-0.000107
	(0.000182)	(0.000179)
ΔPolity	0.00103	0.00112
	(0.00101)	(0.00100)
Polity$_{t-1}$	0.00136	0.00161*
	(0.000830)	(0.000828)
ΔDefense	-0.00543***	-0.00545***
	(0.00182)	(0.00178)
Defense$_{t-1}$	-0.00128	-0.00130
	(0.00179)	(0.00174)
ΔAge>65	-0.0157	-0.0155
	(0.0450)	(0.0444)
Age>65$_{t-1}$	-0.00622	-0.0126
	(0.00942)	(0.00927)
ΔFuel Exports		-0.00110**
		(0.000469)
Fuel Exports$_{t-1}$		-0.000857***
		(0.000311)
Constant	0.0115	-0.281
	(0.381)	(0.354)
Observations	448	451
Number of countries	38	38

Robust standard errors in parentheses*** $p<0.01$, ** $p<0.05$, * $p<0.1$

A second robustness check involves the dependent variable specification. The above regressions used the ratio of social expenditures to the total government expenditures, both calculated as percentages of GDPs. The conventional measure of social expenditures is simply the type of spending as a percent of GDP. Table 7 reports the results with the conventional measure of social expenditures. Expectedly, this regression looks more like the previous research. However, there are significant

differences as well. First, the first difference of trade openness is still negative, supporting the efficiency hypothesis in the context of LDCs. Second, the lag of resource exports significantly and negatively affects social expenditures in this specification as well. Therefore, the main finding of this chapter is robust to the conventional specification of social expenditures.

Perhaps surprisingly, the lag of defense expenditures seems to increase social expenditures in this particular specification. Let us recall that in the above regressions, the *first difference* of the defense variable was significantly negative; the lag of this variable was mostly insignificant and behaved erratically, changing signs from one expenditure to another. Therefore this finding does not entirely contradict the above results, which pertain to the change in defense expenditure. The lag of the defense variable may simply represent the level of general government spending. If the previous year's defense spending is high, it may mean that government spending is high overall, including social outlays. This is the exact reason why the ratio of a particular spending to the total government expenditures is a better measure of that policy: it provides a control for overall government spending. In any case, to assess the robust effects of defense expenditure on social policy requires further research.

Table 6. Alternative Estimation: Total Social Expenditure as a percent of GDP as Dependent Variable	
	(1)
Variables	ΔTotal
ΔResource Exports	-0.000170
	(0.000107)
Resource Exports$_{t-1}$	-7.93e-05*
	(4.78e-05)
Total$_{t-1}$	-0.262***
	(0.0274)
Δln(gdp)	-0.0286***
	(0.0108)
ln(gdp)$_{t-1}$	-0.00146
	(0.00237)
ΔTrade	-0.000128**

	(5.20e-05)
Trade$_{t-1}$	-1.71e-05
	(3.98e-05)
ΔPolity	0.000326
	(0.000283)
Polity$_{t-1}$	0.000388**
	(0.000155)
ΔDefense	0.000225
	(0.000324)
Defense$_{t-1}$	0.000707***
	(0.000268)
ΔAge>65	-0.0251**
	(0.0103)
Age>65$_{t-1}$	0.00197
	(0.00148)
Constant	0.0525
	(0.0539)
Observations	546
Number of countries	40
R-squared	0.195

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

I conducted several additional robustness checks based on the measurement of both the dependent variables and the variable of interest: resource abundance. Instead of resource exports, the World Bank World Development Indicators also report "resource rents" as the revenues generated from natural resources. Below, I use both this measure and the "oil rents" measure (both calculated as percentages of GDP) to assess whether the results are affected.

Table 7. Robustness Check with Resource and Oil Rents		
	(1)	(2)
Variables	ΔTotal	ΔTotal
Total$_{t-1}$	-0.250***	-0.250***
	(0.0305)	(0.0305)
ΔPolity	0.00153*	0.00145*
	(0.000874)	(0.000875)
Polity$_{t-1}$	0.00125**	0.00125**
	(0.000485)	(0.000485)
ΔTrade	-7.88e-05	-9.08e-05
	(0.000165)	(0.000165)
Trade$_{t-1}$	-7.35e-05	-8.20e-05

	(0.000121)	(0.000121)
Δln(gdp)	-0.0425	-0.0481
	(0.0353)	(0.0359)
Ln(gdp)$_{t-1}$	0.00916	0.0111
	(0.00758)	(0.00761)
ΔResource Rents	-0.00148***	
	(0.000456)	
Resource Rents$_{t-1}$	-0.00171***	
	(0.000418)	
ΔDefense	-0.00528***	-0.00523***
	(0.00108)	(0.00108)
Defense$_{t-1}$	-0.00207**	-0.00206**
	(0.000900)	(0.000902)
ΔAge>65	-0.0169	-0.0121
	(0.0319)	(0.0318)
Age>65$_{t-1}$	-0.00124	-0.00146
	(0.00421)	(0.00422)
ΔOil Rents		-0.00130***
		(0.000484)
Oil Rents$_{t-1}$		-0.00178***
		(0.000440)
Constant	-0.0996	-0.148
	(0.169)	(0.170)
Observations	505	505
R-squared	0.209	0.206
Number of countries	34	34

As seen in table 8, results remain unaffected by different measurements for the resource variables or for the social spending variables. There appears to be a fairly robust *negative* relationship between resource abundance and social spending regardless of speciation or model selection.

Conclusion

The purpose of this chapter was to reveal the basic relationships between social expenditure and resource abundance. It showed that resource exports, and more specifically fuel exports decrease the level of social expenditures in LDCs, even after controlling for several variables such as GDP, trade openness and regime type. It also

proposed a new way of measuring social expenditure, by comparing the social spending to the total government spending. This measure allows us to assess the relative importance that governments grant to social policy, as compared to other governmental priorities such as defense and consumption.

The finding that resource abundance actually reduces social expenditure in LDCs challenges the conventional wisdom that resource-rich countries use their revenues to gain the allegiance of their citizens. It also casts doubt on the claim that resource-rich countries grow slower because they redistribute more instead of investing on developmental projects. Theories linking resource abundance to low levels of economic development and to the lack of democratic procedures through the effects of high redistribution need to reconsider their logic insofar as the evidence shows that resource exports diminish the amount of social spending.

This chapter also opens the door to many understudied research questions which can further illuminate the effects of resource abundance on domestic politics in LDCs. How do resources affect social policy negatively? If resource-rich LDCs do not redistribute their rents to their citizens and do not grow as fast as other countries, where do the resource revenues disappear? Is fuel really special or can other resources like phosphates affect domestic economies in the same way as fuel? These questions can only be answered by more data and further research. In the meantime, the finding that social policy is harmed by resource abundance represents a departure from the existing way of thinking, and it reveals that resource abundance's relationship with domestic politics is more complicated than previously envisaged.

The next chapter will tackle the connection between taxes and resource abundance, the second proposition of the rentier state theory. More specifically, it

challenges the assumption that the leaders of resource rich countries tax their citizens less in order to buy off their allegiance to their usually autocratic rule. It disaggregates taxes into income and consumption components and tests the effects of resource rents on taxes in developing countries.

The Rentier State Theory and Taxes: Does Oil Reduce Taxation?

Introduction

In the process of developing the argument that social spending in developing

countries is contingent on the needs of incumbents and are a function of electoral fraud, I

have been delineating the flaws of the rentier state theory. The previous chapter outlined

the general argument that resource rich developing countries do not necessarily increase

their social spending using resource revenues. In fact, resource rich countries have *lower*

levels of social spending compared to their resource poor counterparts. This finding

contradicts the rentier state theory's premise that resources fund social spending and

therefore support authoritarian regimes' grasp of power. This chapter furthers the same

line of argument into the realm of revenue generation and suggests that the taxation

mechanism of the rentier state theory (RST) may also be unfounded.

The RST's main causal mechanism suggests that low levels of taxation prevents the

masses from demanding political representation. This assertion is supported by the

positive relationship between democracy and higher level of taxes in the extant research

program. However, there has been no research on asking whether it is the *rents* that

actually cause taxes to be lower in autocracies. In this chapter, I directly test the effects of

rents on taxes and find that oil has contradictory effects on different kinds of taxes. More

specifically, resource rents seem to reduce taxes on goods and services whereas it

increases taxes on income, profits and capital gains.

Whether resource-rich countries tax their citizens less or not has significant

implications for the social spending levels in developing countries. Government revenues

consist of tax and non-tax income used as public consumption or investment. The large

welfare states of Europe typically fund their social programs through taxation levels that reach 40-50% of earned income. This is also true for Norway, a resource-rich country, where total revenues from taxes reach 41% of the GDP. Several resource-rich countries around the world prefer to fund their social policies through their tax base, and not with their resource revenues. This fact contradicts the rentier state theory's intuition that resources change how public spending and public tax collection are managed. In this chapter, I show that resource-rich developing countries do not necessarily tax their citizens less because they still want and need the revenues generated by taxation, much like Norway.

The possibility that resource rich countries may have lower levels of taxation receives support from a preliminary look at the data. Table 1 compares ten countries with the highest oil rents, to the ten countries with the lowest tax revenue as a percentage of the GDP. Five of the ten countries appear in both lists. Three of these countries are situated in the Middle East (Kuwait, Libya and Saudi Arabia) and two of them are in Sub-Saharan Africa (Chad and Equatorial Guinea) , removing the possibility that the correlation could be an outcome of regional or cultural factors. This crude comparison may make us believe that resource rich countries do indeed tax their citizens less.

Table 1. Country rankings for the highest oil rents and the lowest tax rates

	Country	Oil rents as a % of GDP	Country	Tax rates as a % of GDP
1	Iraq	84.05	United Arab Emirates	1.4
2	Equatorial Guinea	68.77	Kuwait	1.5
3	Congo	63.31	Equatorial Guinea	1.7
4	Angola	61.31	Oman	2
5	Azerbaijan	55.87	Qatar	2.2
6	Saudi Arabia	55.51	Bahrain	2.4
7	Kuwait	54.55	Libya	2.7
8	Libya	52.47	Chad	4.2

| 9 | Chad | 49.91 | Burma | 4.9 |
| 10 | Gabon | 49.27 | Saudi Arabia | 5.3 |

Source: The World Bank's World Development Indicators and the Heritage Foundation's Fiscal Freedom Index

However, the observation that resource rich countries tax their citizens less requires more scrutiny. After controlling several factors such as regime type, economic development level and economic openness, resources, and more specifically oil, actually increases the tax levels on income, profits and capital gains, while reducing taxes on goods and services. Therefore, the claim of the RST that resources allow leaders to maintain low levels of taxes is not entirely true. It appears that oil rents direct taxation towards the income side of the equation and away from the spending side. Cheaper goods and services may be the key to understanding the persistence of authoritarian regimes in resource rich developing countries.

This chapter first explains briefly the relationship between taxes, social spending and resource abundance. Then, it provides a theoretical critique of these causal mechanisms as plausible explanations. These critiques have had voices in existing research but they have never been empirically tested. The next part provides the statistical evidence showing that the main assumption behind the "no taxation, no representation" hypothesis holds for certain types of taxes and not for others. In the end, even though the RST is a statistically robust finding, it seems like the causal links offered to defend it need much more scrutiny.

Taxes and Social Spending

In the second chapter, the theory explaining the connection between resource rents and taxes, and the determinants of tax revenues were outlined in detail. Here, I briefly review that argument and move on to the relationship between taxes and social spending.

The conventional wisdom states that taxes are usually lower in countries with high levels of resource rents, and this creates state weakness, increasing the likelihood of conflict (Ross, 2004; Fearon and Laitin, 2003). Ross even goes as far as to say that low taxes impede democratic processes in developing countries. Resources replace taxes in government revenue generation, invalidating the mutually beneficial relationship between the government and the citizenry. In these accounts, taxes are the cornerstone of representation, and resources destroy this by removing the dependence of incumbents on tax revenues. However, this logic is never texted directly but rather assumed in these studies. In this chapter, I conduct this test and assess the effects of resources on tax revenues in developing countries.

In examining taxes and their relationship with resources, it is important to realize that social spending is a function of both. In developing countries, tax revenues are typically low, much lower than developed countries. Nonetheless, research shows that taxes do have a significant and positive effect on secondary school enrollment and income distribution (Chu, Davoodi and Gupta, 2000). Taxes tend to be progressive in the education and health spending and transfers but they are typically not well-targeted. Albeit small, there is a clear link between taxes and social spending in developing countries. This complicates causal picture between the three variables of interest (see figure 1).

Figure 1 describes the proposed causal directions between resources, taxes and social spending. These links get even more complex when we start considering different types of taxes. All of these arrows need to be clarified in order to understand how public revenues (either tax or non-tax) and public expenses are connected.

Figure 1. The Links Between Resources, Taxes and Social Spending
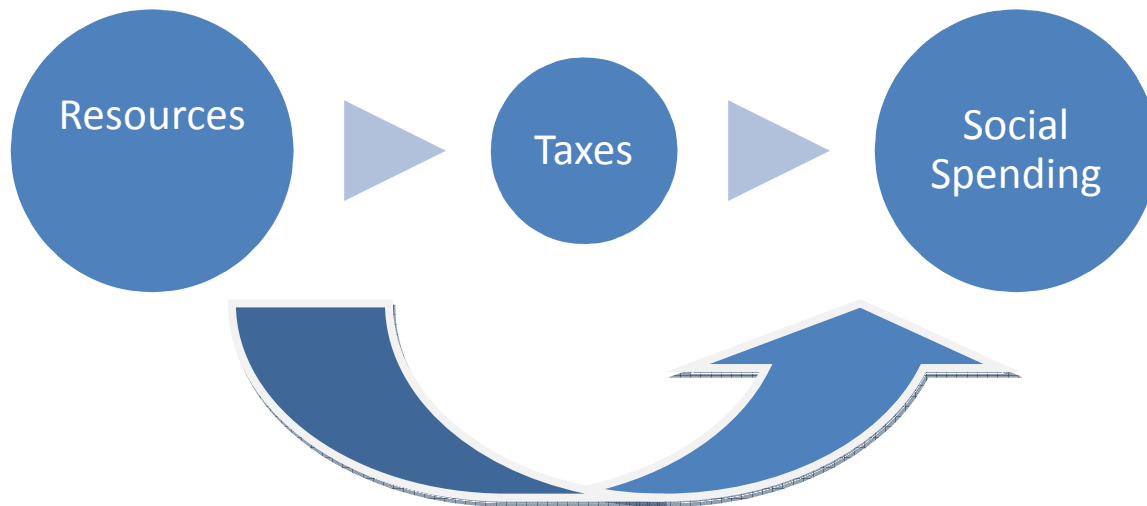
Before moving on to the data analysis, I will address the caveat of a potential spurious relationship between these variables. There is a sizeable research body examining the effects of globalization on both taxes and social spending (Rodrik, 1997; Avelino, Brown and Hunter, 2005; Rudra, 2002 among others). It may be economic liberalization, and not resources, which significantly alters public finances in developing countries. This dissertation does not object to the importance of trade openness and capital account liberalization in constraining politicians' spending choices. In fact, all the regressions include the control variable "trade openness" as a proxy for globalization. However, even after controlling for this important variable, they find that resources are still relevant to public finances, whether it be spending or revenue generation. This finding is also not novel in and of itself, except the direction of resource abundance's effect on both taxes and social spending (mixed in the former, negative in the latter).

These new findings are significant in the way we think about social spending in developing countries, which will become clearer after the quantitative analysis.

Variables, Measurement and Methods

In their research, the above authors use different specifications for their models. For instance, Rodrik (1997) looks solely at the OECD countries, and his model only controls for GDP/capita, openness and capital account restrictions. His analysis is a simple test of the relationship between globalization and taxation. However, the omission of a regime type variable may seriously bias the results, insofar as there is a robust relationship between higher levels of democracy and higher levels of taxation[24].

Similarly, Slemrod (2004) does not control for regime type but he includes measures of the electricity as "cost-reducing services offered by government" and population as "an indicator of smallness" (p. 1172 and p. 1183 respectively). However, he acknowledges that the electricity variable is bound to be highly correlated with GDP/capita or any other development level indicator. I also omit population from the regressions because it is unlikely to have an effect on the taxes on goods and services, and income, as much as it would affect taxes on corporations.[25]

In this chapter, I control for the following variables in the regression analysis: GNI/capita, polity, trade openness as a percentage of GDP, government consumption expenditures as a percentage of GDP and oil rents as a percentage of GDP. Even though government consumption may not have been significant in some of the existing studies, current theories closely tie government expenditures to government income (Alesina &

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[24] One might argue that there is not much variation in the regime types of the OECD countries. But the list includes countries such as Turkey, South Korea, Mexico, Greece and most of the Eastern and Central European countries.

[25] I ran robustness checks including the population variable, and the results were not affected.

Ardagna, 2009 among others). GNI/capita controls for the level of development, trade openness for globalization and its effects, and polity for regime types. Finally, oil rents capture the presumed rentier state effects on taxation. All of the variables were obtained from the World Development Indicators compiled by the World Bank, except the polity measure from the Polity IV Project. The data cover the years 1991-2010 and the countries whose GNI/capita is less than $12,196.[26]

As the dependent variable, various measures of taxes have been used. The first measure is called "RossTax" and it refers to what Ross used as the measure for taxes: taxes on goods, services, income, profits, and capital gains as a percentage of total government revenue. Then I disaggregate this measure into 2 components: taxes on goods and services (i.e. consumption) and taxes on income, profits, and capital gains (i.e. income) to find important differences. I also use net taxes on products and total tax revenues as a percentage of GDP as additional robustness checks and they also reveal interesting results.

One appropriate estimation method for a cross-sectional, time-series data involving countries is to use fixed effects, including the lags of all variables and using the differences of the variables as well as the dependent variable to further prevent autocorrelation (DeBoef & Keele, 2008). The lag lengths are kept at one for all variables after the AIC tests confirmed this selection. The results in the main section use this methodology and the robustness checks are performed using the Arellano-Bond estimator.

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[26] This is an arbitrary cut-off point separating developing countries from the developed ones. However, we must delimit developing countries somehow, and this cut-off point of $12,196 per capita income is what the World Bank accepts as the cut-off for higher income countries. Following the WB, I use this threshold to define developing, low & middle income countries.

Taxes on Consumption vs. Taxes on Income

The conventional way of using taxes in a regression analysis is to sum up all taxes incurred by the people (i.e. Ross, 2001). At first look, it may make sense to include all type of taxes that affect the citizenry in the same measure in order to test the rentier state theory hypothesis that all taxes on the citizenry will be lower if a country is resource rich. However, an alternative theory can suggest that not *all* taxes applied to the citizenry will be reduced by resource abundance. Rather, this paper follows the strategy that we should test the relationship between taxes and oil by looking at different types of taxes separately. More specifically, I distinguish between consumption taxes vs. income taxes because the revenue generated by these two taxes differ significantly. Incumbents face tradeoffs when they decide to reduce the tax rates for political purposes, the most obvious being the loss of revenue. Insofar as tax rate reductions are costly, politicians will try to minimize this cost by leaving some taxes intact. Therefore, consumption taxes will be lower in resource rich countries because they can be avoided by the populace through lower consumption but income taxes will remain the same because they are unavoidable according to this logic.

The results regarding the disaggregation of taxes are reported in table 3. The effects of oil rents on consumption taxes support the rentier state theory's expectations. Both the lag and the first difference of oil rents significantly reduce the level of consumption taxes. This was also the expectation of the disaggregated taxes logic. Since consumption taxes are more easily avoidable by the citizenry, especially in developing countries, lowering those instead of other taxes is a possible strategy to maintain the political support of the masses, without losing much of the revenue stream.

The income tax, however, behaves very differently from the consumption tax. The regression analysis shows that income taxes are either not affected by the lag of oil rents or only slightly affected by the first difference of oil rents (albeit only at the 10% level). Both signs on the coefficients are positive, the opposite of what the rentier state theory predicts. The fact that the income tax actually increases with resource abundance supports the logic that incumbents are not willing to give up the revenues generated from taxes completely, and that they prefer to make up some of the lost revenues from consumption taxes with taxes which are unavoidable by the people.

The control variables are mostly insignificant with a couple of exceptions. Trade openness has a positive effect on the income tax but no effect on consumption tax. Again we see that economic liberalization does not necessarily curb government revenues as feared. The only other significant coefficient (besides the lags of the dependent variables) is the lag of the government expenditures in the case of income taxes. Although significant at only the 10% level, government expenditures seem to have a positive effect on income taxes. Based on the non-significance of the other government expenditure measure, and the very low confidence level of the lag, it is fair to conclude that government expenditures are not related to the tax revenues.

Table 2. Disaggregated Taxes

Variables	(1) ΔIncome Tax	(2) ΔConsumption Tax
Income Tax$_{t-1}$	-0.363***	
	(0.0246)	
ΔPolity	-0.0346	-0.0207
	(0.0787)	(0.0891)
Polity$_{t-1}$	-0.0185	-0.0148
	(0.0532)	(0.0599)
ΔTrade Openness	0.0513***	-0.00516
	(0.0147)	(0.0169)

Trade Openness$_{t-1}$	0.0565***	-0.00540
	(0.0130)	(0.0151)
ΔGNI/capita	0.000397	4.20e-05
	(0.000401)	(0.000456)
GNI/capita$_{t-1}$	8.23e-05	-0.000112
	(0.000147)	(0.000167)
ΔOil Rents	0.132*	-0.292***
	(0.0772)	(0.0820)
Oil Rents$_{t-1}$	0.107	-0.302***
	(0.0819)	(0.0854)
ΔGovernment Expenditures	0.0934	0.0206
	(0.0751)	(0.0844)
Government Expenditures$_{t-1}$	0.126*	-0.0112
	(0.0675)	(0.0763)
Consumption Tax$_{t-1}$		-0.388***
		(0.0245)
Constant	0.469	14.61***
	(1.461)	(1.763)
Observations	952	952
R-squared	0.229	0.251
Number of countries	100	100

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

The "Ross Tax"

The above analysis shows that both income and consumption tax rates are affected by resources, albeit in diametrically opposite ways. These findings confirm the argument proposed by this dissertation: taxes are not only used to appease the citizenry, but also to raise revenues, *even in resource-rich countries.* Extra revenues can facilitate balancing budgets, however tax revenues are still needed to afford high government expenditures. Even Saudi Arabia, the quintessential rentier state, periodically goes through times of liquidity problems and considered increasing its tax rates.[27] Very few studies examined

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[27] There are no individual income or consumption tax (VAT) in Saudi Arabia. However, since 2001, employees started paying 9% social security contributions from their income to help the state share the

the relationship between taxes and resources, and when they did, they did not look at different taxes separately. For instance, Ross (2001) indirectly tests the rentier state theory by looking at the effects of all individual taxes on the regime type. Here, I take his aggregated measure for taxes and directly test the basic premise of the rentier state theory. Taxes should decrease with increasing oil rents if the rentier effect is true and that resource rich governments avoid representational pressures by not charging high levels of taxes. The results are reported in table 4 below.

The results are overall consistent with the rentier state theory when we use the Ross tax dependent variable, which includes taxes on both consumption and income. Both a change in oil rents and the lag of oil rents are significant and negatively affect the Ross tax. In other words, oil wealth is correlated with lower levels of taxation on the citizens even after we control for many potential factors such as economic development and regime type. This could be viewed as a confirmation of what we know as the "no taxation, no representation" hypothesis. However, this connection is not as clear cut as it seems, as demonstrated by the disaggregation of taxes.

A quick look at the other variables constituting the model reveals some interesting patterns. The polity variable is insignificant in this model where the lag of taxes is included on the right hand side. Both the lag and the difference of trade openness, however, is positively significant, supporting the idea that higher levels of globalization do not necessarily lead to a "race to the bottom" in terms of government revenue collection. Development levels and government expenditures seem to have no effect on the taxes on consumption and income.

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burden of social security. Saudi citizens also have to pay the "zakat" tax, which usually amounts to 2.5% of personal wealth.

Table 3. The determinants of the "Ross Tax"

Variables	(1) ΔRossTax
RossTax$_{t-1}$	-0.343***
	(0.0247)
ΔPolity	-0.0671
	(0.109)
Polity$_{t-1}$	-0.0342
	(0.0738)
ΔTrade Openness	0.0494**
	(0.0208)
Trade Openness$_{t-1}$	0.0552***
	(0.0188)
ΔGNI/capita	0.000483
	(0.000555)
GNI/capita$_{t-1}$	-6.95e-05
	(0.000205)
ΔOil Rents	-0.224**
	(0.107)
Oil Rents$_{t-1}$	-0.235**
	(0.114)
ΔGovernment Expenditures	0.0918
	(0.104)
Government Expenditures$_{t-1}$	0.125
	(0.0935)
Constant	12.89***
	(2.244)
Observations	943
Number of countries	100
R-squared	0.198

Standard errors in parentheses *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Why does the Ross Tax yield results supporting the RST? This is due to the

dominating effect of consumption taxes over income taxes in developing countries. In

Ross' measure, consumption taxes weigh in more heavily than income taxes, because

VAT is usually higher than the taxes on earned income, making the sign on the

aggregated measure similar to the consumption taxes' sign (i.e. positive). This measure is

misleading, as shown above, because it conceals the opposite sign income taxes take

when they enter the regression by themselves. The new disaggregated measure shows that incumbents have several motives which can be contradictory at times. Lowering all taxes can put significant strain on the public budget, and lowering some taxes but increasing some others strategically can be the best move for incumbents to achieve several goals simultaneously.

Robustness Checks

To check whether these results hold under different modeling, I use the Arellano-Bond GMM estimator. This estimation method is best for small T, large N samples and for situations where the independent variables may be endogenous. It is also robust to heteroskedasticity and the estimators generated in this way are more efficient. The results of the Arellano-Bond estimations are reported in table 5.

Table 4. The Arellano-Bond GMM Estimator		
	(1)	(2)
Variables	ΔIncome Tax	ΔConsumption Tax
ΔIncome Tax$_{t-1}$	-0.0535**	
	(0.0259)	
Income Tax$_{t-1}$	-0.833***	
	(0.0314)	
ΔPolity	-0.0189	0.0292
	(0.0781)	(0.0948)
Polity$_{t-1}$	0.0641	0.150
	(0.0813)	(0.0943)
ΔTrade Openness	0.0333**	0.0171
	(0.0145)	(0.0182)
Trade Openness$_{t-1}$	0.0516***	-0.000420
	(0.0171)	(0.0206)
ΔGNI/capita	0.000257	0.000173
	(0.000398)	(0.000504)
GNI/capita$_{t-1}$	-0.000315**	-0.000594***
	(0.000149)	(0.000200)
ΔOil Rents	0.252***	-0.333***
	(0.0672)	(0.0784)

Oil Rents$_{t-1}$	0.317***	-0.345***
	(0.0836)	(0.0962)
ΔGovernment Expenditures	0.146**	-0.0938
	(0.0745)	(0.0891)
Government Expenditures$_{t-1}$	0.126	-0.228**
	(0.0905)	(0.102)
ΔConsumption Tax$_{t-1}$		0.0851***
		(0.0283)
Consumption Tax$_{t-1}$		-0.976***
		(0.0335)
Constant	10.52***	36.98***
	(2.076)	(2.399)
Observations	729	732
Number of countries	90	90

Standard errors in parentheses *** $p<0.01$, ** $p<0.05$, * $p<0.1$

The results from the Arellano-Bond estimator reveal even more interesting outcomes than the earlier analysis. Not only the results are robust in this specification, but also the implications and significance levels are enhanced considerably. Oil rents significantly increase income taxes whereas they significantly decrease consumption taxes at the 1% level. This contrasting finding supports the hypothesis that leaders try to compensate the loss of income from lowered consumption taxes with increases in income taxes.

Overall, these results cast doubt on the simple negative correlation between taxes and oil rents posited by the rentier state theory. The reality seems more nuanced, when we disaggregate the types of taxes and consider the diverse motivations of incumbents (i.e. not only lowering the tax burden on the people but also keeping a reasonable level of tax revenues). Oil rich countries do not tax less, they tax differently. These results seem robust to different specifications of the model as well (see Appendix).

Conclusions

This chapter looked at the tax structures of developing countries in the hopes of explaining social policy. The analysis suggests that unlike the RST, developing countries with resources still make use of taxes to fund their expenditures, and potentially their social expenditures. To show this, the empirics aimed at tackling another shortcoming of the rentier state theory: testing, rather than assuming, whether resource rich countries tax their citizens less. The results imply that income taxes are increased by resource abundance, a finding diametrically opposite of the conventional wisdom. In conjunction with the previous chapter, now we have a completely different picture of social spending in resource-rich countries than the rentier state theory would led us to believe.

To recapitulate, the previous chapter sought to show that another premise of the rentier state theory, namely the possibility that resource rich countries redistribute more, was also unwarranted. Instead, I argued that both social spending and taxes are contingent on the needs of incumbents. Only around elections do they boost social expenditures and only consumption taxes do they decrease to please their constituency. In other words, the incumbents in resource rich countries are calculating rational actors who are not willing to give away more than they have to. Keeping (or increasing) income taxes and increasing social expenditures only temporarily has been enough for them to remain in power.

The following chapter arrives to the main argument of the dissertation, namely the importance of elections in the determination of social spending in developing countries. It argues that the main goal of incumbents is to remain in power by giving the populace the impression that they are elected and wanted by them. This is only possible through elections, which can create the illusion that the citizenry is involved in the political

process. To guarantee the reelection, incumbents are inclined to employ electoral fraud, and to suppress any popular reactions, they boost social spending around fraudulent elections. This is the main reason why social spending in less developed countries increases over time, from one rigged election to another. The next chapter explains the mechanisms through which electoral fraud is linked to social spending.

Chapter V

Fraudulent Elections and Social Spending: The Survival Strategies of Incumbents

Introduction

So far, the previous chapters attempted at explaining that changes in social spending in developing countries are not necessarily determined the way envisaged by the rentier state theory. Resources can increase social spending and taxes are not always reduced by resource abundance. In this chapter, I introduce electoral fraud as one of the main driving factors of social spending in developing countries. Expenditures and revenues in these countries are determined by the nature of their elections, as well as their timing.

Under what conditions do fraudulent elections increase in frequency and what do these conditions imply for social spending in developing countries? This chapter argues that regimes that periodically conduct fraudulent elections are more concerned about their grip on power than regimes that are not using widespread fraud as a tool to remain in power. If electoral fraud actually signals the fear of losing office on behalf of leaders, then it potentially can explain why social expenditures increase around it as well. To remain in power, leaders use a variety of tools and both fraud and social spending take part in realizing this objective.

The first part of this chapter contributes to the growing research on a certain type of regimes described as "electoral authoritarian" (Schedler, 2002; Levitsky & Way, 2002; Diamond, 2002; Magaloni, 2010 among others). A growing number of countries established regular elections and institutions that exhibit basic characteristics of advanced democracies during the second half of the 20th century. However, behind the pretense, these countries remain authoritarian due to the unfree and unfair nature of their elections

as well as a corrupt judiciary branch and high levels of repression. These countries typically conduct elections every few years to ensure both domestic and international actors that they follow the rules of procedural democracy. However, it is clear, even before the elections, that widespread electoral misconduct will be used to favor the incumbents. Still, there might be uncertainty about the outcome of the elections because electoral fraud may not affect the results in the expected way (Lehoucq, 2003; Nichter, Fox 2008). The first part of this chapter outlines the causes of electoral misconduct and tests the proposition that fraud is more common in regimes exhibiting more concern for their survival.

The second part of the chapter applies the research on electoral fraud to the study of social spending. Chapter II had found that social expenditures were augmented by resource abundance. We also know, from the resource curse literature that, resource abundant countries tend to be more authoritarian because resources provide the additional income to incumbents to hold on to power. By revealing the initial causes of fraud, we can track the causal mechanism linking fraud, and therefore the democratic deficit of resource rich countries, to social spending. To illustrate, if fraud is an indicator of the insecurity of leaders, then the same leaders will complement fraudulent activities with other measures, such as coercion and patronage, in order to ensure their continued positions in power. I reestimate a social expenditures model which includes electoral fraud as an independent variable, as well as a model including the same determinants used in the models where fraud was the dependent variable. The results confirm that electoral fraud and increases in social expenditures complement each other in the political elites' pursuit of power.

This chapter is organized as follows: the next section will briefly summarize the existing research on the causes and consequences of electoral fraud in developing countries, and relate this literature to social expenditures. Existing studies suggest that both fraud and social spending may have similar causes, and hence, can be complementary tools for political elites. The following section will describe the data and methodology used in order to assess the derived hypotheses. Then, I will test these using cross-sectional time-series data for developing countries. Here, I will employ two different dependent variables: fraud and social spending, to assess whether they are influenced in the same manner from the independent variables. Then, I will run another regression with spending as the dependent variable and fraud as one of the independent variables to evaluate the complementarity of these two policies. Finally, a concluding section will remark on the potential for further research on the subject.

Electoral Fraud and Social Spending

The second chapter outlined in great detail the potential causes of electoral fraud and its connection to social spending according to the literature in developing countries. Basically, the causes of fraud can be organized into three sub-categories. First, elections are rigged for institutional reasons. If the constitution delineates the political institutions (i.e. term limits, plurality vs. SMD, presidential vs. parliamentary, military vs. single party and dynastic) in such a way that makes it easier for incumbents to stuff ballots or more costly to lose office, we would expect to see more electoral fraud. Second, the economic outlook plays an important role in the decision to rig elections. If inflation is high, and economic growth and the level of development are staggering, incumbents would be more concerned about their prospects of reelection, therefore seeing fraud as a more attractive alternative. Finally, social unrest can be an explanatory factor for

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fraudulent elections. Riots and anti-government demonstrations can signal to the incumbent that the elections are not his to win, making him more inclined to alter the results illegally.

If an incumbent chooses to rig the elections, he needs to take other precautions to ensure that the populace does not notice (or if it notices, it does not react to) the deception it experienced. One very simple way of ensuring this is to present oneself as a benevolent dictator who takes care of his people. This is similar to the idea that "stationary bandits" (i.e. dictators) provide their subjects with public goods in order to be able to collect more and continuous taxes in the long run (Olson, 1993). I extend this logic to all rulers who use electoral fraud to remain in power and argue that the act of rigging elections is the main cause of spikes in social spending.

Here lies the central argument of this dissertation. Electoral fraud is conceptualized as a distinct variable from regime type for several reasons. First, evidence of fraudulent elections can reduce the polity score that countries get but that does not necessarily make them autocracies. Some of these countries are still categorized as "partly free" by Freedom House, and receive a score above 7 in the polity scale. In that sense, electoral fraud is not solely a strategy dictators revert to. Several democratically elected leaders also use various types of vote rigging to remain in power, whether successfully or not. Therefore, it would be wrong to assume a 100% overlap between dictatorships and the incidences of fraud. Turkey and Morocco are good examples of countries which are "partly free" and yet use widespread fraud.

Second, this dissertation argues that there is something inherent to the nature fraud that makes incumbents increase social spending, independent from the regime type. The act of stealing electoral outcomes is not simply related to the electoral process itself but it

also has other implications and is associated with complementary behavior by the incumbents. These include distribution of basic food staples, coal, clothing, school supplies and other needs of the citizens. Hospitals are well taken care of during and around fraudulent elections and schools receive more funding. These strategies are complements to rigged elections and require higher levels of social spending, regardless of the regime type. Therefore, the act of rigging elections as an institutionalized strategy is a distinct mechanism through which social spending levels are determined.

Data and Methods

The dataset created to test the hypotheses in Table 1 is the outcome of several merges from various sources. The baseline dataset is the Database of Political Institutions (DPI), which represents the efforts of the World Bank to expand its statistical scope to include a variety of political variables. The DPI is augmented with the World Development Indicators to include the economic variables included in the analysis. The Polity measure is added to the dataset as a control variable, to ensure that fraud does not only capture the regime type variance but it has a meaning beyond that. Finally, Bueno de Mesquita, Smith, Siverson, & Morrow's (2003) dataset for *The Logic of Political Survival* is merged to the initial dataset for the political unrest variables to be used in the second part of the chapter.

All these datasets have the same country-year unit of analysis. The time period stretches from 1975 to 2009. The population of countries is the whole developing world. Developed countries are excluded from the analysis because fraud is virtually non-existent in the West for the period under examination and the larger focus of this dissertation is the origins of social policies of the developing world. Therefore, only by

looking at the sample of underdeveloped countries can we understand the causes of electoral fraud and its effects on social policy.

These cross-section and time-series data allow for a statistical analysis of the determinants of electoral fraud. The dependent variable "fraud" refers to the "extra-constitutional irregularities, which are recorded only if mentioned in sources" (Beck et al., 2010). The variable is coded 1 for the year of elections and thereafter until the next fair elections. This coding system is not appropriate for the binary time-series cross-sectional (BTSCS) analysis proposed by Beck, Katz, & Tucker (1998). The authors explain that even in the case of conflict analysis, where a conflict may last more than 1 year, we should consider the first year of the conflict as 1 and the rest as 0s because the consecutive years of conflict will likely be autocorrelated with each other. In the case of fraud, we *know* that the consecutive years are coded 1 on the basis of the election year's coding until there are free elections. Therefore, we are certain that these 1s are autocorrelated. To remove this bias, I recode the fraud variable from DPI to only have 1s for the election year if elections were fraudulent, and 0s for the remaining years. This new fraud variable represents the dependent variable used in Table 2.

The institutional independent variables come from the DPI and the Polity IV databases. The finite term variable is a dummy which takes the value of 1 if there are constitutional term limits for banning the incumbent from running after a determined period of time. The DPI codes this variable 0 when the limits are violated or extended by incumbents. The vote share of the opposition is captured by the opposition vote variable, which is measured by adding the total votes of the opposition parties. By doing this, the DPI aims to capture the power of the opposition as a whole, and hence the cumulative power of the opposition in a country. Plurality refers to the electoral system also called

single member district. It is a dummy variable taking the value of 1 if the elections follow

the plurality rule and 0 if they implement the proportional representation system. The

military variable is again a dummy variable distinguishing between military heads of

state and others. Finally, the system variable takes three values, 0 referring to presidential

systems, 1 to assembly-elected presidents and 2 parliamentary systems.

The remaining institutional variable is the Polity measure of regime types. Since the

usual expectation for electoral fraud is to decrease as countries become more democratic,

I include the polity variable in the analysis. The inclusion of polity may be justified from

a theoretical standpoint. Fraud may simply capture the regime effects and the exclusion

of polity from a regression on the causes of fraud may bias the results significantly. The

only way to distinguish between these two variables and properly assess the causes of

fraud is to include polity in the regression analysis as well. For these reasons, polity is

added to the institutional variables of interest.[28] In addition, I also ran the regressions

without the polity variable and the results were robust in both specifications.

The economic variables are measured in a straightforward manner by the World

Bank. GDP per capita, inflation and GDP growth rates are obtained from the World

Development Indicators Database. These variables are not lagged because even slight

changes in the economic trends that happen a few months before the elections can shape

the expectations of the incumbents, making them more or less likely to revert to fraud[29].

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[28] For theoretical reasons, all institutional variables are lagged except polity. Institutions change slowly, and the previous year's institutional setting may affect the fraud decision. Lagging variables is also standard procedure to help prevent reverse causality (Bearce & Hutnick, 2011). The only contemporary institutional variable is polity to make sure that fraud and polity are not fully multicollinear.

[29] Since the BTSCS analysis is conducted similarly to hazard models, it is unnecessary to include additional lags into the analysis. The time dimension and autocorrelation are controlled by the counter variable and the splines included in all models. Beck et al. (1998) explain in detail that autocorrelation "does not imply that one should add a lagged dependent variable to the logit specification. The essential non-linearity of

The last four variables added to the analysis are the time controls proposed by Beck et al. (1998). The data at hand require a binary time-series cross-sectional (BTSCS) analysis because electoral fraud is a dummy variable. Binary dependent variables can be estimated using logit regressions, which employ maximum likelihood instead of least squares. Moreover, since the data have both a cross-sectional and a time dimension, the appropriate command in Stata is "xtlogit", which allows us to control for country-specific effects using fixed effects. Finally, following Beck et al., the data are considered identical to survival data and therefore, similar autocorrelation prevention methods are used. Specifically, a temporal count variable (time) and cubic splines are included in the model to minimize temporal dependence.

Table 1. Institutional and Economic Determinants of Electoral Fraud

Variables	(1) Fraud	(2) Fraud	(3) Fraud	(4) Fraud
Institutions				
Polity	-0.0533			
	(0.0603)			
Finite Term$_{t-1}$	-1.835*	-1.916*	-2.017**	-1.963**
	(1.045)	(1.026)	(0.925)	(0.915)
Opposition Vote$_{t-1}$	-0.0475**	-0.0514***	-0.0502***	-0.0487***
	(0.0201)	(0.0194)	(0.0189)	(0.0189)
Plurality$_{t-1}$	2.421*	2.495*	2.712*	2.787*
	(1.357)	(1.392)	(1.429)	(1.427)
System$_{t-1}$	0.271	0.382		
	(0.751)	(0.737)		
Military$_{t-1}$	0.610	0.776		
	(0.833)	(0.800)		
Economy				
Inflation	0.000505***	0.000478***	0.000461**	0.000437**
	(0.000186)	(0.000183)	(0.000181)	(0.000178)
GDP/cap	-0.00178*	-0.00181*	-0.00197**	-0.00181*
	(0.000992)	(0.000993)	(0.000977)	(0.000930)
Growth	0.0276	0.0272	0.0303	
	(0.0341)	(0.0343)	(0.0346)	
Time Controls				

BTSCS models makes their dynamics much more complex than continuous TSCS models." The models here are specified in the same manner as Beck et al. with their recommended time controls.

Time	0.0969	0.0569	0.0932	0.0686
	(0.290)	(0.284)	(0.285)	(0.279)
spline1	-0.00613	-0.00681	-0.00661	-0.00662
	(0.00721)	(0.00716)	(0.00719)	(0.00714)
spline2	0.00808	0.00864	0.00885	0.00865
	(0.00633)	(0.00631)	(0.00632)	(0.00629)
spline3	-0.00635*	-0.00660**	-0.00688**	-0.00665**
	(0.00329)	(0.00330)	(0.00329)	(0.00326)
Observations	908	908	908	908
Number of countries	40	40	40	40

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Results

Economic and Institutional Factors

Table 2 displays the results of the BTSCS regressions examining the determinants of electoral fraud. Four regressions are reported where the models exhibit different specifications to check if the results hold. The fourth model is then the most parsimonious specification. All the models include the time controls to account for temporal dependence. The results mostly support the hypotheses and give credence to the overarching argument of the chapter: the more an incumbent is signaled a potential popular uprising, the more he will be inclined to rig elections[30].

The institutional variables yield some surprising results although most follow the initial logic of the hypotheses. The coefficient of polity is negative but insignificant. This non-result is startling, given our expectations that more democratic countries should have less rigged elections. Instead, finite terms, the opposition's vote share and plurality electoral systems more directly and significantly affect electoral fraud. As expected,

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[30] Moreover, he will be more inclined to boost social spending. But this connection will become clearer in the second part of the chapter.

finite terms reduce the likelihood of fraud. Institutional arrangements which limit the incumbents' maximum number of allowed runs prevent them from changing the rules of the game.[31] Plurality electoral systems also create a hospitable environment for electoral fraud, confirming the findings of Birch (2007), albeit the significance level is only 10%.

Perhaps the most surprising result among the institutions is the significantly negative coefficient of the opposition's vote share. It seems like the more the opposition parties earn votes, the less likely the incumbent will (be able to) rig elections. The intuition in hypothesis H1b stemmed from the logic that the incumbents would be intimidated by increasing opposition votes and would rig elections because they would be less certain of winning fairly. This logic does not manifest itself in the statistical analysis. A preliminary reason for this finding could be the possibility that a stronger opposition would simply not allow elections to be rigged easily, or would threaten to organize a popular uprising. Further analysis is necessary to reveal the causal mechanisms underlying this result.

The remaining institutional variables, system and military, are not significant and dropped from model 4. Presidential or parliamentary systems do not differ in favoring or facilitating electoral fraud neither does a military head of state from other types of leaders. Overall, a subset set of institutional factors creating the framework in which fraud happens seems to be influential in the decision to rig elections. Finite terms and plurality underpin the ineffectiveness and the usefulness of electoral fraud respectively whereas the regime's system and the type of the head of the state are irrelevant to the act of election stealing.

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[31] There are certainly exceptions to this relationship, the most notorious being the Russian case. However, on average, finite terms seem to limit the ability of incumbents in running in, and rigging elections.

The more interesting results supporting the argument that leaders' apprehension fuels fraud come from the economic variables. The biggest result of Table 2 is certainly the highly significant and negative coefficient of the inflation variable. Inflation is perhaps the single most visible economic indicator of bad governance, eroding citizens' living standards every day with price increases and indicating a clear scapegoat to blame for the dire economic situation. Therefore, high levels of inflation are the signals for the incumbents that the populace may organize itself around this focal point. In times of high inflation, then, both the probability of losing elections and a popular reaction to the current government are relatively high. These factors compel incumbents to revert to electoral fraud, and the results support this interpretation.

The other two economic variables are not highly significant. Nonetheless, GDP per capita behaves expectedly, reducing the occurrence of fraud as it increases, with a 90% confidence level. Growth has no effect on the likelihood of fraud. This result is not surprising because the effects of economic growth are not clearly felt by the larger population, and therefore does not become a signal of social unrest for the incumbents.

The next section builds on these results by introducing more direct measures of popular unrest. Specifically, I introduce riots, anti-government demonstrations and the conflict index developed by Banks (1996) in order to test their effects on electoral fraud. These variables more clearly signal a potential loss in future elections to the leaders, making fraud a more attractive choice in maintaining power.

Social Unrest

If economic factors such as inflation implicitly signal an uncomfortable populace who could vote the incumbents out or demonstrate on streets, these demonstrations

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further confirm that incumbents have reasons to believe that the elections will be more competitive. Table 3 tests the hypothesis 3 in table 1 using direct measures of social unrest and confirms the logic.

Among many indicators of social unrest such as assassinations, strikes, and revolutions, I choose riots and anti-government demonstrations as potential determinants of electoral fraud. This choice is based on the characteristics of certain types of unrest. Assassinations are not necessarily signals of popular unrest: they usually represent fringe factors in a society, willing to revert to illegal means to make a point. There is no reason to believe that these events represent the general mood of the populace. Similarly, strikes are generally organized by labor unions, which do not represent the society as a whole. Also, strikes are regular events, mostly independent of governmental policies, aimed at creating a more favorable environment for the labor sector in salary negotiations. Therefore, they may not be the signals that the incumbents use to get cues about the inclinations of the larger population. Anti-government demonstrations and riots, on the other hand, are clearer signals that there is popular unrest and that this might cost the elections to the incumbents[32].

The analysis also includes independent variables from the previous section. Inflation, GDP per capita, and polity are included in the regressions for control purposes. Time splines and a counter variable are also added to correct for autocorrelation. These regressions have significantly less observations than the previous ones in table 2. This is due to the limited nature of the Banks data: the time period ends at 1999.

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[32] To leave no room for bias, I test the conflict index as well, which is calculated by Banks as follows:

24Assassinations+43Strikes+46GuerillaWarfare+48GovernmentCrises+86Purges+102Riots+148Revolutions+200AntiGovernmentDemonstrations
Moreover, I tested the individual components of the index without any significant results except the variables in Table 3.

Table 2. Social Unrest and Fraud

Variables	(1) Fraud	(2) Fraud	(3) Fraud
Controls			
Inflation	0.000472***	0.000500***	0.000453***
	(0.000159)	(0.000163)	(0.000159)
GDP/cap	-0.00436***	-0.00448***	-0.00469***
	(0.00123)	(0.00123)	(0.00120)
Polity	-0.0785	-0.131*	-0.0985
	(0.0604)	(0.0709)	(0.0614)
Social Unrest			
Anti-Government Demonstrations$_{t-1}$	0.451***		
	(0.134)		
Riots$_{t-1}$		0.791***	
		(0.186)	
Conflict Index$_{t-1}$			0.000162***
			(3.87e-05)
Time Controls			
Time	0.558*	0.685*	0.604*
	(0.329)	(0.381)	(0.343)
spline1	-0.00265	-0.00230	-0.00272
	(0.00878)	(0.00960)	(0.00919)
spline2	0.0117	0.0123	0.0125
	(0.0104)	(0.0108)	(0.0109)
spline3	-0.0147*	-0.0149*	-0.0157*
	(0.00828)	(0.00803)	(0.00862)
Observations	691	691	691
Number of countries	41	41	41

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

The results in table 3 are consistent with table 2, supporting the argument that fraud is fueled by popular unrests[33]. All three measures of social unrest are significant at the 99% confidence level. Moreover, inflation is still significant with the correct sign, GDP

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[33] Certainly, no statistical analysis is immune to endogeneity. It is possible that electoral fraud fuels social unrest instead. In fact, that is one of the main reasons why I hypothesize that social spending increases during and around fraudulent elections, to suppress potential discontent. However, this also means that social unrest as a reaction to fraud will be lower if fraud is combined with social policies. This is what we saw in the Middle East during the Arab Spring: once the revolts started spreading out, countries increased their social expenditures to unprecedented levels to evade more public unrest. Therefore, the endogeneity does not represent a big challenge for the argument here, i fraud and social spending combined prevent ex post social unrest.

per capita reduces the instances of fraud and polity is insignificant except the second model. These findings indicate that there is a link between incumbents' feelings of insecurity and rigged elections.

Overall, the first part of this chapter tried to show that fraud is influenced by a number of institutional, economic and societal factors. The following part will reestablish the connection between fraud and social spending, arguing that these are complements in the calculations of incumbents. As I argued in the previous chapter, increases in social spending follow fraudulent elections as an additional safeguard by the incumbents. Here, I replicate the results with a different dataset as a robustness check, and augment the models with social unrest variables for a further test of the underlying argument.

Social Spending and Fraud

Public social expenditures in developing countries are not only affected by regime types, but also by the mere act of rigging elections. Electoral fraud is a rare, if not non-existent event in the developed world since the beginning of the 20th century.[34] Therefore, it is only logical to study fraud in the context of developing countries as a factor in increasing social expenditures, and as a complement to social expenditures in the political survival of incumbents. This dissertation argues that rigging elections represents an event that is almost always accompanied with a spike in social expenditures to offset the potential negative reactions of the populace.

So far, this chapter studied the determinants of fraud to document that this latter becomes more likely as the probability of losing elections increases. Furthermore, the

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[34] See Ziblatt (2009) for evidence of electoral fraud in Nineteenth-Century Germany and Cox and Kousser (1981) for electoral corruption in New York during the late 1800s.

same factors leading to a reversion to fraud may affect social policies. Incumbents'

apprehension of losing elections will, through fraud, impact social expenditures,

expanding them to maintain social stability. Therefore, I expect a statistical relationship

between electoral fraud and social expenditures. This link was already documented in the

previous chapter. Here, I replicate the results with a different dataset and with additional

variables that further explain the causal links between fraud and social expenditures. The

Bueno de Mesquita et al. (2003) data include the World Bank Development Indicators

(WDI), which differently measure, albeit slightly, public social expenditures from the

Government Finance Statistics used in the previous chapter. The dependent variable I use

is the summation of education and health outlays spent by the government as a

percentage of GDP[35]. This new measure provides a robustness check to the previous

analyses conducted in this dissertation.

    After controlling the baseline factors (i.e. GDP per capita, trade openness and

polity), I also include the three measures of social unrest used in table 3 above. This way,

the linear argument that fraud and social expenditures are complements as incumbent

strategies is tested. Those three measures are: anti-government demonstrations, riots and

the conflict index from the Banks dataset. They are the most common and visible types of

social unrest, similar to the ones we have seen recently in the Middle East. If fraud

becomes more common because social unrest makes incumbents nervous, so should

social expenditures.

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[35] Education and health expenditures are only two of the government outlays, which range from free food to salary increases. However, these subsidies are hard to measure and there is yet a comprehensive database of them to be created. Therefore, like all studies looking at social expenditures, I use education and health as proxies for all social outlays. Also, I preferred to use the regular measures of social expenditures, i.e. as a percentage of the GDP instead of total government expenditures, as a way of checking for robustness.

The estimation method used for this data is different because the dependent variable is continuous. For this reason, I use the error correction model used in the previous chapter, which includes lags and differences of all variables in the analysis (for a detailed explanation, see DeBoef & Keele, 2008). I also include the lag of the dependent variable on the right hand side to account for autocorrelation. The results are reported in table 4 below.

Table 3. Fraud and Social Unrest's Effect on Social Policies

Variables	(1) ΔSocial Expenditures	(2) ΔSocial Expenditures	(3) ΔSocial Expenditures
Social Expenditures$_{t-1}$	-0.530***	-0.525***	-0.530***
	(0.0358)	(0.0359)	(0.0359)
ΔFraud	0.206	0.187	0.198
	(0.175)	(0.178)	(0.176)
Fraud$_{t-1}$	0.648***	0.630**	0.643**
	(0.250)	(0.253)	(0.251)
ΔGDP/cap	0.000204	0.000182	0.000204
	(0.000298)	(0.000300)	(0.000299)
GDP/cap$_{t-1}$	0.000492***	0.000503***	0.000501***
	(0.000119)	(0.000120)	(0.000119)
ΔTrade	-0.00338	-0.00268	-0.00307
	(0.00341)	(0.00341)	(0.00341)
Trade$_{t-1}$	-0.00411	-0.00351	-0.00381
	(0.00349)	(0.00351)	(0.00350)
ΔPolity	-0.0359*	-0.0346*	-0.0356*
	(0.0201)	(0.0202)	(0.0201)
Polity$_{t-1}$	-0.0201	-0.0192	-0.0199
	(0.0173)	(0.0174)	(0.0173)
ΔAnti-Government Demonstrations	0.0217		
	(0.0186)		
Anti-Government Demonstrations$_{t-1}$	0.0750**		
	(0.0293)		
ΔRiots		0.0105	
		(0.0247)	
Riots$_{t-1}$		0.0455	
		(0.0316)	
ΔConflict Index			4.22e-06
			(5.32e-06)
Conflict Index$_{t-1}$			1.64e-05**
			(7.86e-06)

Constant		3.853***	3.793***	3.818***
		(0.410)	(0.413)	(0.411)
Observations		572	572	572
Number of countries		92	92	92

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

In all three regressions, the coefficient on lag of electoral fraud is significant and positive. It appears that after fraud, the governments start increasing their social outlays to attempt thwart any negative consequences. This finding sustains the complementarity of these two strategies for incumbents and confirms the findings in the previous chapter.

The social unrest variables behave mostly consistently with the theory as well. The lags of anti-government demonstrations and conflict index significantly increase social expenditures. Riots also have a positive sign, but are insignificant. This new finding points to a different function of social policies in developing countries: appeasement. In developed countries, social expenditures increase according to the need as well as the demand of the masses for them, whereas in developing countries, they seem to respond to the needs of rulers, rather than the needs of the people. Social policies are used as buffers against a popular overthrowing of the existing order, rather than needs-based provisions from the government. When the revolutionary spirit fades away, the incumbents can always renege or retrieve these policies, as argued by A & R, and suggested by case evidence from the Middle East. These are not credible commitments to social justice, and they do not get institutionalized to transform these countries into "social states" in the sense of Europe. They are simply tools to manipulate the public into submission.

Finally, the benchmark variables perform reasonably close to what has been found in the existing research. The lag of the GDP per capita increases social expenditures in all the regressions. Richer countries tend to spend more on everything, including social

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provisions. Trade is insignificant throughout, a finding of many previous studies (Iversen & Cusack, 2000 among others). The yearly change in the polity score seems to reduce social expenditures and the lag is insignificant. At first, this finding seems counterintuitive. However, it may make sense that a single year's slight improvement of democratization may decrease social expenditures slightly. Overall, the cumulative effects of democratization on social policy may exhibit themselves over a longer period of time. To test this, I increased the lag and difference durations to 2, 3, 4 and 5 years and ran the regressions again. Even the second lag and difference of polity changed the signs to positive, and all the previous lags remained positive. Therefore, the negative sign of the first difference of polity can be seen as a temporary phenomenon.

Overall, these results illustrate electoral fraud as an important determinant of social expenditure spikes in developing countries. Rigging the elections is not a strategy which comes without a cost. Rather, it creates grievances in the society. In an interview I conducted in Tunisian's southern region, where religious fundamentalism is more widespread, and therefore reactions to the government are more pronounced, the anonymous interviewee expressed his despair with these words: "100% of the votes? The governing party got 100% of the votes in some parts of this country. That is not only impossible, but a joke on the Tunisian people". To offset the disillusion created by fake elections, incumbents find social expenditures as a viable option.

Long-Run Effects

The main advantage of ECM models stems from the ability to easily calculate the long-run effects of the variables of interest. In time series models, the long-run equilibrium refers to the state of two correlated variables which have no propensity to

move any differently. DeBoef and Keele considers the long-run effects as the overall

linkage between two variables. It is fairly straightforward to calculate the long-run effects

of variables in the ECM specification (see DeBoef and Keele, 2008 for the formula),

however it is much more tricky to calculate the standard errors associated with those. A

simple way, again proposed by DeBoef and Keele, is to use the Bewley transformation,

an instrumental method which directly gives the long-run effects and their correct

standard errors. Table 5 replicates the results in table 4 using this transformation and

therefore reports the long-run effects of electoral fraud on social spending.

Table 4. The Long-Run Effects of Electoral Fraud on Social Spending (Bewley Transformation)

Variables	(1) Social Expenditures	(2) Social Expenditures	(3) Social Expenditures
ΔSocial Expenditures	-0.893***	-0.909***	-0.893***
	(0.128)	(0.131)	(0.129)
ΔFraud	-0.871***	-0.881***	-0.878***
	(0.293)	(0.297)	(0.293)
Fraud	1.270***	1.246**	1.263***
	(0.475)	(0.484)	(0.477)
ΔGDP/cap	-0.000537	-0.000602	-0.000555
	(0.000533)	(0.000539)	(0.000535)
GDP/cap	0.000928***	0.000956***	0.000943***
	(0.000218)	(0.000222)	(0.000219)
ΔTrade	0.00139	0.00160	0.00143
	(0.00628)	(0.00637)	(0.00630)
Trade	-0.00734	-0.00627	-0.00676
	(0.00660)	(0.00668)	(0.00661)
ΔPolity	-0.0364	-0.0357	-0.0364
	(0.0318)	(0.0322)	(0.0318)
Polity	-0.0355	-0.0342	-0.0350
	(0.0329)	(0.0334)	(0.0330)
D.AntiGovDem	-0.101**		
	(0.0408)		
AntiGovDem	0.142**		
	(0.0557)		
D.Riots		-0.0670	
		(0.0439)	
Riots		0.0872	

			(0.0603)
D.ConflictIndex			7.78e-06
			(1.01e-05)
L.ConflictIndex			3.05e-05**
			(1.49e-05)
Constant	7.235***	7.183***	7.166***
	(0.611)	(0.623)	(0.615)
Observations	572	572	572
Number of countrycode	91	91	91

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

The long-run results confirm the basic premise of this chapter: electoral fraud increases social spending in developing countries. The contemporaneous fraud variable is significant and positive, increasing social expenditures in all three models.[36] We can confirm that the overall effects of rigging elections, even after we control for regime type, and on top of that, are in accordance with the expectations of this dissertation: incumbents complement stuffing ballots with higher spending because they hope to minimize the popular reactions usually following these.

Discussion and Conclusion

This chapter aimed at disentangling the causal links between the political instincts of incumbents, electoral fraud and social policy in developing countries. What the rentier state theory predicts as the outcome of resource abundance, increases in social spending, seems to be the result of electoral fraud instead. The findings in this chapter as well as the previous ones cast serious doubt on the causal mechanisms and results of the rentier state theory.

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[36] The differenced fraud variable should not be interpreted in the Bewley transformation. DeBoef and Keele emphasize that the Bewley transformation does not have any theoretical basis, and is merely a computational shortcut to calculate the long-run multiplier, represented by the coefficient of the contemporaneous variables. Therefore, the only variables we can interpret are the contemporaneous ones (at time t).

This logic is developed as a three-part sequence in this chapter. First, the incumbents are hypothesized be more concerned about losing elections if some economic factors indicate tougher living conditions. One of these factors is inflation and the observable implication of this logic is a linear relationship between electoral fraud and rising prices. Statistical evidence put forward in this chapter shows that inflation does indeed increase the occurrence of electoral fraud. Second, another indicator of incumbent apprehension, social unrest, is incorporated into the models to show that, this too is a factor contributing to the likelihood of electoral rigging. Finally, if fraud occurs more when incumbents are worried about losing free and fair elections, social expenditures should exhibit a spike after fraudulent elections to compensate the feeling of deception in the society. This final step was also confirmed with statistical analysis. Furthermore, the direct measures of social unrest, anti-government demonstrations and the conflict index also seemed to have a boosting effect on social expenditures, a finding that is reflected all too well in today's events in the Middle East.

These results are important in understanding what we really mean by social policy when we analyze it in the context of developing countries. What we see is not a buffer protecting the citizenry from the uncertainties of international markets, or a linear increase in social expenditures as countries democratize. Instead, specific concerns of incumbents take precedence in defining social outlays of developing economies. Especially in a context where debt and economic crises, and by proxy the IMF and the World Bank, compel these governments to reduce their overall spending, there must be really substantive reasons for them to boost welfare. One reason ignored so far by researchers is the act of stealing electoral outcomes without triggering a reaction from the masses. This undercover achievement of theft does not go unnoticed by the people.

Anticipating this, leaders attempt to buy off support, or at least deter protest with more spending.

The biggest flaw of this research is the focus on health and education expenditures. Future analyses of social policy in developing countries must include more common and easier to implement measures such as government salaries and food subsidies. There already exist well documented case studies examining the effects of food subsidies in India, Egypt and Sri Lanka (Sahn & Alderman, 1996; Swaminathan, 2000; Ahmed & Bouis, 2002; Lofgren &El-Said, 2001). A cross-sectional time series dataset of food subsidies can take the research on social policy in developing countries much further.

Overall, this dissertation attempted to show that social expenditures have a distinct purpose in developing countries: maintaining incumbents' ruling status. In order to do that, it started off with criticizing the existing theories (especially the rentier state theory) and their take on social spending. It also analyzed the revenues (taxes) that could fund social spending, suggesting that government revenues are fitted to the various needs of incumbents. Finally, it suggested an alternative hypothesis which could better explain why developing countries may periodically increase social spending: electoral fraud. The next chapter will summarize these findings and causal mechanisms, reveal caveats and suggest further research on the social policies of developing countries.

Chapter VI

Social Policies and Outcomes in the Middle East: Evidence from Morocco and

Tunisia

Introduction

What factors contribute to the level of social expenditures in developing countries? When do politicians decide to boost social spending and why? The previous chapters provided statistical evidence that electoral fraud is a key factor in explaining social outlays, and that resource abundance reduces social expenditures. However, they did not explain why this might be the case, aside from briefly proposing some causal mechanisms. This chapter suggests a new link: namely, moderate level of resource reserves, which is key in explaining the variation in social spending. It tests this hypothesis in the context of two North African countries, Morocco and Tunisia, and shows that the extra income provided by low to moderate levels of resource sales increases social expenditures, whereas resource abundance is detrimental to welfare outlays.

Social expenditures in developing countries follow certain patterns outlined in the previous chapters. Counter-intuitively, natural resource abundance does not have a boosting effect on social policies. Furthermore, the resource curse seems to apply to the social realm as well. In addition, resources do not have a reduction effect on taxes, putting the poor in an even more disadvantaged position. However, there is one important factor that does help fund social spending: moderate levels of resources. Low to moderate levels of resource revenues are not conducive the corruption and mismanagement

plaguing resource rich countries. Instead, these levels of extra "pocket money" provide the necessary income to establish comprehensive social protection systems.

This chapter aims at further examining and explaining the causal mechanisms underlying the relationships outlined above. For this purpose, it compares three North African countries with similar histories and backgrounds. Tunisia and Morocco have been compared to one another in many academic papers and books as most similar cases (Entelis, 1980; White, 2001; Ross, 2008 among others). These cases allow us to control for the effects of regional culture, religion, colonial past, climate, and tribal and ethnic composition. However, they vary on key elements: their resource abundance, and the level of social spending they have (see table 1).

Table 1. Selected Indicators for Tunisia, Morocco and Algeria

	Tunisia	**Morocco**	**Algeria**
Poverty Head Count at the National Poverty Line (2000)	4%	18%	12%
Public Education Spending %GDP (1995)	6.48	5.60	5.43
Public Education as a % of Government Expenditure	21.4	18.2	20.2
Health Expenditure per capita (US$) (2002)	126	55	77
Health Expenditure as a % of Government Expenditure	9.7	4.4	9.2
Food subsidies %GDP (late 1990s)	1.2	1.7	0.0
Cash Transfers %GDP (late 1990s)	0.5	0.1	0.4
Population (2004)	10.0	30.6	32.4
Oil Rents %GDP (2009)	3.7	0.003	15.0
Mineral Rents % GDP (average of 1970-2009)	0.32	1.49	0.09

Most social indicators and public spending measures suggest that Tunisia is the major social spender in the Maghrebian region. Algeria lingers behind, despite its significant oil reserves,[37] a relationship representative of most resource-rich countries, as shown in chapter 2. Morocco also has low levels of social expenditures, similar to Algeria. However, its social indicators are much worse than Algeria (i.e. higher levels of poverty, female illiteracy, infant mortality, and life expectancy). Table 1 indicates that oil-rich Algeria and phosphate-rich Morocco are doing worse than resource-poor Tunisia in both social spending (as a percentage of GDP *and* as a percentage of total government spending) and the outcomes of social spending (i.e. the level of poverty).[38] What explains these important differences in social policies across the three cases?

This chapter argues that social expenditures in these countries are driven partly by the level of natural resource revenues. More specifically, a low to moderate level of natural resource production can supply the necessary extra funds to supplement the development efforts of a government with some social protection. In Tunisia, this is the case with the phosphate industry (and to a smaller extent, petroleum), which is not abundant enough to create a "social resource curse" documented in Chapter 2, but sufficient enough to help support the social policies deemed indispensable by the Tunisian government. In contrast, Morocco is considered a resource-rich country, with its

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[37] 98% of Algeria's exports consist of oil and natural gas. Oil revenues represent 30% of the country's GDP. Therefore, it is one of the most resource-dependent countries in the world.

[38] In the previous chapters, I emphasized that the right measure of social spending is deflated by total government expenditures, and not GDP. However, I also showed that, regardless of how we measure it, results stay robust. Here, I also continue thinking of social spending as a share of government expenditures theoretically, but in terms practicality, the results and the logic of this chapter remains unchallenged even if we deflate social spending by GDP.

vast phosphate reserves (i.e. more than 30% of the world's supply). Resource abundance brings with itself the rent-seeking behavior, evident in the actions of the Moroccan king described below. For public social expenditures, the level of the resource revenues is a critical factor, determining whether the extra income will accrue to the larger population or to the constituencies of the incumbents who control the rents.

This chapter introduces in more detail the causal mechanism behind the correlation documented in the second chapter. Why do natural resources reduce social expenditures? The inverse relationship is both unexpected and contrary to the conventional wisdom established by the rentier state theory. Resource rents are posited to increase social expenditures to buy political support for the repressive regimes plaguing the Middle East and North African region. I argue that this logic only applies to a few, extremely resource abundant countries located in the Gulf region, but not to the larger population of resource rich countries in the world. To substantiate this argument, I utilize two countries with a natural resource other than oil: phosphates. Finally, this chapter takes into account the latest developments in the region, i.e. the revolutions that lead to the overthrowing of dictators, and attempts at explaining the variation in the revolutionary activity by the retrenchment levels of the welfare state in these three countries. The Tunisia of Ben Ali experienced high levels of welfare retrenchment and liberalization, compared to Morocco and Algeria in the 1990s and 2000s, which pushed the Tunisians further to the edge of poverty. A sharp decline from high levels of social protection (highest in the region) to the privatization of health and education may be the underlying cause of the Jasmine Revolution. Not surprisingly, this phenomenon correlates with the decline in phosphate revenues.

The following parts of this chapter elucidate these relationships more clearly and are organized as follows. The next part draws from existing literature arguments for the relevance of electoral fraud and regime types in the context of social policies. The third section outlines the theory and hypotheses proposed in the previous chapters. The fourth section provides evidence from the North African cases. The final section concludes.

Existing Research

The phenomenon coined as the "resource curse" by Sachs and Warner (1999) relates resources to regime type, economic development, and civil war and claims that resources have detrimental effects on these dependent variables. There is no direct causality established between resources and their potential effects on social spending and welfare states, although some effects are implied through the regime type channel. This section reviews these connections and examines the implications of the existing research.

In chapter 2, one potential causal link explaining the negative relationship between resources and social expenditures is the corruption generated by resource rents. One study examining whether resource abundance leads to higher levels of corruption finds that corruption does indeed increase with higher levels of resources, and that growth is negatively affected by both corruption and resource abundance (Leite and Weidmann, 1999). The authors do not go as far to suggest that the corruption generated by resource rents can impact social expenditures. However, it is intuitive that higher levels of corruption are a conduit for the inefficient usage or resource revenues. In addition, widespread corruption in government can be a factor in lower social spending levels by reducing the income available for government spending. This could also be true for

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resource-rich countries, whereas low to moderate levels of resource revenues can still have the opposite, i.e. positive, effect on social expenditures.

A similar argument to the corruption link is proposed by Atkinson and Hamilton (2003), who show that what distinguishes the countries which avoid the resource curse from the countries which fall into it is their usage of the resource revenues. The countries which use the resource rents to invest and save grow much faster than the countries which spend the revenues on consumption, wages and social expenditures. Basically, the critical factor explaining the curse is the existence (or the lack thereof) of resource mismanagement. It is not the resources per se that cause the curse, but it is the combination of the availability of these rents and their wasteful usage by governments. Although this argument pertains to economic growth specifically, there are important implications for the analysis of social spending. Even though resources do not have to be spent on consumption and can be used as savings and investment, the odds are they will be spent as a mixture of these two options. Chapter 2 showed that resource rich countries tend to spend less on social policies. This does not necessarily mean they save more, though; the rents could be distributed to the supporters of the regime. The finding of Atkinson and Hamilton that resource abundance can lead to lower levels of savings explains why it can also lead to lower levels of social spending. A slow-growing, wasteful and corrupt government will not have the necessary funds to sustain a comprehensive welfare state.

Another way of looking at resources' effects on social policies is to assess their impact on the poor. Ross (2003) attempted to test this relationship with different measures of poverty, such as the poverty line, infant mortality, life expectancy and child

malnutrition. He finds that mineral (but not agricultural) resources significantly reduce the well-being of the poor. He explains this phenomenon with the lack of democracy and the underdevelopment of the manufacturing sector, both of which puts the poor in a disadvantaged position. This paper focuses on the policy outcomes of government expenditures instead of the expenditures themselves. However, it is intuitive to assume that if mineral resources lead to higher levels of poverty, they can also lead to lower levels of social protection. From the causal mechanisms Ross identifies, one that could also affect social spending is the growth link. Slower growth will certainly leave less room for any kind of spending. However, I argue that growth is not the main reason explaining the effects of resources on social expenditures. Even slow growers can make it their priority to fund social policies geared towards increasing income equality and social welfare. Instead, it is the corruption mechanism that presents a better explanation for resource abundance's effects on social spending. The cases of Morocco and Tunisia present a good opportunity to test this link because their growth rates have been more or less similar to one another over the course of the 20th century.

In addition to these specific connections, there is a large body of literature focusing on the bellicose effects of resource abundance. It would be beyond the scope of this paper to review even part of the research connecting resources to civil war. However, there are three consistent findings in this area. First, resource abundance increases the likelihood of the onset of civil wars (Collier and Hoeffler, 1998). Second, resource abundance makes civil wars longer and makes peace-building initiatives less likely to succeed (Doyle and Sambanis, 2000). Finally, resources make civil wars more brutal, although this could be a function of the length (Ross, 2004). The initiation of civil wars can drain the revenues of governments, leaving little room for social spending. This possibility does not negate the

corruption link, but rather reinforces it. Resources trigger rent seeking behavior, whether in the form of patronage, or appropriation through violent means. This behavior is not compatible with an egalitarian redistribution system of social policies.[39]

The clearest link between resources and social spending emanates from the regime type arguments: democracies spend more on social issues, but resource abundant countries tend to be autocracies (Wantchekon et al., 1999; Jensen and Wantchekon, 2004; Ross, 2004). Again, the democracy link is a legitimate causal mechanism, one which follows the Occam's razor principle. However, this dissertation's scope is less developed countries which tend to be more authoritarian than their industrial counterparts, and the variation in their regime type is already controlled for in the regression analyses of the previous chapters. Therefore, there is an unaccounted portion of the resources' effects on social policies beyond the regime type link. After controlling for the regime type (i.e. both Morocco and Tunisia are (were) autocracies), we still see significant variance in social spending in the Middle Eastern countries. This variance can partly be explained by the variation in resource revenues, low to moderate levels *increasing* social expenditures, whereas resource abundance *decreasing* them.

Based on the existing research, the following section compares Morocco and Tunisia in terms of their resources and social policies, taking a longitudinal approach, starting with the French protectorate's influence, continuing with the policies of their respective leaders throughout the 20th century. Even after accounting for those, I argue that the respective levels of phosphate reserves are a critical factor for the different welfare states that emerged in these countries.

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[39] This is a very brief summary of the existing literature on the resource curse. A much more detailed review of the theory can be found in chapter 2.

Social Policies in Tunisia and Morocco

Situated in close proximity, the three French-colonized Arab countries of Northern Africa cannot be more different than one another in terms of their political structures. Morocco is a dynastic monarchy with semi-democratic elections to decide on the members of the bicameral legislature. The King has extensive powers and is the main policy maker. Tunisia has been a single party regime since independence until the recent revolution, which overthrew their dictator of 25 years. Until this year, the regime revolved around the two consecutive presidents, who were effectively omnipotent, perhaps even more so than the Moroccan king, who delegated some decision making to the parliament.

These two states also vary extensively in their social spending levels. The variation in social policy and outcomes can party be explained by the level and variation in resource abundance. If the logic outlined in the chapters of this dissertation is correct, we would expect resource abundance to negatively affect social spending. Moreover, this chapter adds a second dimension to the resource levels by suggesting that low to moderate levels of resources can in fact increase public social expenditures by providing an extra income source to the government. It is the resource abundance that creates corruption and rent seeking behavior, and therefore reduces government revenues and social spending. In order to assess the causal mechanisms of this claim, this section examines resource rents and the level of resource reserves in these two Maghrebian countries.

Social Policies in Morocco

Education, Health and Welfare in Morocco

The Moroccan experience of public social expenditures is detailed in this section. First, it will focus on the educational system of Morocco, looking at its French origins in particular. Then, it will analyze the foundations, current applications and the outcomes of the health and welfare policies implemented by the rulers of the country, starting with the French protectorate and continuing with the royal family. Finally, it will argue that the low levels of public spending in all social realms are as much a legacy of the historical trajectory the country followed as the outcome of resource abundance (phosphates) and the highly capitalist ideology taken upon by the rulers of the country.

Morocco is situated at the farthest upper West corner of the African continent, and perhaps because of its more remote location, it maintained its independence during the 18th and 19th centuries when the other parts of the continent were falling under the rule of colonial powers. Nonetheless, the European, and more particularly, the French, interest in the country increased over the course of the 19th century, culminating in the French protectorate of Morocco in 1912. After colonization, the French began exploiting the mineral wealth (i.e. phosphates) located in the northwestern parts of the country.

The French rule of Morocco lasted until 1956, and this period instigated certain institutions that represent the basis of today's social and political system. Between 1925-1930, the secondary schools established by the French, *colleges musulmans,* graduated their first students. The graduates of these schools were the pioneers of the nationalist movements that led to the independence of Morocco (Damis, 1970). After the end of World War I, most Moroccan cities had one or more primary schools with the French educational initiative. This attempt by the French to create a Moroccan elite as a buffer

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between the ruling dynasty and the Moroccan people has become the basis of the educational system in Morocco today.

The system established during the Protectorate had two layers: the education of the elites and the education of the masses. The strategy imposed by the French is summarized in the Public Education Bulletin (1920): "the farmer will have to return to his soil after school, the son of the construction worker will have to become a worker after school, the son of the trader, a trader and the son of an official, an official" (p.394). This two-track system of education perpetuated the existing social strata in the Moroccan society, leaving no room for movement between classes.

The purpose of the Protectorate was never to establish a sound and comprehensive educational system in Morocco. This is clear from the spending levels allocated to education from the budget: 2.18% during 1914-1927 and 3.53% during 1929-1936 (Marechal, 1936). Most of the resource was designated to the education of the "colons", the French settlers in the country. The number of students in 1925 was a mere 5985, which shows the very limited scope of the educational network. Insofar as the needs of the colons were satisfied, and there was a relatively educated native class to conduct the interactions with the lower classes, the French deemed the educational system was adequate.

This earlier educational system established by the French constitutes the basis of the Moroccan educational system of the later periods. The French language remained as the language of sciences and math, perpetuating the divisions among the lower and upper classes in the country. Even though education has become compulsory in 1963 for students aged 6-13, the high illiteracy rate of the country remains alarming (about 60% in

2007). In rural areas, this number reaches 80% among females. To overcome these educational challenges, the Moroccan authorities created the National Education and Training Charter during the early 1990s. Even with the intensified attention by public officials, the quest for better student performance through public education remains elusive. Morocco remains the country with the 4th highest illiteracy rate in the MENA region (World Development Indicators, 2011).

One of the main reasons for this educational deficit plaguing Morocco could be the low levels of public spending allocated to the educational system. The order set up by French colonizers was a conduit for the lowest level of public funds allocated to education, and the Moroccan state kept this level of public funds after independence. Morocco remains as one of the lowest public spenders in the Maghreb region to this day (see table 2). However, low public expenditures constitute a symptom, not necessarily the root cause of the inadequate public social structure of Morocco. The real question this chapter attempts to answer is the reasons why Morocco has significantly lower social expenditures than its regional counterparts. Before moving on to causal mechanisms, let us take a quick look at the other aspects of social policies in Morocco: health and welfare.

Table 2. Public Spending in the Maghreb

	Expenditure on health, public (% of GDP)		Health index	Expenditure on education, public (% of GDP)
	2000	**2005**	**2005**	**2009**
Algeria	0.528	0.603	2.7	3.6
Morocco	0.354	0.418	1.4	1.7
Tunisia	0.533	0.597	3.2	3

Source:
Expenditure on health, public (% of GDP): World Bank (2011). "World Development Indicators 2011." Washington, D.C.: World Bank. http://data.worldbank.org.

Health index: HDRO calculations
Public expenditure on education (% of GDP): World Bank (2011). "World Development
Indicators 2011." Washington, D.C.: World Bank. http://data.worldbank.org.

The origins of public health in Morocco reveals a similar picture to the one depicted above on public education. Healthcare before the Protectorate was almost primitive, comprising of two types of providers. The first one was a combination of "magic" and religious therapies intended to heal through the use of herbal remedies. The other health provision was the *maristanes,* hospitals where patients could check in and wait to die, rather than to receive medical care. The lack of doctors was dire, and medical care was almost non-existent (Moussaoui, Battas & Chakib, 1992).

With the establishment of the Protectorate, the French started to import dispensaries with medical personnel in 1906. The primary goals of the health care was to care for the settlers and maintain a certain level of Moroccan human capital, much like the educational system established around the same time. The number of doctors was only 200 in 1930, but increased with the after-war economic growth to 1050 in 1955. However, with independence, Morocco had no means to promote the education of health care providers and the number stagnated around the same level until the 1970s. These figures are largely due to the low levels of public funds allocated to healthcare.

Public expenditure on healthcare has been unsatisfactory since independence. Firstly, the government funds allocated to the Ministry of Health are far from sufficient, as evidenced by the fact that the revenue of the Ministry lagged behind the GDP growth during the last 30 years (Hotchkiss, Gordillo, el Idriss, and Hazim, 1999). Morocco's dependence on USAID for family planning services and maternal/child health care is

exacerbated by the decrease in per capita public health spending by 2.8% between 1980

and 1995 (Zine Eddine el Idrissi and Hazim, 1997). Finally, Morocco allocates only

1.14% of its total income to public health as of 1997 (Royaume du Maroc, 1998).

Given the low levels of public funds allocated to health in Morocco, the health

outcomes are unsurprisingly unsatisfactory. To this day, 60% of births are not attended

by any healthcare professional. There is an extreme level of disparity between rural and

urban areas in terms of the access to public health services. The expectation of lost

healthy years at birth is 11.9 for females, and 9.4 for males; the highest after Yemen in

the Middle East (Abdesslam, 2006). In sum, Morocco is a clear laggard in the domain of

public healthcare, even among its Middle Eastern and North African peers, to the point

where almost half of the health care needs are supplied by private providers (see table

3).[40]

Table 3. Public Healthcare Spending by Urban/Rural Divide in Morocco

Type of Care	Total	Urban/Rural Status	
		Urban	Rural
Public	45.4	41.4	52.1
Private	54	58.6	46.4
Traditional	0.6	0	1.5

Source: Hotchkiss, Gordillo, el Idriss, and Hazim, 1999

Evidently, Morocco stands in sharp contrast to Tunisia, and even Algeria in its

lagging social provisions throughout the 20th century. Poverty has always been an

integral part of the Moroccan society, as the French protectorate had no provisions

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[40] The Moroccan lag holds even after controlling for several variables such as GDP/capita, regime type and economic liberalization, both for social spending as a percentage of GDP and total government expenditures.

whatsoever regarding the economic standing of Moroccans. In fact, the Protectorate purposefully delayed or prevented social provisions and laws from being implemented in the country, to prevent the emergence of a workers movement (Gallissot, 1985).

The new regime after independence focused on only one type of social safety net: public employment. Perhaps the only "social" benefit the Moroccans received from their governments has been public employment. Up until the 1980s, the university graduates had a guaranteed job in the public sector. In the 80s, public hiring dropped 80%. Morocco has always prided itself for being a liberal economy since independence, the state distancing itself from economic activities as much as possible beside the production of its natural resource, phosphates. This liberal ideology contributed to the high levels of poverty in the country, with 19% of the population living under the national poverty line in the year 2000 (El Aoufi, 1992).

In sum, public education, healthcare and welfare provisions in Morocco have always lagged behind its regional counterparts. Several reasons exist for this outcome. First, the institutions that the French left behind perpetuated the existing class differences between the poor and the privileged, and this schism continues to exist even today. Second, the Moroccan state was framed as a "capitalist state" by the rulers, thus limiting the state's economic activities to the extraction of natural resources. Third, the centuries-long urban-rural divide continues to delineate who benefits from scarce public provisions and who do not.

On top of these historical and path-dependent explanations, I propose two additional mechanisms through which social policies are significantly affected. The first one is the Moroccan phosphates, which have been by far the largest public sector, and have

provided a constant rent to the state since independence. It represents 30% of Moroccan

exports and employs 30.000 workers, producing 3% of the Moroccan GDP. I argue that

the resource rents emanating from the phosphate production in Morocco decreased its

propensity to develop a universal welfare system, and therefore reduced its public social

expenditures.

Phosphates and their Impact on the Moroccan Public Budget

Morocco's phosphate wealth is one of the best-kept secrets in the world. Almost half

of the world phosphate reserves are located in Morocco, especially concentrated in the

Khouribga region, situated on the Plateau of Phosphates (see table 4). These reserves

have been discovered in 1920 and has been managed by the Office Chérifien des

Phosphates (OCP) ever since. The OCP is a state monopoly controlling the extraction and

exportation of phosphates, "overseen" by the Moroccan King Mohammed VI. Even

though the King does not technically own the OCP and hence the phosphate revenues, it

is unclear where the rents from phosphates accrue to. However, it is certain that he

receives at least some portion of the profits the OCP makes every year. Seventh on the

Forbes' richest royals, the Moroccan King also has controlling shares of the sugar and

steel companies of Morocco.

Table 4. World Phosphate Reserves

Morocco	13.3
China	5.5
U.S.A.	2.5
South Africa	2
Jordan	1.3

Russia	0.6
Israel	0.5
Syria	0.45
Tunisia	0.35
Brazil	0.35
Senegal	0.085
Togo	0.04
World Total	**29.5**

Source: United States Geological Service, 2001

Unit: billions of tons

Can phosphates be considered as a resource as influential as oil and if so, can we claim that Morocco is as resource-abundant as other countries considered resource-rich, such as Saudi Arabia? Phosphates are considered the "white gold" of the natural resource world for good reasons. First of all, phosphorus appears in almost every Western daily product. As fertilizer, it is the single most important ingredient in agricultural production. It is a required element in detergents and other cleaning products. It is also used in the lithium-ion batteries which power cell phones, laptops and most other portable electronic items. Therefore, it is fair to conclude that phosphates are an important natural resource that should be included in the testing of the resource curse and rentier state theories.

Second, the amount of Morocco's reserves easily qualifies this country as resource-abundant. Measured by exports, Morocco is the biggest exporter of brute phosphates in the world (see table 5). The US and China are also big producers of the phosphate rock, the US being the leading producer in the world. However, Morocco exceeds these in exports. This is due to the large domestic demands of the US and China, whereas

Morocco's domestic need for phosphates is relatively much smaller. Morocco exports 95% of its production, providing more than 30% of the worldwide phosphate exports. These numbers indicate that Morocco is indeed the Saudi Arabia of phosphates.

Table 5. World Phosphate Exports (Millions of Tons)

	Morocco	USA	Jordan	Israel	World Total
1984	15.5	11.5	4.7	X	47.9
1985	14.4	10.3	4.6	X	46.2
1986	13.7	9	5.2	X	44.3
1990	11.6	6.8	4.8	X	37.2
1991	9.1	5.7	4.2	X	30.9
1992	9.1	3.7	4.2	X	28
1993	8.4	3.6	4.2	2.6	26.8
1994	9.5	3.3	3.8	2.4	27.9
1995	9.4	3.1	3.9	2	28.7
1996	10.1	1.6	4.4	2	28.7
1997	11.7	0.3	4.4	1.5	27.2
1998	11.7	3.1	3.7	1.5	30.6
1999	11.4	0.3	X	1.2	29

Source: Les marchés mondiaux, Economica, Paris, 2001

The effects of resource abundance on social provisions and taxes are less straightforward to demonstrate. Here, I explain the relationship between Morocco's phosphates and its social policies in three steps. First, the management, extraction, research, and commercialization of the Moroccan phosphates were given to the Moroccan

dynasty by the French protectorate in 1920. In those years, the Moroccan dynasty simply saw itself as the natural owner of the country's resources, and did not feel the need to share the wealth generated by them. Second, when Morocco became independent, the existence of a large public sector for the extraction of resources, and the employment and social nets created by it, covered a significant part of the population, effectively removing the pressure to create universal healthcare, education and welfare systems, which never reached the rural areas to begin with. Finally, the fact that most of the revenues generated by the phosphate exports accrue to the personal wealth of the King, and that the management of the OCP is extremely obscure and non-transparent, legitimizing the mismanagement of government revenues and expenses.

The Moroccan monarchy and prosperous bourgeoisie has its beginnings in the 17th century, when Mulay r-Rshid overthrew the Sa'di rulers and unified the country. Morocco has remained under the rule of the Alaouite dynasty throughout the 18th and 19th centuries, up until the French invasion in 1907. It is the only North African region that could maintain independence from the Ottoman Empire and European powers until the 20th century. With the French presence, the Moroccan dynasty and bourgeoisie was transformed into modern capitalists with connections to colonial markets.

However, the French bourgeoisie under the Resident-General of Morocco, Marshal Lyautey were in control of the major traded goods. When phosphates were discovered in 1907, Lyautey gave the royal family the authority to extract, use and sell the natural resource, with the creation of the Office Chérifien des Phosphates (OCP).[41] Even though

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[41] The Office is called "chérifien" because the royal family of Morocco is also referred as the "royaume chérifien", based on Ismail Ibn Sharif, the ruler of Morocco between 1672-1727. Basically, the French made Moroccan phosphates an entirely royal enterprise by creating this office and giving its complete management to the dynasty.

the French tried to influence the management of phosphates, it largely remained in the hands of the royal family, and continues to do so even today. The monarch has extensive executive powers on the OCP, making him the sole decision-maker of the Moroccan phosphate industry (Pearce, 2011).

Until national independence, then, the Moroccan phosphates were operated by the Alaouite dynasty and its revenues accrued to the royal family. However, as described above, social provisions in Morocco were under the jurisdiction of the French protectorate. Therefore, there was no connection between phosphate revenues and social policies before independence. This disconnect between the phosphate revenues and government expenditures is the basis of the low levels of social expenditures in Morocco even today.

After independence, the world phosphates market was under the control of the U.S. and Morocco, as these were the largest producers and exporters of the mineral. The OCP was officially a state owned enterprise, the property of the Moroccan state. However, it was completely under the control of the King, who determined the proper use of the revenues. King Hassan II opted to present the phosphate wealth of his country to his people as an industry that would create jobs and provide generous benefits to its workers, as opposed to an industry whose revenues would be used to create social safety nets and investment for the larger citizenry of Morocco. This understanding was in line with the Moroccan focus on capitalism, contradicting its more socialist neighbors (Clement & Paul, 1986).

In 1973, the OCP decided to increase the price of phosphates by 200% to take advantage of increasing demand, and the other phosphate exporters followed suit

(Mensah, 2003). OCP's move was, similar to the oil exporters, aimed at taking further advantage of the duopolistic rents that resource abundance provided the main producers, the United States and Morocco. However, it is unclear where the extra revenues went, as Morocco did not experience higher levels of social, or other types of government expenditures during the 1970s.

The OCP as a state institution followed the ideological inclinations of the Moroccan state, which, as mentioned above, were highly market oriented. Its investments were highly capital-intensive, leaving the demand for labor low, and therefore their organizational power remained low throughout the second half of the 20th century. This emphasis on capital and investment towards exportation make the state-owned enterprise work like an efficient, well functioning private firm. It became dependent on international demand of phosphates, and used its revenues to increase production. Therefore, the phosphate revenues in Morocco did not directly benefit Moroccans, except through public employment, and they certainly did not contribute to the funding of social policies implemented by the government, which remained low and insufficient.

So far, the above review explained why phosphate revenues did not contribute at all to the social spending of the Moroccan state. There is simply no connection between these resource rents and government spending, social or otherwise. However, the quantitative part of this dissertation shows that there is a significant *negative* relationship between resource revenues and social expenditures. In the remaining part of this section, I argue that the existence of such a non-transparent, king-controlled, and unaccountable sector affects the rest of the public economy negatively. A big mineral-based public sector leads to lower levels of social expenditures, ceteris paribus.

The creation of the OCP as a state owned enterprise by the French Protectorate was intended to keep other colonial and private interest in the Moroccan phosphates out of the equation. The director of the OCP has been and is still appointed by Dahir, the King's decree. During the Protectorate, the King and the French colonizers were strategic allies. In return for a fraction of the resource rents, Mohammed V agreed to supply the French agricultural sector with phosphorus fertilizers (Oualalou, 1975). The King's extensive powers over the management of the OCP continues today. In 2007, the Alliance Socialiste, the opposition party in the Moroccan parliament challenged the Ministry of Energy and Mines about the operations and the management of the OCP, demanding the results of an internal and an external audit of the company conducted earlier that year. The minister responded vaguely, not feeling the necessity to elaborate on the issue. This is just one of many instances where the OCP is protected from subjection to public scrutiny (Al Bayane, 2007).

Moreover, as explained above, the OCP operates as a private enterprise and has no tolerance for labor unions. The OCP sets the example for the rest of the economy, by focusing on capital-intensive production, purchasing expensive machinery and utilizing labor as little as possible. This is a perfectly profitable strategy for an export oriented industry such as phosphate, however it also sets the tone for the Moroccan understanding of state owned enterprise: the state is not a means to achieve social equality and redistribution (Oualalou, 1975).

In contrast, the high managers of the OCP enjoy much higher salaries and benefits than the rest of the society, but also compared to other managers in private firms or other state enterprises. Corruption and rent distribution is rampant, much like the majority of

the Moroccan public sector. Even though phosphate revenues partly reach the public budget and help with budget deficits and balance of payment problems, there exists no accounting of the total revenues, and both the King and the managers seem to benefit from phosphate exports intensively.

In fact, the OCP has become a "state within the state", especially after the price hikes experienced in the early 1970s, and its managers have established strong relations with the executive and legislative bodies that govern the country. The democratic structure of the electoral process is undermined by the OCP, the main provider of the salaries of public officials (Oualalou, 1975). Having so much influence on the politics of the country, the OCP does also exercise some discretion over the spending of the funds it provides to the Moroccan government. Since the OCP operates like a private enterprise, is capital intensive, and does not provide funds to social services that could affect its own employees or the larger Moroccan society.

In this way, the biggest public sector in the country, the phosphates industry not only does not provide funds for social justice and redistribution, but it also decreases the level of social expenditures by prioritizing a certain type of economy through the legislative and executive channels. Resource abundance in Morocco never led to redistribution and the provision of health, education and welfare, and therefore never benefited Moroccans directly. Next, I turn to Tunisia, which also has phosphate reserves, but they are far from being abundant, and they don't have such an impact on the Tunisian economy. Tunisia is one of the biggest social welfare states in the Middle Eastern and North African region.

Social Policies in Tunisia

In contrast to Morocco, Tunisia has implemented comprehensive welfare policies throughout the 20th century, becoming the most socially progressive country in the region. There are many reasons for this course of action, including the French protectorate's institutional structure, the first president Habib Bourguiba's vision, and economic policies implemented after the oil crisis in 1973. However, I argue that Tunisia's lack of resource abundance had a significant contribution to its emphasis on social development. In what follows, I first show that Tunisia is indeed more advanced than its counterparts in terms of social indicators. Then I discuss Tunisia's phosphate resources and explain that they are not sufficient to declare Tunisia as a resource-rich country. Finally, I use the data on phosphate revenues to demonstrate that when a country has low levels of resources, it can actually use them for the well-being of its society. Only when resources are seen as important rent opportunities, do they lead to the social resource curse.

Tunisia has a Human Development Index score of 0.698 as of 2011, which is higher than the Arab states' average of 0.641. In the Arab world, only Libya has a higher ranking than Tunisia. In terms of gender inequality, Tunisia ranks higher than all other Arab countries: women are more educated, have lower fertility rates and they participate in the labor force more than Algeria, Libya and Morocco (UNDP Human Development Report, 2011). Clearly, Tunisia performs better than its peers in social and gender equality.

Table 6. A Comparison of Some Indicators Across Arab Countries

Country	HDI Value	HDI Rank	Life expectancy	Expected years of schooling	Mean years of schooling	GNI per capita (PPP US$)
Tunisia	0.698	94	74.5	14.5	6.5	7.281
Libya	0.76	64	74.8	16.6	7.3	12.637
Algeria	0.698	96	73.1	13.6	7	7.658
The Arab States	0.641	-	70.5	10.2	5.9	8.554
High HDI	0.741	-	73.1	13.6	8.5	11.579

Source: World Development Indicators, 2011

The social superiority of Tunisia as compared to its Middle Eastern counterparts is partly attributable to the different colonial experience of the country. Nationalist movements swept the region during the early 1900s, but the French response to those varied greatly from protectorate to protectorate. In contrast to Morocco, the French Resident-General M. Saint responded to the nationalist movement of the Destour Party in Tunisia by giving Tunisians the right to represent themselves in the Grand Council. Certainly, the French still had the power and more say in the management of the country, but the formation of local councils with economic powers gave the Tunisians the opportunity to establish their own institutions and social policies (S.E.C., 1948).

This power-sharing scheme gave more authority to the New Destour Party, founded in 1934 by Dr. Materi and Habib Bourguiba, in implementing their economic ideology, which was socialist in essence. The leftist ideology was the driving force behind the nationalistic movement that swept Tunisia, culminating to the creation of the powerful labor union UGTT (Union Générale des Travailleurs Tunisiens) in 1946. The Tunisian nationalist movement becomes even more vocal with the UGTT and its large base, pressuring the new French Resident-General General Mast to increase the political involvement of Tunisian elites. The first public institution completely managed by

Tunisians was the Tunisian Ministry of Social Affairs. The emphasis given to social issues by the Tunisian founding fathers and the French protectorate's attitude in giving the Tunisian elites political authority early on are important factors in the social success of the country.

The Ministry of Social Affairs started its mission by implementing policies geared towards the education of the native population. The educational effort was successful in significantly reducing illiteracy in the country, albeit still far from universality, especially among women. Until total independence from the French colonizers, then, Tunisia was already well ahead of Morocco in terms of social development. With independence, the gap widened even further, I argue, for two main reasons. First, the leadership of Habib Bourguiba, much inspired by Turkey's Mustafa Kemal Ataturk's vision, was a key factor in the widespread implementation of social policies. Second, the lack of significant natural resources compelled Tunisia to manage its scarce income more effectively.

Habib Bourguiba was a charismatic leader who led his country to independence with his nationalist movement New Destour since 1934 until the Tunisian independence in 1956. With this background, it was not hard for him to secure the presidency, which he retained until 1987. During this long period of rule, Bourguiba molded the social realm of the country completely according to his understanding and ideology, sometimes called the Bourguibism (Vandewalle, 1988). Bourguibism is based on the Tunisian constitution drafted in 1957 and its main goal is to establish and maintain a secularized political realm (Camau, 1984).

In addition to the separation of the church and the state, the Tunisian plan was to educate all Tunisians, including women, in order for them not to succumb to extremist

ideologies. Between the years 1958-1977, the primary enrollment rates of females

increased by 8 percentage points from 31.9 to 39.3 (Thourson Jones, 1980). By

incorporating women first to public education, and then to the labor force, Bourguiba

believed that the modernization and secularization of Tunisia would be irreversible.

Therefore, educational reform became the main priority of the government, making

Tunisia the highest educated country in the Middle East, even today.

However, colonial policies and effective leadership were not the only factors in

explaining this success story. Tunisia was also able to create and maintain a

comprehensive welfare system due to its moderate levels of resource endowments.

Tunisia has significant levels of phosphate reserves, albeit considerably lagging behind

the US, Russia, China and Morocco. It contains approximately 0.6% of the world

phosphate reserves, a much lower figure compared to Morocco's more than 30% (see

table 7). This figure classifies Tunisia as a resource poor country according to the

mainstream resource curse literature. Considered a mineral economy in 1970, Tunisia has

diversified its economy to include light manufactures and tourism, becoming a non-

mineral economy in the 1990s (see for instance Davis, 1995 and the World Bank, 1993).

Table 7. Phosphate Rock Mineral Commodity Summary, 2009

Country	Mine Production		Reserves	Reserve Base
Year	2007	2008		
		(x1000)		
Australia	2200	2300	82000	1200000
Brazil	6000	6000	260000	370000
Canada	700	800	25000	200000
China	45400	50000	4100000	10000000
Egypt	2200	3000	100000	760000

Israel	3100	3100	180000	800000
Jordan	5540	5500	900000	1700000
Morocco and Western Sahara	27000	28000	5700000	21000000
Russia	11000	11000	200000	1000000
Senegal	600	600	50000	160000
South Africa	2560	2400	1500000	2500000
Syria	3700	3700	100000	800000
Togo	800	800	30000	60000
Tunisia	7800	7800	100000	600000
United States	29700	30900	1200000	3400000
Other Countries	8110	10800	890000	2200000
World total	156000	167000	15000000	47000000

Source: USGS, 1996-2010

The critical argument of this paper distinguishes between resource rich and resource poor countries as in the previous literature. However, it includes a third category of countries, those that do have some resources, albeit not at a level which could be qualified as resource-rich. Tunisia is the quintessential example of this kind of country, where the phosphate resources present a significant source of revenue for the national budget, but not high enough to qualify as a resource dependent country. I argue that this specific level of resource revenues is key in maintaining a welfare state without succumbing to the misgivings of resource abundance, as demonstrated in the case of Morocco.

The Tunisian government has controlled the mining industries in the country since independence. Just like Morocco, a state owned enterprise is responsible for the extraction and management of the phosphate resources of Tunisia. However, unlike

Morocco, the operations of the Compagnie des Phosphates de Gafsa (CPG) is strictly controlled by the Tunisian government and its revenues are accounted for by the national budget. In fact, the totality of the public sector in Tunisia, including the mining sector, were deliberately used to support social goals such as employment and income distribution (Saghir, 1993).

The CPG not only provides resources to the larger economic and social goals of the Tunisian government since independence, it also contributes to the development of the local communities where phosphates are extracted, notably the Gafsa region. The services provided include hospitals, schools and housing to the workers of the mining industry as well as the citizens living in the mining region. Certainly though, the biggest contribution of the Tunisian mining industry to the local communities is the creation of jobs. It is not only the local Gafsa community who benefits from the mining operations, but also other Tunisians who are willing to relocate to the region and work at the CPG.

The argument so far about Tunisian phosphates focused on the moderate levels of the revenue they generate, i.e. 700 million dinars per year (Hassassi, 2011). This number is very low both relatively and in absolute terms. Relatively, the Tunisian phosphate revenues are lower than Morocco, the US, China, and Russia. In absolute terms, the yearly revenue from phosphates is not high enough to cover the Tunisian budget deficits, or even the income required to provide basic services. However, it does give an extra "pocket money" to the Tunisian government, aiding them in maintaining the welfare provisions deemed essential to the development of Tunisia since the French Protectorate.

Two caveats regarding this argument are in order. First, Tunisia has been retrenching its welfare state since the late 1980s, with structural adjustment programs and

privatization initiatives to reshape the highly state owned economy. This led to an

increased level of social unrest, especially in Gafsa, where thousands of workers have

been laid off from their mining jobs to make the CPG more efficient. Therefore, one

could argue that the above logic does not apply anymore, and that phosphate revenues

have not been funding social policies since the 1980s, which are steadily declining.

However, a closer look to the fluctuations in phosphate prices and hence revenues reveals

that the argument is strengthened by the welfare retrenchment Tunisia is experiencing.

The decline in the phosphate revenues correlates almost perfectly with the decline in its

social expenditures. Chart 2 below shows the declining mineral rents of Tunisia between

the years 1970-2010.

Figure 1. The Mineral Rents of Tunisia
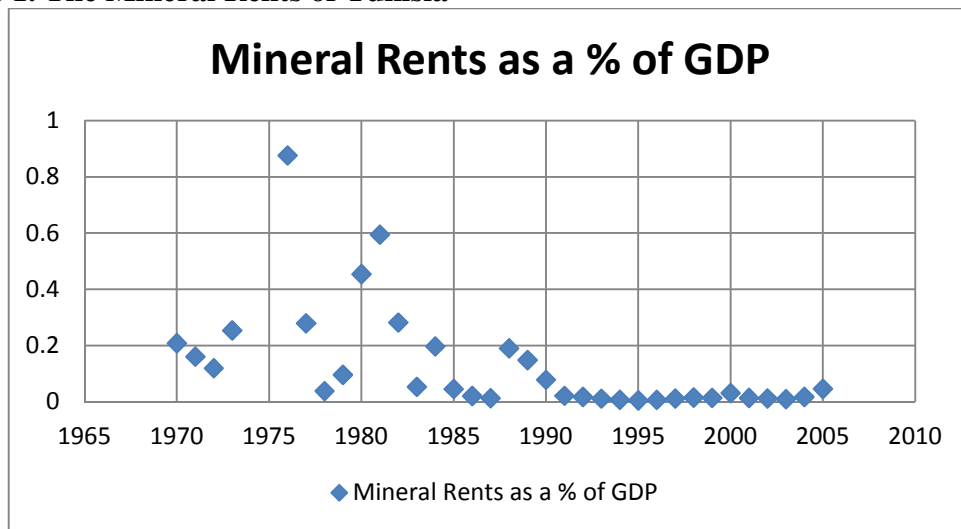
Source: World Development Indicators, 2011

Clearly, Tunisia's mineral rents have declined since the 1970s, but the decline

became especially significant after the late 1980s. This decrease aligns with its declining

public social expenditures. Many studies associate the decline in social spending in many

MENA countries with the declining oil prices in the early 1980s (El-Ghonemy , 1998; Shafik, 1998). This is the second caveat of this chapter: Tunisia also has petroleum reserves, albeit at very low levels. Phosphate revenues fluctuate in tandem with oil revenues, and one might argue that it is the decline in the oil revenues which lead to the decline in social expenditures. This logic is also in conjunction with the argument proposed above for two major reasons. First, the reason why phosphates were selected as the comparison point for the two cases in examination is because Morocco has no oil reserves. Phosphates for both countries are the main resource they export. The fact that Tunisia also exports oil does not negate the importance of phosphates and their potential role in funding social policies. Second, Tunisia cannot even be considered an oil-rich country. It ranks 53rd in proven oil reserves and oil production, a fairly insignificant amount both relatively and in terms of the country's own revenues (CIA Factbook, 2010). Therefore, the same argument applying to phosphates is valid for the oil reserves of the country: a small amount of revenue emanating from natural resources can help fund social policies. The existence of minor oil reserves in Tunisia only fortifies the logic of this chapter.

Conclusion and Further Research

This chapter aimed at elucidating the complex relationship between resources and social spending, using the cases of two North African countries, Morocco and Tunisia. Instead of using the conventional mineral resource petroleum, it evaluated the phosphate revenues that both countries benefit from. Morocco is qualified as a resource abundant country with one third of worldwide phosphate reserves, in contrast to Tunisia with less than one percent. A historical approach to social spending in these countries showed that,

in addition to other factors such as colonial past, leadership and ideology, resources also had a role in welfare spending levels.

The argument proposed here reinforces what was established in the previous chapters with regression analysis. Resource abundance is negatively related to the welfare expenditures, which is documented by Morocco. The above analysis tried to show that this relationship is causal, and that the corruption and rent seeking behavior triggered by resource abundance also brought about lower levels of social spending. Large portions of the phosphate revenues were captured by the King and distributed as patronage or were added to his fortune. The high level of corruption, clientelism and patronage initiated by resource rents affected all government revenues and outlays including social spending. Therefore, resource abundance indirectly reduced social spending in Morocco.

In contrast, Tunisia is considered a resource-poor country, even though it has low levels of phosphates and petroleum, contributing 3-5% to government revenues every year. Low level of resources does not generate the corruption and rent-seeking behavior, which is the key factor in the mismanagement of public finances. Public spending is run more efficiently, without the interference of rent-seekers trying to grasp resource and other public income for their private interests. The straightforward accountability of finances leads to more competent welfare redistribution, education and health spending, and better future planning. Therefore, without the corrupting effects of resource abundance, both tax and non-tax public revenues are professionally used and returned to the larger Tunisian society as social services.

These findings are suggestive of a pattern in resources which has not been explored before: the *level* of resource rents can have a threshold until which they actually boost

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social spending. However, the case study of two countries is not sufficient evidence to confidently claim that this possibility applies to the larger population of developing countries. Further research should look at the level of resource rents at which the positive effects of this extra income flips over and becomes negative. Furthermore, even though the causal mechanism suggested here, corruption and rent-seeking behavior, seems to be convincing, the corruption-triggering effects of resources should be further examined, both statistically, and with in-depth case studies. Finally, the resource curse hypothesis needs much more scrutiny, since the relationship between resources and political, economic and social outcomes is less straightforward than we first thought.

Chapter VII

Conclusion

The Arab Spring and Social Spending

A lot has changed in the Middle East since this dissertation emerged as an idea and came to fruition. Regime changes in Tunisia, Libya and Egypt, ongoing protests in Yemen, Syria, Bahrain and Saudi Arabia shattered the stereotypes we had about the "complacent Arab". What are the implications of these "changes" in the Middle Eastern populaces' attitude towards their governments? In this dissertation, I have argued that social policies in developing countries are a function of rigged elections, endowments and tax rates, although in very unexpected ways. In this section, I claim that the decoupling of social policies from the electoral process was one of the main reasons of to the ongoing revolutions in the Arab world and I suggest sustainable development strategies, which will also uphold the democratization process.

The revolutions in the Arab world started with a Tunisian street seller burning himself because of the "injustices" imposed on him by the economic and political framework dominant in Tunisia since the beginning of Ben Ali's regime. The biggest social state in the Arab MENA region has taken upon structural reform programs significantly cutting the social safety nets, which sustained the Tunisians' middle class for most of the 20th century. Slowly, over the course of twenty years, but surely, Tunisians saw the erosion of free public education , healthcare and welfare programs of high quality. New generations graduated from colleges without any job prospects and remained unemployed for years. It is true that the Tunisians demanded democracy, but

the revolution's main cause was the economic problems the country had faced for years, identified by the Ben Ali government and family.

Ben Ali had come to power with a "medical coup d'état", toppling the founding father Bourguiba, supposedly because he was medically deemed "unfit" to govern. Similar to Bashar al-Assad and many second generation rulers in the Middle East, Ben Ali promised both democratic and economic opening. The latter part of his promise was easy to fulfill beacuse the IMF weighed in with reform packages. Combined with corruption and a large family to enrich, these reforms made Ben Ali's wife ,Leila Trabelsi, and her ten brothers a mafia-like clan owning the majority of the country's major industries. The other promise, political liberalization, was never fulfilled. In fact, Tunisia has become a police state over the course of twenty years, stifling every potential opposition voice and strictly controlling media outlets (personal interview with Abdeljelil Bedoui, founder of the Tunisian Work Party (PTT), academic, economics expert and syndicalist). However, Ben Ali miscalculated the rules of authoritarian politics by decoupling rigged elections from social spending. The combination of economic liberalization and political oppression in the most socially conscious country in the Middle East is perhaps the primary reason why the Arab Spring started in Tunisia.

The decoupling of economic and political liberalization is not unique to Tunisia. Many other Middle Eastern countries have gone through similar processes of structural adjustment programs and political oppression. "Bring us sugar!" has become the motto of the social unrest in Algeria. Even in Syria, where the revolution seems to be a reaction to police brutality and government oppression, it is still largely fuelled by the unmet expectations of the Syrian unemployed youth. In fact, even though the Syrian

unemployment rate is not much different from the Middle Eastern average, its youth-adult imbalance in unemployment is the highest in the region. In other words, youth unemployment in Syria as compared to the overall unemployment rate is the highest in MENA (Kabbani and Kamel, 2007).

The same story repeats itself over all of the Arab Spring countries, including those that did not experience a full blown revolution. Certainly, the Middle Eastern populaces wish to have a say in the policy making of their respective countries; however, evidence suggests that their first priority is to change economic policies through governmental change, not to simply acquire democracy. This distinction was the motivation behind this dissertation. The erosion of social policies in the Middle East over the last twenty years stood at odds with the existing political science theories. A new way of looking at social spending is offered throughout this dissertation, and is summarized below.

A Fresh Look at Social Spending in the Middle East

The previous chapters posited three underlying factors affecting social policies in the Middle East: resources, tax revenues, and incumbents' need to rig the electoral process in order to remain in power. If this was true, neither the rentier state theory's position on resources, nor its understanding of taxes would be valid. This is what I show in great detail in the empirical parts of this dissertation. The main point of this dissertation is to show that social spending is merely a function of incumbents' survival strategies in developing countries, especially in the Middle East.

This fact has been ignored or undermined in the comparative politics literature, and more specifically, the welfare state research because of generalizability concerns. The welfare state literature emerged from the study of social policies in Western Europe and

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expanded from that region to other parts of the world, with the intent that the theories and empirical evidence generated from industrialized countries was fungible to developing countries. I show that there are is a more important and straightforward answer to the explanation of social spending in developing countries: electoral fraud.

The study of electoral fraud is relatively new to the political science literature, since rigged elections are hard to quantify. Nonetheless, the research program on electoral authoritarianism and competitive authoritarianism redrew attention to the incompleteness of the democratic transitions in many developing countries, emphasizing the almost perfect cosmetic transformation, but the significant lack of substance. This dichotomy is represented with electoral fraud. Even clearly autocratic countries, such as Iran, have regular elections through which the citizens cast their votes in order to elect their politicians . Therefore, the institutional framework of democracy is established, even in most authoritarian countries, without the content necessary to maintain a democracy, i.e. free and fair elections.

The lack of free and fair elections is true for most developing countries, whether they are considered partly democratic or authoritarian[42]. Therefore, I distinguish the regime type variable from the electoral fraud variable, the latter being a widespread occurrence in a variety of regimes. For instance, even in India, a country considered "free" by Freedom House and consistently receiving a score of 9 from the Polity project, political parties distribute liquor and cash before elections in slums to influence the decision making of vote casters (Banjaree et al., 2010). The rigging of elections is not

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[42] Surely, there are fully functional democracies among developing countries. This fact fully corroborates the argument put forward here, which distinguishes electoral fraud and regime type. Even in democracies, we can see some evidence of, or attempts at, vote rigging. Therefore, electoral fraud is a distinct variable signaling a certain disposition on behalf of incumbents, namely the desire to stay in power through any means possible. This mentality is also behind the increases in social spending in developing countries.

limited to the most dictatorial countries, and the ways through which electoral fraud can manifest itself are varied, making it more widespread than previously thought.

Electoral fraud is perhaps most widespread in the MENA region, where incumbents tend to stay in power by "winning" elections with 95% of the popular vote. Instead of blatantly telling the world one is a dictator ruling by decree, incumbents in the Middle East tend to create an illusion of democratic governance through somewhat competitive, but certainly not free or fair elections. This practice is common in a variety of regime types, ranging from Iran to Morocco, from Saudi Arabia to Turkey. However, there are costs associated with rigged elections, and incumbents have developed a variety of strategies to lower these, including social spending.

To understand the importance of social spending in Middle Eastern countries and its connection to fraudulent elections, consider Egypt, a post-revolutionary country with severe economic problems. The revolution that has occurred in Egypt was fuelled by the slogan "Bread, dignity, and social justice". Bread is a highly subsidized staple in a state-operated food distribution system incorporating over 20,000 bakeries. Food shortages plague the Egyptian society, whose 42% live under the $2.5 per-person/per-day poverty line. Under these circumstances, it is fairly easy and cheap to buy off votes from the impoverished majority. Even minor changes to the price of bread right before the elections could appease potential reactions of the populace to the unfair nature of elections. This has been the major pattern in social spending in Egypt and in many other Middle Eastern countries, and the reason behind the inapplicability of the cash-transfer systems proposed by the IMF and the World Bank. The cycle of election-subsidies-election has marked the pattern of social expenditures in the Middle East.

Certainly, public revenues also play a role in the explanation of social spending. Countries with higher GDP per capita and higher levels of government spending in general tend to have higher levels of social spending as well. Other sources of revenue, namely taxes, and natural resources are hypothesized to affect public spending in the rentier state theory and the resource curse literature. In line with the argument of this dissertation that elections are the main drivers of social spending, and not resources or taxes, I show that natural resources have the complete opposite effect on social spending than previously posited.

According to the rentier state theory, resources are tools in the hands of politicians, used to buy off the populace's political complacence. This can take a variety of forms from patronage to clientelism to social spending on health, education, welfare, food, and housing subsidies. This is one mechanism, according to rentier state theorists, through which the resource curse manifests itself politically. This dissertation shows that this premise is simply not true: resource abundance reduces the level of social expenditures in developing countries. Therefore, resources cannot be the explanatory factor in the study of welfare states, we must look elsewhere for answers, i.e. fraudulent elections.

In refuting the logic of the rentier state theory, this dissertation also attempts to explain the negative correlation between resource abundance and social spending. It posits that the corruption and rent-seeking behavior generated by resource revenues spills over to other parts of the public revenue streams, lowering the income available for the provision of public goods. Similar to the greed versus grievances dichotomy for civil wars posited by Collier and Hoeffler (2000), the way in which public revenues are distributed depends on "greed" (i.e. the rent-seeking factions) or "grievances" (i.e. the

needs of incumbents). Greed generated by resources leads to lower levels of social spending in developing countries because the revenues, resource, or otherwise, are captured by rent-seeking groups and individuals, and do not reach the larger population.

The other contention of this dissertation is the role of taxes in social spending. The rentier state theory puts forward the assumption that taxes are lower in resource rich countries because the extra revenue generated by resources is enough to maintain the state. This disconnect between the people and their rulers reduces the likelihood of political representation, another way the resource curse manifests itself politically. Again, I challenge this logic, emphasizing the priority of incumbents: getting reelected. In order to do so, politicians will not forego any revenue that could help them appear benevolent, including tax revenues. In other words, incumbents wish to both present themselves as generous by lowering taxes and still generate revenues in any way possible. They make these seemingly conflicting goals happen by differentiating between types of taxes. Resource-abundant countries have significantly lower levels of consumption taxes whereas they have higher levels of income taxes as compared to resource-poor countries. Incumbents in developing countries act strategically by balancing tax rates with each other to generate revenue and appease people simultaneously. This finding both refutes the rentier state theory's position that resources are associated with lower taxes, and it takes us one step further in understanding how social spending can be funded without using resource revenues.

All of the above findings and the causal mechanisms tying them together are illustrated with the case study of Tunisia and Morocco's social expenditure patterns. These two countries present a fresh look to the study of social policy and resources

because the resource at hand is phosphates and not oil. Starting from colonial times and moving into the modern era, I show that resources have been a source of corruption in Morocco, maintaining the monarchy and its popularity. To this day, both tax and non-tax public revenues remain opaque in Morocco, making it difficult to account for vanishing funds from the state budget. This makes it harder for public officials to designate funds to social spending. The rent-seeking behavior and corruption associated with it are the major reasons behind the low level of social expenditures in Morocco.

The converse is true for Tunisia, one of the biggest welfare states of the Middle East. A resource-poor country with insignificant levels of oil and phosphates, Tunisia has had to rely on taxes, tourism, and remittances to secure a stream of public revenue. This has made the country's public finances fairly easy to collect and distribute. The lack of high revenues from resources led to lower levels of rent-seeking behavior and corruption. Low level of public revenues did not create any overwhelming benefit to individuals or groups, and therefore were free to be used for the provision of public goods. These two cases illustrate the corrupting effects of resource revenues and explain why we counter-intuitively see higher levels of social spending in resource-poor countries.

Future Directions for the Study of Social Spending in Developing Countries

This dissertation represents a beginning step towards a better understanding of social policies in the developing world, and more specifically the Middle East. By shifting the focus from resources and taxes to the imperatives of incumbents, it significantly simplified and clarified the relationship between elections and social spending. However, the understanding of social policies in the developing world is still in

its infancy. There are several caveats and avenues for future research stemming out of this work.

The first caveat of this dissertation is regarding the measurement of the key variables in this field. The indicators we have for social policies are limited to what the World Bank and the IMF collects on health, education, and welfare expenditures that countries report. These measures may be the right way of understanding the social welfare states of Western Europe. However, they are not necessarily the best gauge for social policies in the developing world. As mentioned several times throughout the dissertation, Middle Easterners do not necessarily ask for education or better health care, but they need much more basic services, such as the provision of cheap bread, sugar, heating, clean water, electricity and sewage systems. The problems of poverty faced by the developing world are quite different than the advanced welfare states of the West. Therefore, it would be incomplete to judge the social policies of the developing world with the same indicators we use for the developed world. One direction for further research then is the creation of new datasets geared towards the measurement of what "social" means in the developing world. Some examples of such datasets could be food subsidies, access to clean water, an index of the main household staples, state-sponsored bakeries, government-funded housing...

The measurement of resource revenues creates yet another problem. In this dissertation I use "resource exports" and "fuel exports" as the main variables capturing the resource curse hypothesis. I chose these specific measures because it is not necessarily the endowments of resources, but the revenues stemming from those that is

the critical factor.[43] However, these revenues do not accurately capture the portion that becomes part of the public revenue stream. Especially in developing countries where rent-seeking behavior is widespread, resource revenues rarely and only partly reach public finances. For instance, the Moroccan king owns the company operating the extraction, processing, and sales of the phosphate rocks. It is unknown how much of these revenues accrue to the national budget and how much of it is taken by the royalty, which is one of the richest in the world. Therefore, it is imperative for those of us studying resources as a variable to construct new measures of "resource revenues" that actually become public sources of funding.

Finally, the main variable of interest, electoral fraud, also suffers from measurement problems. Incumbents go to great lengths to avoid being caught when they stuff ballots, redistribute goods and services to buy votes, or miscount the casted votes. It is fairly difficult to measure when electoral fraud occurs and whether it significantly affects the outcomes of elections. The data used in this dissertation comes from the World Bank's Database of Political Institutions, and it looks at whether "…vote fraud or candidate intimidation [was] serious enough to affect the outcome of elections". This measure is likely to be plagued by false negatives, i.e. instances electoral fraud which have not been recorded or caught. This, in and of itself, is not necessarily a problem affecting the results of this dissertation because even in the presence of lower levels of fraud than experienced in the real world, this variable is still significant. In other words, the inclusion of the false negatives in the dataset would only enhance the results reported here.

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[43] I ran robustness checks including other measures for resources, such as "resource rents". The results do not change. Haber and Menaldo (2011) developed their own measures of "fiscal dependence" on resources as an alternative, which should be checked for robustness.

However, the measurement of electoral fraud is still in its infancy. The dichotomous nature of this variable presents a simplistic picture of what fraud actually involves. There are many ways of rigging an election, and these may have different effects on social spending, democratization, or the outcome of the elections themselves. An ideal dataset of electoral fraud would include all elections conducted in each country with the level and type of fraud committed, using country experts and international observer reports. This comprehensive task should be the next step in the study of electoral fraud and its causes as well as its consequences.

Besides measurement issues, there are major questions not answered by this dissertation or by existing research. The causes of social spending in the developing world are being investigated at greater lengths, but the consequences of social spending are not analyzed systematically. The major puzzle in social spending, especially in the Middle East, is its inefficiency. Social expenditures do not work in many developing countries for eradicating poverty, reducing illiteracy, and fighting disease. One potential reason for this ineffectiveness is the high administrative costs of the operation of the distribution of social spending, which imposes a large tax on the services the citizenry receives. The incompetence (or corruption) of national bureaucracies is a significant handicap for developing countries.

Another line of research should further investigate the recipients of social spending. Who does the service cover? Are there regional or demographic/ethnic differences among the receivers of public goods? The recipients can explain the survival of authoritarian regimes in some parts of the Middle East, and their demise in others. For instance, under Gaddafi's rule, the human development indicators improved so much that Libya became

one of the most socially developed country in the Arab world. However, when we look at the distribution of the improvements of Libyans, we see a clear pattern of urban/rural and tribal divide. The majority of rural areas and the southern tribes did not receive much social (or any other) aid from the central government. Therefore, the distribution of public goods can give us important clues about the politics and power structure of a country.

Furthermore, we need to learn more about which types of social help are the most efficient in developing countries. In other words, what creates the best incentives for the people to use the public goods given in the least wasteful way? There have already been experimental studies in India looking at small incentive patterns (i.e. a bag of rice given for a malaria shot), which can potentially encourage people to want to receive benefits that they would otherwise be reluctant (or simply too lazy) to take. The other contested issue is the inefficiency of subsidies and hand-outs from an economics perspective. The best redistribution method, entailing the least amount of waste is cash transfers. This does not involve a costly bureaucracy, or the provision of any service by the government. People receiving cash transfers would be free to purchase what they want with it, whether it is bread or healthcare.

In theory, this method is effective; economists argue that this would be the best social policy a state can implement. In practice, however, the people do not prefer cash transfers. When asked whether they would rather receive money instead of coupons for food, a majority in the Middle East answers in the negative. The major reservation citizens have about cash transfers is related to the value of money. Once a family receives a bag of sugar, it is ready and theirs to consume. However, if they receive the equivalent

value of cash, the value of sugar can increase, or they may need to use the money for some other, more urgent purpose, which leaves them with no sugar. Another example comes from India, where women are given cash transfers to give birth in a healthcare facility. Instead, they still give birth at home, using the cash for other purposes. Therefore, paradoxically, cash transfers do not generate the expected reaction from the populace. The comparative study of cash transfers versus services is the next frontier in social policies in developing countries.

An additional issue facing the Arab states specifically, but developing countries in general, is the level of public employment and the role of the government in the economy. Throughout the 20th century, public employment has been the major hiring force in developing economies. However, this inefficient method reduces unemployment and has been heavily criticized by economists who adhere to the neoliberal ideology. In reality, public employment can be seen as a "cash transfer" with the proviso that the person receiving the cash provides work for the public government. Unfortunately, this type of cash transfer includes many inefficiencies. First, government jobs are too stable to the point where the incentive to work harder is taken away. Second, there is no need for the public sector to hire this many people from a demand point of view, creating an inefficient market structure where salaries are low and the workload is too low to maintain a full-time employment. There are many problems involved with social distribution and poverty eradication through public employment, but the solution proposed by the IMF and the World Bank, namely the reduction of the public workforce, is not necessarily a viable solution. Further research should look at the ways through which the public sector can shed the extra personnel without creating a bigger unemployment problem.

One potential solution to the unemployment and poverty problems has been the creation of national solidarity programs in many developing countries. Mexico, Tunisia, Afghanistan, India and many others are implementing institutions comprising of banks, educational facilities, and service providers largely funded by taxes and personal contributions from the citizenry. These institutions create a win-win solution for the incumbents because they help them appear benevolent without spending and taxing more than they already do. These programs include practical training for manual jobs, the provision of clean water and electricity to remote areas, and loans given by the national solidarity banks at low interest for entrepreneurs. Presented as a big success by the ousted Tunisian president, the real effects of these programs are still to be studied. A comparative study of these programs would be beneficial in understanding their innovative nature and effectiveness.

The Future of Public Social Spending

The future direction public social policies will take is unclear. There is a downward trend in both developing and developed countries in terms of public spending in general and social spending in particular. Looking forward, we do not know whether states will completely forego their social responsibilities, and if health, education, and even welfare will be privatized. Before that can happen, new providers should emerge through private enterprises or benevolent societies. This section briefly talks about the future of public social spending by presenting the potential alternatives to state-sponsored social policies.

The 1990s and 2000s saw a plethora of private provisions of healthcare and education in developing countries. Even public universities started to offer paid programs to garner more resources for their public degrees. Private hospitals turned Tunisia into a

hub of eye-care in the Middle East, and Jordan is the number one destination for Arabs to seek private treatment. Dubai established a "Health Care City", the Silicon Valley for private health care in the Middle East, to attract patients from the region as well as from Europe and even the US. So far, high costs prevent these providers from becoming the main avenue in which the populace seeks medical treatment. The average Arab prefers public hospitals even if that means he has to wait in line and get a second-rate treatment. With the increase in private insurance schemes, however, the demand for private healthcare is steadily increasing in developing countries. The enlargement of middle classes could be the key in reducing the health and education burden of the state in the future.

The second potential avenue for the non-public provision of services such as health, education and welfare is the increasing prevalence of NGOs. These organizations do not seek profit by definition, and therefore lower the costs associated with private healthcare and education by providing these services. Even though their scope is usually limited to small operations such as seeing sick patients, diagnosing the issue or conduct basic health checks, these organizations provide invaluable care for the average person in the developing world. The Muslim Brotherhood provides such services to Egyptians who cannot afford private healthcare and do not have access to public care free of charge. Similarly, several NGOs across the developing world are providing literacy and basic math and science classes to the impoverished populations. These services are in their infancy however, and we will need to see much larger financing and development of NGOs for them to replace government-provided services.

Given the shortcomings of private schemes of social provisions and the insufficient scope of NGOs, it is likely that the state will be the main provider of social services around the world in the short and medium run. The major motivation of politicians is the will to remain in power, indefinitely if possible, and public social spending will continue to be a tool to achieve that political goal, and not necessarily to eradicate poverty or provide universal healthcare and education. Public revenues (i.e. resources and taxes among others) will become even scarcer and the pressure on governments to reduce spending will become even stronger. Thus, the future of public social expenditures will require further research to understand the underlying mechanisms connecting it to larger political, social, and economic questions.

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Appendix 1.

Table 9. Long-Run Effects of Fuel Exports on Total Social Spending

VARIABLES	(1) totsocg
ΔTotal	-3.006***
	(0.483)
ΔPolity	0.00154
	(0.00341)
Polity	0.00596***
	(0.00189)
ΔTrade	-4.46e-05
	(0.000655)
Trade	-0.000559
	(0.000481)
Δln(gdp)	-0.201
	(0.134)
Ln(gdp)	0.0255

	(0.0285)
ΔFuel Exports	0.000313
	(0.00145)
Fuel Exports	-0.00242***
	(0.000634)
ΔDefense	-0.0148***
	(0.00319)
Defense	-0.00279
	(0.00321)
ΔAge>65	-0.119
	(0.125)
Age>65	0.000259
	(0.0178)
Constant	-0.173
	(0.637)
Observations	549
Number of ccode	40

Appendix 2. Alternative models

Variables	(1) ΔIncome Tax[44]	(2) ΔIncome Tax	(3) ΔIncome Tax/total taxes[45]	(4) ΔIncome Tax	(5) ΔIncome Tax
Income Tax$_{t-1}$	-0.363***	-0.364***		-0.362***	-0.363***
	(0.0246)	(0.0246)		(0.0248)	(0.0250)
ΔPolity	-0.0346	-0.0349	-0.0400	-0.0257	-0.0315
	(0.0787)	(0.0785)	(0.0948)	(0.0788)	(0.0785)
Polity$_{t-1}$	-0.0185	-0.0168	0.0213	-0.0152	-0.0176
	(0.0532)	(0.0531)	(0.0640)	(0.0532)	(0.0529)
ΔTrade Openness	0.0513***	0.0505***	0.0335*	0.0398***	0.0402***
	(0.0147)	(0.0147)	(0.0177)	(0.0152)	(0.0150)

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[44] Income tax is calculates as the summation of taxes on income, profits and capital gains as a percentage of revenue.
[45] This variable captures taxes on income, profits and capital gains as a percentage of total taxes.

Trade Openness$_{t-1}$	0.0565***	0.0591***	0.0533***	0.0524***	0.0515***
	(0.0130)	(0.0129)	(0.0157)	(0.0132)	(0.0132)
ΔGNI/capita	0.000397	0.000329	0.000469	0.000221	0.000179
	(0.000401)	(0.000398)	(0.000483)	(0.000409)	(0.000411)
GNI/capita$_{t-1}$	8.23e-05	6.36e-05	0.000285	6.41e-05	6.31e-05
	(0.000147)	(0.000146)	(0.000178)	(0.000150)	(0.000150)
ΔOil Rents	0.132*	0.114	0.510***		
	(0.0772)	(0.0760)	(0.0930)		
Oil Rents$_{t-1}$	0.107	0.0940	0.464***		
	(0.0819)	(0.0812)	(0.0998)		
ΔGovernment Expenditures	0.0934		0.0897	0.102	0.107
	(0.0751)		(0.0904)	(0.0764)	(0.0763)
Government Expenditures$_{t-1}$	0.126*		0.125	0.133*	0.132*
	(0.0675)		(0.0813)	(0.0683)	(0.0680)
Income Tax/total taxes$_{t-1}$			-0.367***		
			(0.0241)		
ΔRents[46]				0.165***	
				(0.0492)	
Rents$_{t-1}$				0.0833*	
				(0.0440)	
ΔMinOilGas Rents[47]					0.194***
					(0.0516)
MinOilGas Rents$_{t-1}$					0.0997**
					(0.0483)
Constant	0.469	2.222**	2.777	0.480	0.680
	(1.461)	(1.092)	(1.784)	(1.471)	(1.460)
Observations	952	958	952	929	929
Number of countries	100	101	100	97	97

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[46] Rents refer to all rents summed up (i.e. oil, minerals, coal, forest, natural gas rents) as a percentage of GDP.

[47] MinOilGas rents refer to mineral, oil and natural gas rents as a percentage of the GDP.

Variables	(1) ΔConsumption Tax	(2) ΔConsumption Tax	(3) ΔConsumption Tax	(4) ΔConsumption Tax
Consumption Tax$_{t-1}$	-0.388***	-0.388***	-0.394***	-0.387***
	(0.0245)	(0.0244)	(0.0251)	(0.0249)
ΔPolity	-0.0207	-0.0212	-0.0228	-0.00758
	(0.0891)	(0.0889)	(0.0897)	(0.0897)
Polity$_{t-1}$	-0.0148	-0.0152	-0.00346	0.00692
	(0.0599)	(0.0597)	(0.0598)	(0.0598)
ΔTrade Openness	-0.00516	-0.00478	-0.000201	-0.00266
	(0.0169)	(0.0168)	(0.0175)	(0.0174)
Trade Openness$_{t-1}$	-0.00540	-0.00517	-0.00375	-0.00601
	(0.0151)	(0.0150)	(0.0154)	(0.0154)
ΔGNI/capita	4.20e-05	4.03e-05	0.000213	0.000207
	(0.000456)	(0.000453)	(0.000468)	(0.000471)
GNI/capita$_{t-1}$	-0.000112	-0.000106	-0.000103	-0.000112
	(0.000167)	(0.000166)	(0.000171)	(0.000172)
ΔOil Rents	-0.292***	-0.295***		
	(0.0820)	(0.0812)		
Oil Rents$_{t-1}$	-0.302***	-0.301***		
	(0.0854)	(0.0847)		
ΔGovernment Expenditure	0.0206		-0.000120	0.00171
	(0.0844)		(0.0863)	(0.0866)
Government Expenditure$_{t-1}$	-0.0112		-0.0289	-0.0177
	(0.0763)		(0.0775)	(0.0775)
ΔRents			-0.216***	
			(0.0544)	
Rents$_{t-1}$			-0.186***	
			(0.0500)	
ΔMinOilGasRents				-0.218***
				(0.0571)
MinOilGasRents				-0.160***

t-1

				(0.0537)
Constant	14.61***	14.40***	15.16***	14.40***
	(1.763)	(1.340)	(1.803)	(1.778)
Observations	952	955	929	929
Number of countries	100	101	97	97